CONFERENCE PROGRAM

8TH ANNUAL SEAAIR CONFERENCE

ON

INSTITUTIONAL CAPACITY BUILDING TOWARD
HIGHER EDUCATION COMPETITIVE ADVANTAGE

STIE Perbanas Surabaya
4-6 November 2008
Surabaya, Indonesia

8th Annual SEAAIR Conference Program

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SEAAIR (South East Asian Association for Institutional Research)
STIE Perbanas Surabaya

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FOREWORD

On behalf of SEAAIR, I would like to welcome all distinguished paper presenters and participants to the 2008 SEAAIR international conference. As an academic forum in South Asia, SEAAIR (South East Asian Association for Institutional Research) has been inviting academicians around the world to share developing issues.

This year conference theme of Institutional Capacity Building toward Higher Education Competitive Advantage takes a consideration of running Higher Education Institution to have specific strength in sustaining and enhancing education management quality. So this conference is a good opportunity for academicians to share ideas and explore issues regarding to the world-wide institutional aspects that help institutions enhance their quality.

We are pleased to have great participation from paper presenters mostly from South Asian countries such as Malaysia, Indonesia, Thailand, the Philippines; and some from other countries such as Qatar, the USA, Australia, and Poland. We hope all participants are able to attend and can get benefits from all sessions of this conference as well as making networks.

We thank you very much for the support to this international conference that is coming from the Ministry of Communication and Information Technology, Indonesian Higher Education Directorate General; the Mayor of Surabaya, Perbanas (The Association of National Banks), the Regent of Pasuruan, PT Telkom Indonesia, Jatim Bank, Mandiri Bank, Australian Education Centre, and of course the Novotel Hotel.

We also thank for the support of the SEAAIR Executive Board (SEC) members who have been giving advice and finding the best solution to make this conference a success.

Surabaya, 4 November 2008

Tatik Suryani
The Rector of STIE Perbanas Surabaya
Indonesia

SEAAIR BRIEF HISTORY

Following interaction between AIR and Dr Raj Sharma (founder and Inaugural President of Australasian AIR), Raj organised a meeting on 5th September 2000,of an international group of senior academics from the region comprising Dr Zoraini Wati Abas (Director, Centre for Medical Education and Media, International Medical University (IMU), Malaysia), Prof Somwung Pitiyanuwat (then Vice President, Chulalongkorn University, Thailand), Prof Nirwan Idrus (the then Executive Director, The Indonesian Institute for Management Development, Indonesia), Prof Ken Heskin (then Deputy Vice-Chancellor and CEO, Swinburne Sarawak Institute of Technology) and Raj at the IMU in Kuala Lumpur to discuss the possibility of forming a regional association for institutional research.

The group decided that the time was appropriate for the formation of such an organization and undertook (i) to become the Interim Management Committee (IMC) for the organization and (ii) to organize a conference in late 2001 that would herald the birth of the organization and would attract participants from education, government, public service and industry. Dr Zoraini Wati Abas agreed to be the Chair of the IMC and Raj was elected Interim Hon. Secretary. It was decided that the inaugural conference would be held in Kuching and Professor Ken Heskin, Deputy Vice-Chancellor and CEO of Swinburne Sarawak Institute of Technology agreed to be the Conference Chair. It was agreed that delegates to the conference would automatically become members of SEAAIR and that the SEAAIR Executive Committee (SEC) would be elected at the inaugural General Meeting to be held at the conference. At that point, the Interim Management Committee would cease to exist.

The Interim SEAAIR Management Committee made a few other important decisions that shaped its future as follows:

- Attempts were made to involve other countries in the region in order to promote the establishment of SEAAIR (all IMC members were to initiate action on this issue).
- Prof Idrus was requested to establish a website for SEAAIR.
- The Committee decided to establish an electronic Journal of the Association and charged Raj to action this matter with the assistance of other interested members (critical to this was the joint effort of Dr Gan Che Ng who later became the Editor of the SEAAIR Journal-JIRSEA).
- Regional meetings of SEAAIR were to be promoted by the IMC in their own countries (it is noted that Prof Idrus organised some of the earliest meetings of such a group in Indonesia and Raj came to Jakarta to present a Seminar on IR). Assistance was to be sought from other sister IR organisations, particularly from AIR where the IR movement had originated some fifty years earlier; indeed SEAAIR was affiliated to the AIR and received some very necessary grants in developing its conferences, the Journal etc. A SEAAIR logo was to be developed and coordinated by Prof Ken Heskin (indeed it was Ken's daughter, Vicky Fitzgerald, a graphic designer, who designed the current SEAAIR logo). The interim objectives of SEAAIR were endorsed by the IMC.

Due to the relatively large geographical size of the region, the IMC decided to use electronic means of communication for its meetings as far as possible. Two groups of face-to-face meetings were to be held using the opportunities presented by the conference organisation (one face to face meeting with the Local Conference Organising Committee) and others (including the AGM) at the time of the conference.

The inaugural conference of SEAAIR was a great success with around 100 delegates attending the conference in Kuching, Sarawak, Malaysia. The Local Conference organisation represented a unique partnership between the host institution (Swinburne Sarawak Institute of Technology), the Sarawak Government and the Sarawak Development Institute. It has also provided a useful institutional host model of SEAAIR conference organisation in the future with the SEAAIR Executive Committee taking the primary responsibility for academic aspects of the conference and the local host(s) taking care of the operational and financial dimensions of the conference.

The first AGM of SEAAIR was held on 24 October 2001 at 12 noon in the Sarawak Chambers, Crowne Plaza Hotel, Kuching, the Conference Venue. The inaugural AGM made two important decisions:

1. It approved the Association's constitution
2. It elected the SEAAIR Executive Committee comprising Dr Zoraini Wati Abas (President), Prof Somwung (Vice President), Prof Idrus (Hon Secretary), Prof Heskin (Treasurer) and Dr Sharma (member-at-large) to serve until September 2004.

The SEAAIR Executive Committee has been conscious of the fact that its membership has been drawn from a wide region and hence has deliberately rotated the conference host country/sub-region including peninsular part of Malaysia-Kuala Lumpur (2002), Bangkok, Thailand (2003) and Wenzhou, P.R.China (2004). Future conferences are expected to be held in Bali, Indonesia (2005), Tagaytay city or Subic Bay, Philippines (2006), Langkawi, Malaysia (2007) and either Chiangmai or Songkhla, Thailand (2008).

At its AGM during the 2004 SEAAIR Conference, the organisation elected the following office bearers (namely, the SEAAIR Executive Committee or SEC) for a term concluding at the 2007 SEAAIR conference: Assoc Prof Zoraini Wati Abas (as President, now of Open University Malaysia), Asst Prof Teay Shawyun (as Vice President, of Assumption University, Thailand), Dr Raj Sharma (as Hon Secretary, of Swinburne University of Technology, Australia), Prof Nirwan Idrus (as Treasurer, now a Quality Assurance consultant),and Dr Jean Tayag (Philippines) and Dr Dyah Kusumastuti (Indonesia) as members-at-large. As provided by the SEAAIR Constitution, the President co-opted Ms Dai Jing of the International Affairs Office at Wenzhou University, China as the third member-at-large and thus forming the full compliments of the SEC.

The major purposes of the South East Asian Association for Institutional Research are to benefit, assist and advance research leading to improved understanding, planning and operations of institutions of post-secondary education in the region. Research focused on a single institution and also research that is concerned with groups of Institutions both fall within these purposes. In keeping with the dynamic nature of institutions of post-secondary education and the rapidly changing global environment in which they operate, the Association will encourage the application of appropriate methodologies and techniques from many disciplines. It will encourage comparative research into national higher education systems in South East Asia. It will publish and exchange information with respect to institutions of post-secondary education with a view to illuminating current and developing issues of common concern and raising the standard of post-secondary educational management, planning and policy development at all levels.

Its aims include:

1. The advancement of research leading to improved understanding, planning, and operation of institutions of post-secondary education;
2. The dissemination of information and interchange of ideas on problems of common interest in the field of institutional research;
3. The continued professional development of individuals engaging in institutional research, institutional management and post-secondary planning and policy development;
4. The fostering of unity and cooperation among persons having interests and activities related to institutional research, management, policy and planning;
5. The advancement of post-secondary education and the improvement of the quality of post-secondary educational outcomes.

SEAAIR has been addressing its aims through a number of programs and activities including:

- The annual SEAAIR conference
- Pre-conference workshops on areas of interest to members
- Electronic annual publications of two editions of its journal (JIRSEA)
- Publication of SEAAIR Newsletter or other periodical bulletins to members
- Awarding of the Best Conference Paper prize that includes a subsidized presentation of the paper at a special session of the AIR Forum in the United States
- Presenting regional meetings/workshops for members from time to time
- Liaising with other IR sister organizations including participation in the International IR Network meetings
  Developing and implementing other strategies to benefit the membership as the financial position of the association strengthens in the future
- Including a good mix of keynote addresses at its annual conference representing local, regional and international speakers
- Instituting an international IR Panel at its conference to consider the conference theme from a global perspective

SEAAIR is still the "baby" of the international IR family with other multi-national organizations such as AIR, EAIR, AAIR and SAAIR having been formed earlier as well as such national bodies as Dutch AIR and the Canadian association (CIRPA-ACPRI). SEAAIR looks forward to working with these organizations to internationalise the cause of Institutional Research.

As at October 2004 SEAAIR has published 4 issues of its electronic journal (JIRSEA). Over the first 4 annual conferences, SEAAIR had attracted a total of no less than 550 participants who by virtue of their registrations at the conferences are members of SEAAIR.

Source : http://www.seaair.au.edu/about.html

SEAAIR EXECUTIVE COMMITTEE

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Vice Rector for Finance & General Adm	: Lutfi,M.Fin.
Vice Rector for Student Affairs	: Yudi Sutarso,SE.,M.Si
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Head of Academic Quality Management Unit	: Drs.E. Kristijadi,MM.

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Information & Technology	**:** Moch. Nurhadi, S.Kom.,MMT (Coord.) IT Staff members
Transportation & Equipment	**:** Sulistiono, B.Sc.

CONFERENCE THEME

" **Institutional Capacity Building toward Higher Education Competitive Advantage "**

Sub-themes :

- Capacity building through Quality Assurance and Quality Management
- Institutional Research in Higher Education Capacity Building
- Managing and Sustaining Higher Education Competitive Advantage
- Learning and Teaching to Enhance Institutional Capacity
- Industrial Network to Support Higher Education Competitive Advantage

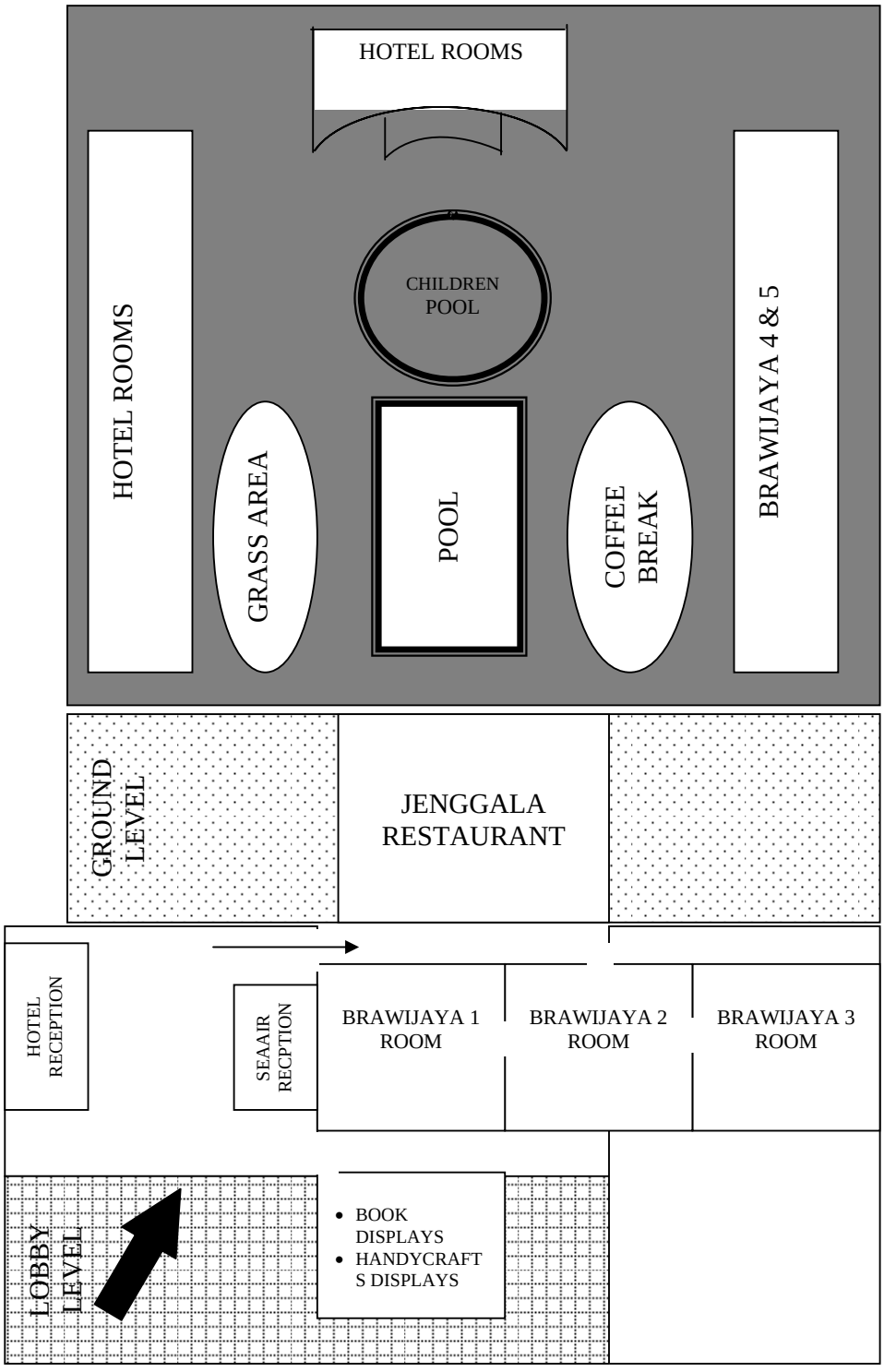
CONFERENCE PROGRAM SCHEDULE

DATE		TIME		ACTIVITIES	LOCATION
Day 1	Tue, 4 Nov. 2008	09.00		Delegate Arrival at Novotel Hotel	
		16.00	17.00	Traditional "Reog" Performance	In front of Novotel Hotel
		18.00	21.00	Welcome Dinner	Invited by the major of Surabaya (**Drs. Bambang DH.,M.Pd**)
DATE		**TIME**		**ACTIVITIES**	**LOCATION**
Day 2	Wed, 5 Nov. 2008	08.00	09.00	Registration	
		09.00	10.20	Speech & Keynote Speech **Prof.Dr.Ir Muhammad Nuh,DEA** (Ministry of Communication & Information Technology of The Republic of Indonesia) and **Rifnaldi Firmansyah** (Director of PT Telekomunikasi Indonesia).	Brawijaya Room 1-3
		10.20	10.50	Cofee Break	Near the Pool
		10.50	11.30	Keynote Speech **Fasli Jalal, Ph.D** (Director General of Higher Education)	Brawijaya Room 1-3
		11.30	12.15	Lunch & pray time	Jenggala Restaurant
		12.15	14.15	Parallel Session 1 (2 hours)	Brawijaya Room1, 2, 3, 4 & 5
		14.15	15.00	Cofee Break	Near the Pool
		15.00	17.00	Parallel Session 2 (2 hours)	Brawijaya Room1, 2, 3, 4 & 5
		17.00	21.00	City tour & Dinner	* Shopping at Mirota handicraft shop & dinner at Khayangan Resto in West Surabaya. * There will be a Book Launching.
		21.00		Back to Novotel Hotel	
DATE		**TIME**		**ACTIVITIES**	**LOCATION**
Day 3	Thur, 6 Nov. 2008	07.45	09.45	Parallel Session 3 (2 hours)	Brawijaya Room1, 2, 3, 4 & 5
		09.45	10.00	Coffee Break	
		10.00	12.00	Parallel Session 4 (2 hours)	Brawijaya Room1, 2, 3, 4 & 5
		12.00	13.00	Lunch, Pray	Jenggala Restaurant.**
		13.00	14.00	Panel Session	Brawijaya Room 1-3
		14.00	14.30	Annual General Meeting (AGM)+best paper award	Brawijaya Room 1-3
		14.30	15.00	MOA & speech 2009 SEAAIR Host	Brawijaya Room 1-3
		15.00	15.30	Closing & certificate	Brawijaya Room 1-3
		16.00	20.00	Go to Bromo Mountain	Only for delegates joining the tour.
		22.00		Stay in Bromo hotel	Diner is provided.

DATE		TIME		ACTIVITIES	LOCATION
Day 4	Fri, 7 Nov. 2008	03.30	06.00	Go to Pananjakan Hill	
		06.00	10.00	At Bromo Mountain	Breakfast is in Bromo hotel
		10.00		Check out from Bromo hotel & back to Surabaya	
		12.00	15.30	Stop at Pasuruan for lunch	Pasuruan Regent welcomes delegation.Embroidery works are displayed here.
		15.30	17.30	Continue to Surabaya	
		17.30		Check in at 'SINAR 2' hotel (near airport)	
		18.00		Dinner in hotel	
DATE		**TIME**		**ACTIVITIES**	**LOCATION**
Day 5	Sat, 8 Nov. 2008	12.00 the latest		Check out	

MAP TO NOVOTEL HOTEL FROM AIRPORT

MAP OF PARAREL SESSION



PARAREL SESSION I
Wed, Nov 5th, 2008
Time: 12.15-14.15
BRAWIJAYA ROOM 1

Author	Title
Tatik Suryani Harry Widyantoro Tjahjani Prawitowati	DEVELOPING PERSONAL COMPETENCES ASSESMENT FOR GRADUATE SOFT SKILL
Balakrishnan Muniandy Mona Masood Rossafri Mohamad	ASSESSING DIFFICULTIES OF CONDUCTING EDUCATIONAL TECHNOLOGY RESEARCH BY GRADUATE STUDENTS : A POINT OF DEPARTURE FOR BUILDING INSTITUTIONAL INSTRUCTIONAL RESEARCH CAPACITY
Izah Mohd Tahir Nor Mazlina Abu Bakar	A STUDY OF LECTURERS PERCEPTIONS TOWARDS RESEARCH
Lindi Murjono Raj Sharma	STUDY ON ACADEMIC AND SOCIAL ADAPTATION TOWARD THE ACADEMIC PERFORMANCE OF EAST INDONESIA STUDENTS

PARAREL SESSION I
Wed, Nov 5th, 2008
12.15-14.15
BRAWIAJAYA ROOM 2

Author	Title
Sabrina Oktoria Sihombing	THE INFLUENCES OF PERSONAL VALUES AND TIME CONSTRAINTS ON FACULTY – STUDENT OUT-OF-CLASS INTERACTION: AN EMPIRICAL RESEARCH
Anthony Bedford Stephanie Romagnano Kate Patrick Jim Barber Michelle Bedford	A DISCIPLINE SPECIFIC FACTOR ANALYSIS APPROACH TO EVALUATING STUDENT SURVEYS AT AN AUSTRALIAN UNIVERSITY
Brian Lawrence	STRENTHENING CAPACITIES FOR GRADUATE RESEARCH
Burhaunudin Laila Saleh Marta' Dafiq Rizki Alfian	DRIVERS OF STUDENTS LOYALTY : THE CASE OF STATE UNIVERSITY STUDENTS

PARAREL SESSION I
Wed, Nov 5th, 2008
12.15-14.15
BRAWIAJAYA ROOM 3

Author	Title
Andrzej Wac-Wlodarczyk Piotr Billewicz	QUALITY ASSURANCE PROCEDURES AND METHODS OF QUALITY ASSESSMENT ACROSS THE EUROPEAN HIGHER EDUCATION AREA
Devi A/P KsSaravana Muthu Chong Mei Chan	PERCEPTION OF REGISTERED NURSES ON IMPLEMENTATION OF MANDATORY CONTINUING PROFESSIONAL EDUCATION FOR RE-LICENSURE IN PEDIATRIC INSTITUTE
fatimah Ibrahim Zoraini Wati Abas Rohaya Ali	QUALITY MANAGEMENT INITIATIVES IN A OPEN AND DISTANCE LEARNING UNIVERSITY
Keith Roberts	DATA AND WISDOM

PARAREL SESSION I
Wed, Nov 5th, 2008
12.15-14.15
BRAWIAJAYA ROOM 4

Author	Title
Narinthip Thongsri	THAI LEARNERS' DISPOSITIONS TOWARDS WEB-BASED METHODS OF SUPPORTING THE LEARNING OF ENGLISH AS A FOREIGN LANGUAGE
Caroline Kamini Thangiah Siva Kumar Dorairaj	UNDERGRADUATE RESEARCH SKILLS : COMBINING TRADITIONAL AND ACTIVE COLLABORATIVE APPROACHES TOWARDS MAXIMIZING RESEARCH CAPACITY
Chen Wan-Yu Nirwan Idrus	TOWARDS A SYNERGIZED MULTI-LEVEL EFFECTIVE EDUCATION : THE SECONDARY SCHOOL – UNIVERSITY ALIGNMENT WORKSHOP – AN INITIATIVE FOR EFFECTIVE AND INFORMED TEACHING AND LEARNING
Djuwari Anggraeni	THE EFFECTIVENESS OF BANKING COURSE IN BANKING DEPARTMENT AT STIE PERBANAS SURABAYA

PARAREL SESSION I
Wed, Nov 5th, 2008
12.15-14.15
BRAWIAJAYA ROOM 5

Author	Title
Emilio Capule Alice.T.Valerio	ENTRY-LEVEL TECHNICIAN SKILLS FOR SEMICONDUCTOR INDUSTRY: A COMPARATIVE STUDY BETWEEN MANAGEMENT EXPECTATIONS AND STUDENT'S PERCEPTIONS
Hamzah Md Omar	ACTION RESEARCH: AN INVESTIGATION OF PIMARY HEADMASTERS PERCEPTIONS OF THE SCHOOL MANAGEMENT PROJECTS AS PROFESSIONAL DEVELOPMENT PROGRAM
Lorraine B. Ngaosi Gladys M. Navarro	ATTRIBUTES OF ENTREPRENEURIAL VENTURES : A GUIDE FOR CURRICULUM DEVELOPMENT IN ENTREPRENEURIAL ADUCATION
Oduola Abiola	UNDERSTANDING THE RELATIONSHIP BETWEEN THE UNIVERSITY AND THE WIDER SOCIETY IN THE KNOWLEDGE BASED ECONOMIC WORLD ORDER

PARAREL SESSION II
Wed, Nov 5th, 2008
15.00-17.00
BRAWIAJAYA ROOM 1

Author	Title
Mona Masood Balakrishnan Muniandy	A PRELIMINARY COMPARISON OF TEACHER EDUCATION PROGRAMME IN MALAYSIA TO UNESCO'S ICT COMPETENCY STANDARDS FOR TEACHERS: A CASE STUDY.
Nurul Hasanah Triana Mayasari Sasongko Budi Luciana Spica	STUDENTS' PERCEPTION OF COMPUTER BASED LEARNING (CBL)
Wandee Sutthinarakorn Pongsri Jittanoon Phisamai Srichayet Nipat Limsangouan Chulaluck Charunuch	DEVELOPING GOOD MANAGEMENT SYSTEM TO ENHANCE EFFICIENCY IN PRODUCING AND SELLING PRODUCTS OF INSTITUTE OF FOOD RESEARCH AND PRODUCT DEVELOPMENT, KASETSART UNIVERSITY, THAILAND
Ramli Bahroom Latifah Abdol Latif Ng Man S	SUSTAINABLE OF POST-GRADUATE PROGRAMMES AT OPEN UNIVERSITY MALAYSIA (OUM) : AN IMPORTANCE-PERFORMANCE ANALYSIS

PARAREL SESSION II
Wed, Nov 5th, 2008
15.00-17.00
BRAWIAJAYA ROOM 2

Author	Title
Romanus Wilopo Iramani	MANAGERIAL & SOFT SKILLS : THE PERCEPTION OF STIE PERBANAS SURABAYA STUDENTS
Gancar Premananto	BUILDING MULTIPLE EXPERIENCES AS HIGHER EDUCATION ADVANTAGE
John C Quiniones Devorah Amoyen Armida Marbella Rev. Samuel Lachica Denver Dumo	VALUES EDUCATION PROGRAMS PRACTISED AT UNION CHRISTIAN COLLEGE, CITY OF SAN FERNANDO, LA UNION: AN INPUT TO FOUR YEAR DEVELOPMENT PROGRAM
Krisda Tanchaisak Nounla-or Saengsook	PROBLEMS AND OBSTRUCTIONS ON KNOWLEDGE MANAGEMENT OF HIGHER EDUCATION INSTITUTION : A CASE STUDY OF RAMKHAMHAENG UNIVERSITY, THAILAND

PARAREL SESSION II
Wed, Nov 5th, 2008
15.00-17.00
BRAWIAJAYA ROOM 3

Author	Title
Izah Mohd Tahir Wan Zulqurnain Wan Ismail, Nor Mazlina Abu Bakar	IMPORTANCE-PERFORMANCE ANALYSIS OF SERVICE QUALITY AMONG UNDERGRADUATE STUDENTS: A PILOT STUDY CAPACITY BUILDING
N. Idrus	A PRELIMINARY STUDY ON READING HABITS OF STUDENTS AND STAFF IN ASIAN HEIS: TOWARDS A BALANCED GLOBAL K-CAPACITY BLUEPRINT
Noorizam Daud AP Rosmawati Abdul Halim Nik Arni Nik Mohammad	AN ALTERNATIVE MONITORING SYSTEM TO ASSESS ACADEMIC PROGRAMME PERFORMANCE
Surepong Phothongsunan Dr Kasma Suwanarak	ATTRIBUTIONS OF HIGH ACHIEVING THAI UNIVERSITY STUDENTS PERCEIVING THEMSELVES AS FAILURES IN ENGLISH USAGE

PARAREL SESSION II
Wed, Nov 5th, 2008
15.00-17.00
BRAWIAJAYA ROOM 4

Author	Title
HANIFAH ABDUL HAMID NURADLI RIDZWAN SHAH MOHD DALI AZREENA ABU BAKAR	A STUDY OF IT LITERACY AMONG FIRST YEAR STUDENTS: A POWER OF PERCEPTIONS
Huzaina Abdul Halim Zuwati Hassim	PRESET OBSERVATION INSTRUMENT FOR QUALITY TEACHING AND LEARNING
Luis C. Buenaventura	ALTERNATIVE TERTIARY LEVEL STUDENT ASSESSMENT
Lim Tick Meng	A MODEL OF COMPUTER-AIDED INQUIRY-BASED MATHEMATICS LEARNING ENVIRONMENT

PARAREL SESSION II
Wed, Nov 5th, 2008
15.00-17.00
BRAWIAJAYA ROOM 5

Author	Title
Tjahjani Prawitowati Harry Widyantoro Tatik Suryani	MAPPING OF CORE PERSONAL COMPETENCE AND ITS IMPLICATION FOR TEAM - BASED LEARNING PROCESS IN HIGHER EDUCATION
Raj Sharma	STUDY OF MANAGERS VIEWPOINTS REGARDING OCCUPATIONAL HEALTH & SAFETY ISSUES IN A TECHNOLOGICAL UNIVERSITY
Divina Edralin	ASSESSING AND MANAGING CUSTOMER EXPECTATION IN COLLAGE
Wanida Sujjapunroj	STRATEGIC MANAGEMENT FOR SUB DISTRICT ADMINISTRATIVE ORGANIZATION DEVELOPMENT TO THE LEARNING ORGANIZATION

PARAREL SESSION III
Thur, Nov 6th, 2008
07.45-09.45
BRAWIAJAYA ROOM 1

Author	Title
Teay Shawyun	SUFFICIENCY 7 SUSTAINABILITY: INSTITUTIONA CAPACITY BUILDING FOR HEI
Triana Mayasari Nurul Hasanah Sasongko Budi Luciana Spica	THE ROLE OF COMPUTER ANXIETY AND COMMUNICATION COMPREHENSION TO INFLUENCE REACTION AND INTERACTION OF INDIVIDUALS WITH TECHNOLOGY MEDIATED LEARNING (TML)
Raja Ummi Hairima Raja Hamdan Norizan Abdul Razak	THE ROLE OF INSTITUTION OF HIGHER LEARNING IN CAPACITY BUILDING OF E-COMMUNITY CENTERS
Apriani Dorkas Rambu Atah	IMPLEMENTINNG KNOWLEDGE MANAGEMENT IN HIGHER EDUCATION INSTITUTION: CHALLENGES AND OPPORTUNITY

PARAREL SESSION III
Thur, Nov 6th, 2008
07.45-09.45
BRAWIAJAYA ROOM 2

Author	Title
Latifah Latif	LOGISTIC REGRESSION FOR DETERMINING FACTORS INFLUENCING STUDENTS…
Mohammad Maskan	THE CONSTRUCTIVISTIC COMPETENCE BASED LEARNING DEVELOPMENT OF EFTREPRENEURSHIP CLASS
Puspavathy Rassiah Yap Ching Seng Jayamalathi Jayabalan	THE RELATION BETWEEN STUDENT SATISFACTION AND ACADEMIC PERFORMANCE IN THE PRIVATE HE INSTITUTION IN MALAY
Pepie diptyana Luciana Spica Almilia	THE PERCEPTION OF UNIVERSITY STUDENTS TOWARD E-CHEATING A NOTE FOR MAINTAINING SUSTAINABILITY IT AWARENESS PROGRAM (CASE STUDY AT STIE PERBANAS SURABAYA, INDONESIA)

PARAREL SESSION III
Thur, Nov 6th, 2008
07.45-09.45
BRAWIAJAYA ROOM 3

Author	Title
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LIST OF ABSTRACT

QUALITY ASSURANCE PROCEDURES AND METHODS OF QUALITY ASSESSMENT ACROSS THE EUROPEAN HIGHER EDUCATION AREA

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Piotr Billewicz
Lublin University of Technology, Poland

ABSTRACT

The purpose of the article is to present the most common procedures which provide information needed to define the quality of higher education level in order to develop capacity building process. Different European schooling systems have been included within the scope of the paper, especially those concerning education in the field of electrical and information engineering.

In the first part different kinds of evaluation methods have been compared, whereas the second one refers to specific, self-evaluation quality assessment research which has been done at Lublin University of Technology, Poland. Its main objective was to conduct precise number of surveys between different groups of people. Results of this research led to acknowledgement of real quality of education level and also let to introduce appropriate methods of improving education standards. It was also an opportunity to understand which factors are crucial in the process of training different competences and forming of which skills ensures high efficiency at work after graduation.

In the matter of results, a quality of education level was marked as *good* by more than a half of all students. The most important competences which are required from well-qualified engineers were also recognized correctly by academic environments. The survey proved that these abilities were developed properly during the process of education.

Article refers to the report of European Association for Quality Assurance in Higher Education and to materials connected with internal quality assessment research at Lublin University of Technology.

Keywords: *Quality Assurance in Higher Education, Quality Assessment Procedures, European Higher Education, Electrical and Information Engineering*

PERCEPTION OF REGISTERED NURSES ON IMPLEMENTATION OF MANDATORY CONTINUING PROFESSIONAL EDUCATION FOR RE-LICENSURE IN PEDIATRIC INSTITUTE

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Chong Mei Chan
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ABSTRACT

Awareness to mandate continuing education for registered nurses fro re-licensure began in early 1970s in developed countries like America and Great Britain. However, it is believe that MRCP would improve the quality of nursing practice. However, it remained as controversial issues. In realizing the importance of mandatory to nursing practice, the Malaysia, continuing professional education (CPE) is still considered as voluntary, although it is stated in code of professional conduct for nurses that nurses are supposed to obtain minima of 10 hours CPE points annually. The purpose of this study is to explore the nurse's perception towards mandatory continuing professional education (MCPM). This is a cross sectional descriptive study which was done in the clinical areas in Pediatric Institute, Kuala Lumpur Hospital. 50 %(n =200) of the total RNs in the clinical areas in Pediatric Institute were selected randomly for the study. Self explanatory questionnaires were used to collect the data. The data was analyzed using SPSS version 11.5. The finding found that high perception on CPE and moderate agreement on MCPE for re-licensure. The finding reveal RNs have a positive attitude towards MCPE. It is suggests that a personal factor does significantly influence the participation. Chi-square test was used top test the relationships and showed a significant relationships, example year of service and education level ($P<0.005$).In conclusion, MRCP is considered to be an important measure to increase nurse's participation in CPE. Therefore it is timely for justifying the introduction of MCPE for re-licensure, by thoroughly investigating the proportion before it is implemented.

QUALITY MANAGEMENT INITIATIVES IN AN OPEN AND DISTANCE LEARNING UNIVERSITY

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ABSTRACT

As an open and distance learning institution, the Open University Malaysia (OUM) needs to ensure that it offers quality services to its learners. A Quality Management System (QMS) was thus established by the Centre for Quality Management and Research & Innovation (CQMRI). The paper describes the initiatives taken to establish the QMS and will detail the Internal Quality Audit process. In addition, it will describe the challenges faced by OUM in managing the four ISO 9001:2000 certified units. IQA determines the governance and control structure in a Quality Management System. The effectiveness of the IQA processes and procedures will be shared. It was found that the introduction of the internal quality audit programmes has increased the level of quality awareness amongst the staff through the internal auditor as an agent. Interviews with the heads and management representatives of the units were conducted to determine the challenges. The findings are expected to be useful to other institutions who are implementing the Quality Management System.

IMPORTANCE-PERFORMANCE ANALYSIS OF SERVICE QUALITY AMONG UNDERGRADUATE STUDENTS: A PILOT STUDY

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ABSTRACT

Service quality and quality management are key factors in differentiating service products and ultimately building competitive advantage. Therefore, assessing its importance and performance is vital in assuring high-quality services in higher learning institutions. Using SERVQUAL attributes in a modified Importance-Performance Analysis Model, this pilot research survey was undertaken to investigate the importance of service attributes and evaluation of service quality of lecturers from the undergraduate students' perspectives.

Twenty two attributes which are subdivided into five key variables of SERVQUAL model i.e. tangibility, reliability, responsiveness, assurance and empathy are considered, the most important being assurance, while the least important dimension was reliability. The results also reveal that all students' importance means of services attributes were higher than their performance means. It is also found that all students' importance means except for one attribute (reliability and dependability) are significantly different from their performance means at 0.01 level. The importance-performance grid demonstrates that twenty attributes fall into Quadrant B "keep up the good work", one attribute (Willingness of the lecturers to provide services in a timely manner) is close to the boundary between Quadrant A and Quadrant B, and one attribute (ease of contact) falls into Quadrant B "concentrate here". The latter suggests improvement by the lecturers.

The results of this pilot could serve as an extensive study in quality assurance and management in the context of higher education. It is in our opinion that students should be part of defining quality of lecturers in any university. This would ensure good service delivery performance so as to maintain standards for the competitive advantage of the university concerned.

Keywords: *Service Quality, Lecturers, Importance-Performance, Undergraduate Students*

DATA AND WISDOM IN INSTITUTIONAL CAPACITY BUILDING IN THE TWENTY-FIRST CENTURY

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ABSTRACT

As globalization continues to occur each of our institutions is preparing students to either work locally or internationally in an economy that is, in fact, an international economy. The local guidelines and identifiers of university productivity may no longer be appropriate as we examine our institutions with respect to competitive institutions throughout the world.

Those involved in Institutional Research are critical to the future of higher and further education because they provide the data and studies that decision makers in the schools and government use to determine the direction of these very important institutions. As the world becomes flat the expectations of higher and further education become similar across countries and regions.

At the recent World Universities Presidents Summit in Bangkok a recurring theme was the challenge to prepare students to work in an economy and to live in a society. This clearly implies that higher and further education is not only to prepare students as workers and professionals, but it must also prepare them to be good neighbors and citizens.

Most of the data provided to decision makers revolves around different measures of productivity which in turn respond to budget requests. In most cases these data are only helpful in managing budgets. The most important information, used to manage education, is less available, less often requested, and more difficult to define. We therefore use proxies for academic quality that may not be appropriate for the world our students will be living in.

A PRELIMINARY STUDY ON READING HABITS OF STUDENTS AND STAFF IN ASIAN HEIS: TOWARDS A BALANCED GLOBAL K-CAPACITY BLUEPRINT

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ABSTRACT

Literatures on reading and reading habits showed that knowledge achievement is best facilitated through reading. The corollary is obviously that a lack of reading ability and capacity will diminish knowledge acquisition.

This paper reports on a research project involving three HEIs in neighbouring countries of Southeast Asia on readings and reading habits of both their students and academic staff. Surveys on these respondents generally show that both the students and academic staff in these institutions do not do readings outside their text book requirements.

By deduction therefore these students and academic staff are imposing unintentional self-restriction on their knowledge acquisition capacity. As a result there arises a globally imbalanced development that may perpetuate the domination in knowledge of one by another. The short-term advantage of such a situation for the latter is likely to cause long-term disadvantage for all. The onus, however, is on the side with the stunted capacity to reinvigorate itself and thus join the pace to achieve a balanced global knowledge capacity development.

AN ALTERNATIVE MONITORING SYSTEM TO ASSESS ACADEMIC PROGRAMME PERFORMANCE

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ABSTRACT

A continuous monitoring system of student academic performance is essential to any institutions of higher learning. Since the key factor in measuring students' academic performance is the cumulative grade point average (CGPA), it could also be used as an indicator of whether each programme offered meeting certain required standard. The first ISO Quality objective of UiTM states that at least 30% of the students should obtain CGPA of 3.00 and above. In this study, the CGPA of students from various programmes offered in the Science and Technology faculties are explored and their empirical distributions are determined. As an initial stage, only normal distribution is considered. Based on this normal distribution, the probability that a student CGPA of greater than 3.00 are calculated for each programme. Those programmes having probability lower than 0.3 will be classified as not meeting the required target. Hence, this alternative monitoring system that could be carried out regularly in order to identify those programmes not meeting such target so that an immediate remedial action could be taken.

THE ROLE OF SELF EVALUATION IN QUALITY SSURANCE: WIDYATAMA CASE STUDY

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ABSTRACT

To obtain quality assurance, an institution should conduct self evaluation for continuing improvement purposes. The purpose of this study is to investigate the implementation of Self Evaluation in quality assurance at a higher education institution. This paper looks at the effectiveness of self evaluation implementation at Widyatama University Bandung – Indonesia as an example for the investigation. The paper, therefore, explores the process and the role of self evaluation in quality assurance at the university. Data is collected through evaluating quality management documents, observation, and inquiries. Through research, the paper reveals the following contributions on the self evaluation in quality assurance:

1. Supporting university management and promoting quality assurance,
2. Strengthening the idea that "quality assurance is the "king" of a university
3. Improving the process and the role of self evaluation in quality assurance
4. Building campus culture to help people at the university be more involved in conducting self evaluation.

Key words: *Quality Assurance, Self Evaluation, Internal Auditing, Higher Education*

FOLLOW UP AND EVALUATION OF CHILDREN FUND OFFICE RESEARCH BANGKOK: RAJABHAT CHANDRAKASEM UNIVERSITY

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ABSTRACT

The purposes of this research were to study efficiency in funding management, as well as career potential and child development potential by funding, and satisfaction of Fund operation. Data collection was conducted by using questionnaire, focus group, interview and observation. The subjects comprised 158 committees and 3,027 members.

The finding revealed that:

1. The most effective was benefit of funding, Account system and back-payment. The income from the Fund was not enough. The internal process which was the most effective are committee's consideration of loaning, loaning consideration of service villages and the correctness completeness of back-payment evidence performance of committee's responsibilities correctness of accounting. The items rated at moderate level were collecting process, the ratio of committees and document filing system. The items resulted at low level of efficiency were as follows: money deposit to the account within 30 days and following up of service villages committee.

1.1 Career potential. Punctuality of the last installation and monthly loan payment were at the most level. Followed by the items at moderate level, they are better living of family supporting career and sufficiency of family income. The reduction of hometown-leaving for work remains stable.

1.2 Child development potential. Children were developed in intellectuality at moderate level follow by mentality and physical. As for education, development of learning equipment, uniform and stipend.

2. The most satisfied was satisfaction of C.C.F. Fund as a whole followed by satisfaction of committee's Fund management. The lowest level was the immediacy of money transferring.

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THE STUDENTS LIFE STYLE OF HIGHER EDUCATION: THE IMPLICATION FOR MANAGINGS STUDENTS ACTIVITIES AND SERVICE

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ABSTRACT

A lifestyle is a characteristic bundle of behaviors that makes sense to both others and oneself in a given time and place, including social relations, consumption, entertainment, and dress. For University, the study of lifestyle student is important for both developing student activity in campus and developing university service for the student. The objective of the research is explore the description of student lifestyle. This research was undertaken using convenience sampling, and the data collection was conducted by direct survey. The survey was conducted in STIE Perbanas Surabaya, on Management and Accounting education with 298 respondents. Statistical method used in this research are exploratory factor analysis and cluster analysis. The finding of this research shows that there are five underline factors of student lifestyle in STIE Perbanas Surabaya. The factors consist of optimistic, sport-lover, brand minded, family orientation, and pleasure activities. The other finding is there are four lifestyle groups of the students. The groups are family-dependent, enjoyment, sport lover, and optimistic group. Managerial implications, particularly for managing student activity and service, are also discussed in this paper.

Keywords : *Service Quality, Student Lifestyle, Managing Higher Education, University.*

DETERMINING THE RELATIVE EFFICIENCY OF ACADEMIC DEPARTMENTS USING DATA ENVELOPMENT ANALYSIS

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ABSTRACT

Efficiency is one of the many performance measures that could be used to quantify the performance of an organization. It reflects how well a set of resources (inputs) is translated into a single product (output) or multi products through a production process. Such measures are necessary for higher education institutions for the following reasons: to ensure accountability for the public funding received, to ensure 'value for money' services, and to be used as a basis for fund allocation purposes. Data Envelopment Analysis (DEA), a non-parametric method, use linear programming to measure the relative efficiencies of organizational units, technically known as decision making units (DMUs). Being a nonparametric technique, DEA does not require a structural form for the production frontier function and able to handle multiple outputs quite easily. However, DEA is not free from weaknesses. Due to its nature, DEA model is found to be sensitive to a few factors including outliers. Technique such as Super Efficiency DEA is used as a sensitivity test to examine the robustness of efficiency results to the aforementioned factor. This paper presents the results of applying DEA to measure the relative efficiency of university departments at a public university based on four different sets of output measures and two fixed input measures. The use of different sets of output measures is to reflect the performance of academic departments in terms of four dimensions, namely, the enrollment efficiency, the graduate efficiency, the research efficiency and the total efficiency. The results show that efficiency scores vary based on the type of output. Among the four models, the total model produces the highest average efficiency. Meanwhile, among the other three individual models, the average efficiency in enrolment is found to be the highest in comparison to the average graduate efficiency and average research efficiency. The robustness of each DEA results is also tested using Super Efficiency DEA model.

Keywords*: efficiency, data envelopment analysis, Super Efficiency DEA*

DEVELOPMENT OF QUALITY ASSURANCE IN PRIVATE HIGHER LEARNING EDUCATION IN INDONESIA

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ABSTRACT

Based on government regulations about quality assurance system, every Higher Learning Education institution (HLEI) must have quality assurance division. Even though this regulation established 2003, but the progress of development was under the expectation. The diversity HLEI ability's, especially private university made them have different capability for building Quality Assurance (QA) division. The objectives of the research are to explore the existence of QA division in private higher learning education in Indonesia, especially in East Java, the constraints caused the low progress of the development, and the implementation of QA. Research involves 96 HLEIs as sample. Research result revealed that the progress of QA implementation run slowly, Only 51% of the private HLEs have QA division. The main problem cased them unable to develop this division is human resource constraints and financing limitation. Generally, they have highly motivated to develop QA division because of internal driven, they believe that it make them can gain competitive advantage. To strengthen QA implementation many HLEIs design quality manual, procedure and work instruction based on QA best practice from the government. Based on the result, the Private HLE Coordinator will push and facilitate them to develop and customize their program based on their achievement in QA development.

Keywords*: QA, internal driven, implementation*

GRADUATE DESTINATION SURVEY IN AN AUSTRALIAN UNIVERSITY OF TECHNOLOGY

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ABSTRACT

The graduate destination survey has gained prominence within the Australian higher education system of late due to the very useful key outcomes indicators provided by the survey and the increasing use of some of these performance measures in institutional and supra-institutional decision-making. Regarding the latter, it is noted that the Federal Australian Government allocates around AUD$109 million per annum to universities under its Learning and Teaching Performance Funds on inter alia the basis of a couple of the key performance indicators derived from the Graduate Destination Survey, namely, graduate progression to full-time employment and graduate progression to full-time studies. This survey, however, provides data on other important outcomes such as the graduate salaries and various demographic variables that can be subject to institutional research. Accordingly, the present study considers the graduate survey results for an Australian University of Technology from the perspective of the three major post-graduation outcomes (employment, full-time studies and graduate salaries) and various demographic and related variables. The study, inter alia suggests that the University does add economic value to the graduates with Masters Coursework program completers in full-time employment earning fifty percent more in terms of salary than Bachelor graduates and doctorates earning around 11% more than those completing Masters Coursework programs. The planning and policy implications of the findings of the institutional research are also examined.

ASSESSING DIFFICULTIES OF CONDUCTING EDUCATIONAL TECHNOLOGY RESEARCH BY GRADUATE STUDENTS: A POINT OF DEPARTURE FOR BUILDING INSTITUTIONAL INSTRUCTIONAL RESEARCH CAPACITY

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ABSTRACT

Research is an important component of any graduate level education program. At the Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia, all graduate students in the Masters in Instructional Multimedia program are required to undertake a research project in the area of instructional / educational technology and multimedia in order to fulfil their master's degree graduation requirement. Graduate level research education and experience is a springboard for continued interest and positive involvement along their research career path. Realising this, the centre has included a core course in the program entitled QIM 511: Research Methods and Issues in Instructional Multimedia. It is hoped that this course will provide students with motivation, knowledge and skills for conducting good educational technology research. This paper reports the results of an assessment that has been carried out on graduate students' level of difficulty in conducting educational technology research. The result of the assessment is used by the centre to improve its research instruction and hence graduate students' research capacity building.

A STUDY OF LECTURERS PERCEPTIONS TOWARDS RESEARCH

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ABSTRACT

Teaching and research are two main requirements in the job descriptions of university lecturers. Other requirements in the job descriptions include organising seminars/conferences, presenting papers at national and international levels, publishing papers/articles in refereed journals, publishing books and other scholarly activities. Through research one could acquire knowledge and disseminate to students as well as peers which finally contribute to building competitive advantage to the university concerned. The current study reports findings from a survey which examined the perceptions of university lecturers towards research.

The findings indicate that research is essential to professional development motivated by getting promotion and salary increment. They also shed some light on the main barrier for not doing research among university lecturers - poor statistical and econometric skills. Implications and suggestions for future research are also provided.

Keywords: *Teaching, Research, Perception, Professional Development*

STUDY ON ACADEMIC AND SOCIAL ADAPTATIONS OF STUDENTS FROM EAST NDONESIA

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ABSTRACT

This study analyzed the academic and social adaptations of students from East Indonesia who are studying in Java and their impacts on the students' academic performance. Knowing how the students from East Java are striving for the success of their study in Higher Education (HE) is very important because of the two rationales:1) Indonesia consists of varied cultures emanating from the different islands; 2) number of students coming from East Java to study in Java has been increasing, so, it is very crucial to know how they have been making adaptations for the success in their university studies.

The research instrument to collect the data on social and academic adaptation used Likert scale while on academic performance the ratio scale was applied. The questionnaires were distributed to students who are from East Java studying at STIE Perbanas Surabaya. The data were analyzed using SPSS 11.5 version.

With average GPA of 2.9 , the academic adaptation mostly done were: obtaining a good grade was important; studying at the college was useful; studying at the college leads to a job or career. The social adaptation expressed greatest satisfaction in terms of finding it useful to get to know other students or staff at the institution; their wish to get acquainted with other students; and the congruence of on-campus student life to their expectation. This suggests that the college needs to strategically address policies on a developing conducive campus atmosphere for any ethnic group attending the institution.

Keywords: *Academic Adaptation, Social Adaptation, Academic Performance.*

A PRELIMINARY COMPARISON OF TEACHER EDUCATION PROGRAM IN MALAYSIA TO UNESCO ICT COMPETENCY STANDARDS FOR TEACHERS: A CASE STUDY

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ABSTRACT

Educational Technology is an area that educators should be familiar and comfortable with especially in the utilization of instructional models and the deployment of proper instructional strategies to learners of all ages. The initial exposure and training in educational technology will determine the method of beginning teachers in integrating technology into their teaching-learning activities. Any university that offers a bachelor's degree in education offers at least a course in the foundations of educational technology. In turn, Information and Communication Technology (ICT), an important area of educational technology should not be ignored in any pre-service teacher education program to ensure human capacity development that emphasizes the growth of a technology literate population. Therefore, this paper reports a small part of a larger ongoing research on the standards of ICT training curriculum and strategies for pre service teachers throughout Malaysia. Specifically the curriculum and strategies used in three local universities will be compared to UNESCO's ICT competency standards for teachers. The result of the study will disclose to what extent the components of training curriculum adhere to the standards and the development of the field.

Keyword: *Instructional Technology, Information Communication and Technology, Pre-service Teacher Education Program*

STUDENTS' PERCEPTION ON COMPUTER BASED LEARNING (CBL)

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ABSTRACT

The use of internet has created opportunities to expand learning experience beyond the traditional classroom. Chang and Fisher (2003) developed a new instrument called a Web-Based Learning Environment instrument to assess students' perception of online learning.

STIE Perbanas Surabaya has accepted Grand Program from Indonesian Government to enhance graduate employment program for students. The Enhancing Information Technology Awareness is program to enhance graduate employment program for students at STIE Perbanas Surabaya. This study explores how students perceived their computer supported computer-based learning (CBL) environment and examines the difference of perceived their computer supported computer-based learning (CBL) environment based on characteristics of students.

The survey has been conducted to 647 students of Accounting and Management Programs. The result of this study shows there are no differences among characteristics of students on access, interaction, response, and result. The other finding of this result shows that preferences students at STIE Perbanas in the online environment rather than learning in the traditional classroom.

Keywords: *Computer Based Learning (CBL), Information Technology, Web-Based Learning*

THE ROLE OF INSTITUTION OF HIGHER LEARNING IN CAPACITY BUILDING OF E-COMMUNITY CENTERS

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ABSTRACT

A Telecenter is an access point to internet for the marginalized communities. The facilities and infrastructures at the Telecenter help to democratize the usage of ICT, bridge information and digital divide among those at the urban and rural. One of the objectives of bridging digital divide initiatives is to bridge the knowledge gap and divide among the urban, rural and underserved communities in Malaysia. Today, Telecenter is becoming one-stop center with business, learning and teaching activities. These diversified roles are to ensure that Telecenter can be sustainable and self-funding beginning 2010. A research was conducted from January 2008 till April 2008, which employed qualitative and quantitative research techniques. This research includes survey, focus group interview and observation of 18 Telecenters. This paper will describe the findings of the research related to the needs of capacity building of the Telecenters' supervisors in view of the transformation of Telecenter into social business model. It will discuss the courses needed and describe the role of the Institution of Higher Learning (IHL) in developing the capacity building program for competitive advantage of the Telecenter. Hopefully, this paper will highlight the role's of IHL in collaborating with the Telecenter to assist the development of value added knowledge society.

Keywords*: Digital Divide, Telecenter, Institution of Higher Learning, ICT*

SUSTAINABILITY OF POST-GRADUATE PROGRAMMES AT OPEN UNIVERSITY MALAYSIA (OUM): AN IMPORTANCE-PERFORMANCE ANALYSIS

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ABSTRACT

Identifying the important aspects of the services provided to learners and measuring the institution's performance in providing those services are critical in ensuring continual acceptance and long-term sustainability of an institution's academic programmes.

In this regard, a study was undertaken using the importance-performance analysis (IPA) to identify the strengths and weaknesses of services provided to the post-graduate learners of OUM. A random sample survey was employed using a questionnaire containing 46 service-items, grouped into 8 dimensions which are pertinent to open and distance learning (ODL). The data was obtained from 231 learners from 10 state learning centres throughout the country. A regression analysis was carried out to determine the factors that influence learners' perception on quality, their level of satisfaction and intention to stay.

The results show that the learners' ratings for expectations and performance are high as indicated by the mean importance and performance scores of 6.1 and 5.5 out of a 7- point Likert Scale, respectively. Learners' perception of the quality of services was found to be influenced by three dimensions, namely, responsiveness, assurance and accessibility (R^2=54.3%), while their level of satisfaction was attributed to responsiveness, assurance and affordability (R^2=52.4%). Another pertinent finding in the context of OUM is that learners' intention to stay is influenced by affordability and flexibility.

The study has obvious implications on OUM's efforts to ensure the long-term sustainability of its postgraduate programmes. One of the principal outcomes of the study is that OUM needs to strengthen its academic-related services and reduce those not directly academic-oriented. The other outcome is that OUM needs to strengthen its staff's responsiveness to learners' requirements.

THE INFLUENCES OF PERSONAL VALUES AND TIME CONSTRAINTS ON FACULTY – STUDENT OUT-OF-CLASS INTERACTION: AN EMPIRICAL RESEARCH

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ABSTRACT

Student retention is one of central themes in education. This is because some students left universities without having completed their courses. On the contrary, universities are having difficulties in recruiting students nowadays as a result of tight competition among universities. There are several factors contributing to students leaving niversities such as financial and psychological problems. One essential finding from several researches on student development is the importance of student-faculty interaction in the lives of students. The interaction can be divided into interaction in the class room and outside the class room (out-of-class interaction). The interaction in the classroom is about the subject being taught by the lecturer in that subject class. On the other hand, out-of-class interaction is interaction between faculty and students in informal way. Although there has been a fair amount of research on out-of-class student-faculty interaction based on students' perception, few studies have focused on that interaction based on faculty perception. Therefore, this research developed a model to investigate the relationship between personal values, time constraints, attitude toward doing interaction out-of-class, and doing interaction out-of-class based on faculty's perception. A self-administered questionnaire was used to collect the data for this study. The data was then analyzed using structural equation modeling. Only provides an analysis of the data, a discussion of the findings and the one research hypotheses were supported, which is the relationship between time constraints and attitude toward doing out-of-class interaction. The paper implications for theoretical and managerial.

Key words: *Student Retention, Faculty, Out-Of-Class Interaction*

SUFFICIENCY AND SUSTAINABILITY: INSTITUTIONAL CAPACITY BUILDING FOR HEI

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ABSTRACT

Rapid commercialization and internationalization of education at the expense of HEI (Higher Education Institution) quality has led to questionable HEI practices that raises the questions of balancing the individual and institution economics and sustainability while maintaining education excellence, its holistic foundation. To address this, the "Sufficient and Sustainable" HE model (Teay, 2007) redefined HEI's sufficiency and sustainability through a middle path philosophy that is moderating, reasonable and self-resilient moderated by a set of knowledge and morality conditions that is applicable to both the capability and capacity of the individual and institution. It calls for the individual and institution transformation leading to the transformation of the students, instructors and institution. Teay (2008) developed the individual capacity building model in the second paper of the series. In this third paper, the focus is on the imperative to create education value through the institutional capacity which represents the HEI House of Learning through the sufficient moralistic organizational capacity and capability model. This constitutes the organizational nuts and bolts of skills, knowledge, experience and personality interacting within the context of values, beliefs and ideals that influence the institutional mind set and practices. This imperative calls for strategically managing the Strategic Organization Capital of its aligned organization strategy, systems, style, shared values, leadership, and its work processes framework and mechanisms that is based on rationality, moderation and self-resilience. This augment the organizational strengthening, capacity enhancement and work processes improvement and alignment and management from a more moralistic and sufficiency and sustainable stance that needs to be addressed as they represent the core competency of the HEI to create education value.

Key words: *Sufficiency and Sustainability, Institution Capacity and Capability Building, Higher Education Institution*

THE ROLE OF COMPUTER ANXIETY AND COMMUNICATION COMPREHENSION TO INFLUENCE REACTION AND INTERACTION OF INDIVIDUALS WITH TECHNOLOGY MEDIATED LEARNING (TML)

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ABSTRACT

Technology Mediated Learning (TML), which is defined as "an environment in which the learner's interactions with learning materials, peers, and/or instructors is mediated through advanced information technologies. The Technologies used to support TML include video conference, web interface, and email. In order for TML to work, the technology must actually be used.

STIE Perbanas Surabaya has accepted Grand Program from Indonesia government to enhance graduate employability program of student. The Enhancing Information Technology (IT) Awareness Program is the one of program to enhance graduate employability program of student in STIE Perbanas Surabaya. This research examines individual anxieties related to communication and computing to see how they influence an individual's reaction to and interaction with technology tools used in Technology Mediated Learning (TML). Specifically, the objectives of this research is to examine the role of anxiety, an individual characteristic, in Technology Mediated Learning (TML)

The survey has been conducted to 662 Accounting and Management students to explore individual anxieties related to communication and computing to see how they influence an individual's reaction to and interaction with Technology Mediated Learning (TML), tools used in an e-learning environment. Using a multiple regression model, the research result indicate that Computer Anxiety, email experience and website experience are significantly impact on Computer mediated communication (CMC) anxiety

Keywords: *Technology Mediated Learning (TML), computing anxiety, communication apprehension, computer experience*

STUDENT RETENTION AT STIE PERBANAS SURABAYA, INDONESIA (CASE STUDY WITH TINTO'S MODEL)

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ABSTRACT

In Indonesia, the duration of study in higher education (HE) takes 8 semesters. Anyhow, while studying some students often do not successfully undergo the studying process, meaning they fail, and finally they drop out. This condition commonly happens in Indonesian HE. This is a very serious problem for the HE institution since student retention refers to varied problems such cash flows, image, and its long term sustainability. Institution, then, must be aware of assessing why this problem happens by looking at some aspects such as students' personal characteristic and HE institutional aspects both academic and social aspects.

This research reviewed the factors related to the retention of the students of STIE Perbanas Surabaya at the first semester. A path analytic approach based on Tinto's model was employed to explore the effects of students' background, preparedness, goal and institutional commitment, academic and social integration upon the students' retention.

This study resulted that all variables significantly influenced the students' retention. That's why institution should pay more attention to build and maintained student's goal and institution to gain their high academic and social integration and retention.

DEVELOPING GOOD MANAGEMENT SYSTEM TO ENHANCE EFFICIENCY IN PRODUCING AND SELLING PRODUCTS OF INSTITUTE OF FOOD RESEARCH AND PRODUCT DEVELOPMENT, KASETSART UNIVERSITY, THAILAND

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ABSTRACT

The purpose of this research was to develop participating process of production and selling of Institute of Food Research and Product Development, Kasetsart University, Thailand in order to improve management system to meet its highest potentials. Action Research associated with PDCA model was our main research methods. 45 participants were from Production and Selling Department. They were assigned to work together to create their work improving plan by analyzing situations of their organization in last 3 years (during 2003 to 2005). Instruments in this study were brain storming, observation, and group discussion. The data obtained were analyzed and discussed through content analysis.

The study revealed that participants from Production and Selling Department worked separately. They never summarized the results of their works, and lacked cooperating between different departments. Most of them only worked according to assignments. However, working environment was different. They always helped each other, and leaders took good care of their workers.

After joining all research processes, the participants could see the importance of data operation and indicate the trend and directions of their working plan. They selected products which had highest potentials and profits to produce as a priority. They also deleted some products that had a difficulty to produce, and chose some outstanding products to promote the organization. This study found that after our research procedures the participants recorded their working systems periodically. They were able to increase their income from 15,872,148 in 2005 to 18,060,161.60 baht in 2006 and 19,751,890.66 baht in 2007.

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DEVELOPING PERSONAL COMPETENCES ASSESMENT FOR DIAGNOSING GRADUATES SOFT SKILL

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ABSTRACT

Recently, some studies on graduates' competitiveness revealed that personal competences as part of soft skill attribute becomes the main factor considered industry for hiring employees. Based on some research in industries on graduates' competitiveness, industries placed team work and management conflict style competencies as the main qualification. Even though this competency is very important, only a few of universities concern assessing and doing extra effort in either academic or non academic process for developing it. This research objective is to develop personal competencies assessment for diagnosing graduate personal competences, especially their predisposition in team work role and in handling conflict. This assessment is developed based on the instrument which is popular for assessing team work role competencies and conflict management style in handling conflict and industrial needs. Team work competences assessment is designed by developing Belbin team role self-perception inventory instrument. This instrument can assess predisposition of the graduates in team work situation and their role preferences. There are nine kinds possibility predisposition, namely: as implementer, coordinator, shaper, plant, resource investigator, monitor evaluator, team worker, complete finisher and specialist. While management conflict style assessment is developed from Thomas Killman Inventory instrument that measure the management style in handling conflict, like accommodation, collaboration, compromise, avoiding and competition. For examining the validity and reliability, 199 graduates are involved in that process. The paper focused on developing the process of personal competencies assessment, the assessment instrument itself and the usage of it. This instrument is already applied for assessing graduates and the result generates fruitful benefits for diagnosing graduates' soft skill that give feed back for learning improvement process.

Keywords: *Personal Competencies, Teamwork Role, Conflict Management Style.*

A DISCIPLINE SPECIFIC FACTOR ANALYSIS APPROACH TO EVALUATING STUDENT SURVEYS AT AN AUSTRALIAN UNIVERSITY

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ABSTRACT

A temptation in institutional evaluation is to assume that common measures have a common meaning. This paper uses factor analysis to unpack significant disciplinary differences in a common measure of student experience: the Course Experience Questionnaire Good Teaching Scale (GTS).

Previous research has shown that when GTS data is analysed at a discipline level across different universities, students' ratings of their perceptions of teaching are strikingly different. These differences are between disciplines and programs, not between universities; in fact universities consistently achieve mean GTS scores close to the national average, given the disciplines they teach.

The present research, conducted within an Australian university, uses a discipline perspective to investigate a twenty-one item survey providing subject-level student feedback. Surveys were stratified into fifty disciplines, and categorical factor analysis was applied to ascertain common interpretable factors. These factors measured the subject learning experience based on the student perspective, without predefined factor structures.

As expected, results revealed differences in the student experience between disciplines. Further, the factor analysis identified, for each discipline, the pivotal aspects of students' experience: those where variation was most strongly correlated with their experience overall. Different items of importance emerged for different disciplines. While a good teaching factor did consistently emerge, it was not always the first factor, and correlations between it and other items varied.

We conclude that examining each discipline separately helps to make sense of students' ratings of their learning experience. Our approach should help staff use subtler data analysis to improve students' learning in their subjects.

Keywords: *Good Teaching, Disciplinary Analysis, Factor Analysis, Student Surveys*

STRENGTHENING CAPACITIES FOR GRADUATE RESEARCH

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ABSTRACT

The purpose of this position paper is to raise the issue of capacity in the resources needed to ensure quality research in higher degrees. The method is to consider the experience of a Master's programme in Assumption University, Bangkok, extracting issues which are of general concern to universities in the region. The author also draws on his experience of graduate research in universities in Australia, Malaysia, Singapore, and Thailand.

Most higher degrees include a mandatory research element. This is intended to be practical, to apply theories and knowledge to actual organizations, the research results being useful to the company investigated. This is learning by doing, and accords with various learning theories such as constructivism, andragogy, and experiential learning.

However, adequate skilled resources, especially human, are needed to turn research ideals into reality. This is the capacity issue. Universities need to build and maintain the resources needed. Primary and supportive capacities are involved. Primary capacities include research methodology teachers and advisers, links with industry and commerce, physical resources, libraries, and ICT. Supportive capacities include Administration, Registry and Finance departments, plus Management & Performance systems, an International culture, and academic journals.

Pressurised by a competitive globalisation, the quantitative expansion of higher degrees in Southeast Asia has led to qualitative problems. This is a worrying situation as it threatens the quality of research and thus the competitive ability of industry and commerce. Recognition of this resource capacity problem is the first step to dealing with it.

THE DRIVERS OF STUDENTS LOYALTY

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ABSTRACT

This study examines the relationship among service quality, facilities, university image, study program image, satisfaction and loyalty. This study employs structural equation modeling to test the hypothesis. Regarding the findings, this study found that service quality, study program image and satisfaction significantly influence university image. In addition, service quality and satisfaction become the antecedents of study program image. Interestingly, the antecedents of students satisfaction are service quality and facilities. Finally, this study found that the drivers of student loyalty are satisfaction, university image and study program image.

Keywords: *Service Quality, Satisfaction, Loyalty, Structural Equation Modelling*

STRATEGIC ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN HIGHER EDUCATION INSTITUTION (HEI): ICT AS TRANSACTION AND INTERACTION ENABLER

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ABSTRACT

The objective of the research is to explore the ICT role in HEI as the transaction and interaction enabler. The transaction values provided by ICT includes: online registration, study plan, evaluation and assessment grade, class management, documentation management system, human resources management, library management, marketing function, administration, finance and accounting, asset management, research management, services management, and information portal. The interaction values provided by ICT includes: lecturer and lecturer interaction, student and lecturer interaction, lecturer and staff interaction, and staff and student interaction.

The research is conducted at University of Ciputra in Surabaya, Indonesia. The method used is descriptive and survey research whereas data used are primary and secondary data. The data sampling method used is purposive sampling. The secondary data are obtained from the organization documents and existing condition data while the primary data are obtained by using questionnaire. They are analyzed by using quantitative and descriptive method.

The result shows that the ICT significantly supports the process and operational activities which are the transactions and interaction among lecturers, staffs and students. This shows the strategic role of ICT in HEI to sustain the competitive advantage of the institution.

Keywords*: Information And Communication Technology, Transaction, Interaction*

BUILDING MULTIPLE EXPERIENCES AS HIGHER EDUCATION COMPETITIVE ADVANTAGE (*Marketing View*)

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ABSTRACT

In supply side, there is advance competition among higher education institution to attract potential student, to keep the student loyal and to give better output for society. The competition increase when Peraturan Presiden (President's Decree/Regulation) No 77/2007 gives opportunity for investment abroad to invest in education.

The article's purpose is to give the argumentation that building multiple experiences can create differentiation and competitive advantage to keep survive or even winning in higher education competition. As part of experience business, Higher education is a unique service industry because students have to live in it in several years study, and they still being part of it after they graduate as alumni. That makes justification for higher education to commit on experiential marketing. They have to create and build positive multiple experiences through paradigm change, strategy and programs such as academic atmosphere, facilities, environment, teaching-learning process, staff, etc. Positive experience will enhance loyalty to their institution. State owned higher educations, domestic private higher educations and abroad higher educations can offer different experience to marketing themselves.

This article trying to analyze and explore the role of experience marketing in higher education institution through literature study and interview about what is experience marketing and what elements that can be used to give positive experiences in higher education. The results show that implementing experiential marketing in higher education is a must. Building and creating multiple experiences can enhance student loyalty and institution image. So it has to be maintained and sustained as competitive advantage and differentiation strategy

Keywords: *Experiential Marketing, Higher Education, Competitive Advantage*

PROBLEMS AND OBSTRUCTIONS ON KNOWLEDGE MANAGEMENT OF HIGHER EDUCATION INSTITUTION: A CASE STUDY OF RAMKHAMHAENG UNIVERSITY, THAILAND

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ABSTRACT

Higher institutions usually manage knowledge for effective teaching process and administration purposes. Knowledge for the teaching process is systematically organized especially under the regulations of governmental controlling units. Teaching in different sections, although by different teachers, should maintain similar contents and standards. Many documents must be filed, copied, and reported and shared. Knowledge in the administrative system is documented and usually directed to particular respondents but not shared much to other departments. This study investigated the process of knowledge management at Ramkhamhaeng (RU) University, a large open-admission public university in Thailand by synthesizing frameworks proposed by (Demarest, 1997; Marquardt 1996; Probst, Raub, & Romhardt, 2000; and Turban & Aronson, 2001) that included knowledge acquisition and creation, storing and retrieval, distribution, and application. The knowledge management system involves gathering implicit and explicit knowledge in the organization, combining, storing, and disseminating the knowledge throughout the organization. Delphi technique was used in three rounds of interview with eighteen experts in the university. Results suggested 10 major problems and obstructions of knowledge management of the university i.e., the understanding of knowledge management, ability to employ new information technology systems, resistant to change, inability to utilize electronic gadgets, information inadequacy, relationship among units in the university, systems for learning, the misunderstanding of the significance of knowledge sharing, the organization culture, and motivation to learn.

VALUES EDUCATION PROGRAM AT UNION CHRISTIAN COLLEGE, CITY OF SAN FERNANDO, LA UNION: AN INPUT TO A FOUR- YEAR DEVELOPMENT PROGRAM

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ABSTRACT

Values Education Program (VEP) is a set of deeply rooted convictions of our behaviour as individuals/ organizations (Hunt, et al, 1997). Values are interrelated with one another as norms or practices around a core cultural concept or theme (Panopio, et al, 1995). Similarities as well as diversities in values exist among faculty members and staff of Union Christian College (UCC), one of the six higher educational institutions (HEI) in Northern Luzon with a deregulated status awarded by the Commission on Higher Education. All its collegiate programs are accredited Level II by the Association of Christian Schools, Colleges, and Universities- Accrediting Agency Incorporated.

The study assesses the current values education program at Union Christian College, SY 2006- 2007 in the areas of (1) Physical Development, (2) Intellectual Development, (3) Moral Development, (4) Spiritual Development, (5) Social Development, (6) Economic Development and (7) Student Development. Likewise, this study seeks the relationship between the profile of the respondents and the level of implementation of Values Education Program by the institution, the extent of effectiveness of the program, the extent of productivity, and the extent of administrative support to the program. This study is hoped to help improve the services which the UCC community extends to its clientele.

This research uses the questionnaire survey (Appendix A) method to gather the primary data. The major components of the questionnaire are: Current profile of the respondents; The level of implementation of the Program; (3) The extent of productivity of the program; (4) The extent of effectiveness of the program;(5) and The extent of administrative support to the program. The survey instrument was pretested to Lorma Colleges, San Fernando City, La Union, another higher educational institution (HEI) within the city. Kuder- Richardson formula 20 is used to determine the coefficient of reliability which is 0.98 (Subong, 2005). Moreover, the researchers used informal and unstructured interview to elucidate / substantiate information not contained in the questionnaire, perused reading materials from the library, and surfed the internet to gather insights from other countries. Frequency and percentage tools are used to describe the profile of the respondents. The weighted mean formula is utilized to determine the extent of implementation of the program. In addition, the Pearson's r is used to determine the correlation between the profile of the respondents and the extent of implementation, effectiveness, productivity of the program and the extent of administrative support to the program (Downie, 1974). There are 150 respondents of the study which included the administrators, fulltime faculty members and staff of the College. Generally, Values Education Program is highly implemented, productive, effective and supported by the school administration.

The results of this study serve as a basis in the formulation of a four-year development plan to address the weak areas of the Values Education Program.

Keywords: *Values Education Program, Physical Development Program, Economic Development Program, Moral Development Program, Social Development Program, Spiritual Development Program, Student Development Program*

ATTRIBUTES OF ENTREPRENEURIAL VENTURES: A GUIDE FOR CURRICULUM DEVELOPMENT IN ENTREPRENEURIAL EDUCATION

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ABSTRACT

According to Hisrich and Peters, "there is no such thing as a "true entrepreneurial profile". This statement provides us no common denominator that would describe an entrepreneur. With this, it is deemed necessary to conduct study on the attributes of entrepreneurs and factors that make them successful. Findings of the study may help entrepreneurship educators in their curriculum development. It will help them determine which entrepreneurial attributes needed greater emphasis. The results of the study will guide entrepreneurship curriculum designers determine areas that may be included in the syllabus or curriculum.

The study focused on the association between the attributes of selected micro-entrepreneurs in Baguio City and Benguet Province and the indicators of enterprise success. The attributes of micro-entrepreneurial ventures were: personal factors, marketing factor and management factors.

The personal attributes were limited to age when business started, gender, educational attainment, and birth order. Marketing was studied through the marketing variable, promotion. Management was studied through the management functions of planning, organizing, leading and controlling.

The result disclosed that the association between the promotional tools and sales and expenditures as indicators of enterprise success is high. Furthermore, planning function proved to be significantly associated with sales and expenditures.

LOGISTIC REGRESSION FOR DETERMINING FACTORS INFLUENCING STUDENTS' PERCEPTION OF REPUTATION OF AN ODL INSTITUTION

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ABSTRACT

In today's competitive higher education environment, an institution needs to be pro-active in generating higher revenue and also to remain ahead of its competitors. There are basically two ways to increase revenue, that is, to increase new intakes and to retain a maximum number of existing students. In the case of the former, one of the best strategies to adopt is to utilise the institution's own students to attract others to enroll. The strategy will be successful if the students believe very strongly in the reputation of their university. The objective of this study is to determine the satisfaction factors that contribute positively to students' perception of reputation in OUM, the first ODL institution in Malaysia. The study employs logistic regression technique. Based on a sample of 2,662 students in 2007, the study found that the significant predictors for institution's reputation were "Teaching and Learning", "Learner Centredness" and "Student Affairs Management"; the odds ratio indicated that "Teaching and Learning" has the highest impact on the outcome variable, followed by "Learner-Centredness" and "Student Affairs Management". However, the logistic regression model adopted in this study explained only 19.0% of the variation in the outcome variable, indicating that there is a need to identify other variables in future research in this area.

THE CONSTRUCTIVISTIC COMPETENCE BASED LEARNING DEVELOPMENT OF ENTREPRENEURSHIP CLASS

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ABSTRACT

The development of constructivisticism-based Entrepreneurship learning method in fact can help achieve the academic competence and motoric skill in Entrepreneurship. Besides, the constructivisticism-based learning (project) bases on the constructivistic perspective, where learning is not purely stimulus-response phenomenon as the perception of the behaviorists. Then the project assignment selected and determinded by the students is likely based on the conceptual knowledge they have had. In this context, the real activity done in the constructivisticism provides a learning experience that helps the reflection/abstraction and put the real life activities close to the underlying conceptual knowledge so that the academic knowledge develops more widely and deeply.

The advantages of constructivistic learning can also explained from the Constructive Learning theory. Thus, constructivisticism-based learning has more opportunities to develop the students' efforts to build the complex and rich memory representation and develop a strong relationship between semantic, episodic and action knowledge. This finding is line with the researches done by some researchers: Wataon, Prieto & Dillon (1995), concluding that the concept comprehension on the discussion of the students learning through constructivisticism is better than those wo learn traditionally. Spinger, Sanne & Donovan (1999) and Johson, Johnson & Stanne (2000) studied some subjects, concluding that the learning collaboratively in small groups in constructivisticism with projects may improve the academic competence. Bragg & Reger IV (2000) conclude that the integration of the academic and technical (vocational) learning may improve the academic and technical competences. Thomas (2000) concludes that the constructivisticism-based learning improves the academic competence.

THE RELATIONSHIP BETWEEN STUDENT SATISFACTION AND ACADEMIC PERFORMANCE IN THE PRIVATE HIGHER EDUCATION INSTITUTIONS IN MALAYSIA

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ABSTRACT

The study was aimed to investigate the factors influencing student satisfaction with relation to academic performance in Private Higher Education Institutions (PHEIs) in Malaysia. A survey was conducted using questionnaires and data was collected and analysed from 450 respondents consisting of students from 15 PHEIs. The survey showed that out-of-class support, teaching excellence, and class size were significantly more important and related to student satisfaction, but also revealed that there was little or no relationship between student satisfaction and academic performance.

Keywords: *Student Satisfaction, Academic Performance, Private Higher Education, Partial Least Square, Malaysia.*

THE PERCEPTION OF COLLEGE STUDENTS TOWARD E-CHEATING

A Note for Maintaining Sustainability IT Awareness Program
(Case Study at STIE Perbanas Surabaya, Indonesia)

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ABSTRACT

Information technology (IT) devices have offered many facilities for educational process. Unfortunately, some studies have concluded that IT facilities have been misused by some students. The misuse of IT in academic process is called E-Cheating. Some studies have done, but there are only limited studies conducted for IT utilization in Accounting and Management majors. This research is aimed at knowing how the perception of college students towards any actions of E-cheating in academic area is, especially in university that utilizes IT in Accounting and Management. STIE Perbanas Surabaya has a regulation to punish the students who cheat at final and mid semester examination. Although the punishments have been applied for more than 3 years, the number of students who do cheat is not decreasing. The survey has been conducted to more than 400 students of Accounting and Management to explore the student's perception towards e-cheating in academic area. This study can give a benefit to educational institutions to be taken into account in the compilation of academic code of ethics and analysis of education curriculum that is relevant to the code of ethics in the e-employment.

MANAGERIAL & SOFT SKILLS: THE PERCEPTION OF STIE PERBANAS SURABAYA STUDENTS

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ABSTRACT

The study aims to observe STIE Perbanas Surabaya undergraduate students' perception about managerial and soft skills. Another objective is to examine the differences of the interest between management and accounting students. The research design is exploratory research, using the questionnaires with 14 items as instrument for collecting the data. The sampling technique is judgment sampling and it consists of 55 accounting students and 42 management students. The analysis technique is conducted by descriptive and independent sample t-test analysis.

The result finds that both the management and accounting students state that managerial and soft skills are important for their future wealth fare. The managerial skills consist of making decision and eliminating risk skill, making report skill, analysis skill, communication skill, the skill of strategic and critique making a economic decision, risk identifying skill, and skill of identifying reliable and relevant measurement to make economic decision. The soft skills consist of self confidence, skill of team work, the ability to make relationship with the other person, innovation ability, oral and writing communication skill, honesty, and ability to work in time and target pressure. The other research finding is that there isn't difference of the perception of interest level of managerial and soft skills between the management and accounting students. Based on such findings, it is advisable that STIE Perbanas Surabaya should place the managerial and soft skills in organizing the curriculum, especially before the students graduate from the institution.

Keywords: *Managerial Skill; Soft Skill; Management Students; Accounting Students*

FINANCIAL LITERACY AMONG UNIVERSITY STUDENTS AND ITS IMPLICATIONS TO THE TEACHINNG METHOD

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ABSTRACT

Financial literacy has become an increasingly important requirement for functioning in modern society and trends in work patterns, demography and service delivery suggest that it will become even more important in the years ahead. However, many researches show that some group of consumers, including business college students, lack key financial skills and understanding about certain financial products and services. Poor financial management knowledge is believed to be one of the main reasons most people have failed to manage their personal finances.

This study aims at examining the level of financial literacy among university students and exploring various factors influencing the level of literacy. The explanatory variables used in this study include GPA, major at senior high school, study program, financial management (FM) course, and investment experience. In attempt to present an appropriate picture of student financial literacy, the sample is drawn from Perbanas School of Business students using a quota sampling in order to represent students at all levels. This study uses primary data and it is collected using survey of questionnaire. The data is analyzed using descriptive analysis, independent sample t-test, correlation and compare means

The result shows that the financial literacy level of students is quite low. The average score is less than 40%. It also is found that the student financial literacy is not significantly influenced by gender, major at senior high school, study program, GPA and investment experience, but it is significantly influenced by financial management education.

Keywords: student financial literacy, business school, teaching in finance

MAPPING OF CORE PERSONAL COMPETENCE AND ITS IMPLICATION FOR TEAM - BASED LEARNING PROCESS IN HIGHER EDUCATION

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ABSTRACT

Job preference of graduates is influenced by core personal competencies. Matching among interests in job areas, team roles preference, and conflict management style are the main key to personal competencies success factor for doing job. Recently marketing job area has been the most available in the job market; however, most graduates have low interest to apply it. The purpose of this research is to analyze the graduate's core competency profile. The result shows that most of graduate from accounting and management department tend to be Plant, management diploma program tend to be Implementer and accounting diploma program tend to be Monitor Evaluator in team. In conflict situations, a researcher describes a person's behavior along two basic dimensions, assertiveness and cooperativeness. These dimensions can be used to define accommodation, collaboration, compromise, avoiding and competing mode. Graduates tended use compromise style in management conflict. The result also explained that STIE Perbanas's graduates have strong interest in computational and clerical job area. It's summarizing that graduates' characteristics were not appropriate with personal requirement of marketing job area. Suggestions for using team-based learning consisted of a preparation phase, an application phase and an assessment phase provided.

Keywords: *Core Personal Competence, Job Area Interest, Team Role Preference, Conflict Management Style, Team Based Learning*

OPEN UNIVERSITY MALAYSIA: WAY FORWARD IN SCIENCE AND TECHNOLOGY EDUCATION

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ABSTRACT

One of Malaysia's national agenda is to move towards a scientific and progressive society. Government strategies for Malaysia described in this paper highlights the importance of life long learning in achieving its national agenda. Open University Malaysia as a pioneer in open and distance education has a role in promoting life long learning in Malaysia. This paper highlights the key features of the university i.e. blended learning mode and e-learning platform which offers various benefits that could provide supports for creating an innovative society. In the context of science and technology, creating an innovative society means creating manpower with good foundation in basic science knowledge and science skills, a sense of appreciation of contributions and innovations in science and technology, positive attitudes and awareness on ethical issues. This paper proposes strategies to invest in the future by retraining man-power, promoting basic science and increasing the quality of technical courses.

Keywords: *Innovative Society, Policies, Science, Technology, Human Resource, Strategies, Investment*

PILOT TEST ON THE CULTURAL DIFFERENCES (INTERNATIONAL STUDENTS PERSPECTIVE) AND ONLINE LEARNING IN A MALAYSIAN INSTITUTION

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ABSTRACT

International students coming to Malaysia to study are implicitly expected to cope with the different learning cultures and environment. Studying online means learning is facilitated and supported through the use of information and communication technologies. The use of educational technologies in higher education offers unique challenges to students from different cultural backgrounds. Little rigorous research has been published on the perception of international students on the online learning environment in the Malaysian institutions and cross cultural difference that might exist. Therefore, this study is intended to attempt to better understand this complex, important, and challenging area of research.

Hofstede's Cultural Dimension Model will be used to determine the cultural dimension of the international students coming from various chosen countries. A mixed-method approach will be used to collect data both quantitatively and qualitatively. This study will evaluate how undergraduate students perceive their e-learning experiences in a Malaysian institution using the Online Learning Environment Survey (OLES). An in-depth study will be conducted to compare and contrast the challenges confronted by these international students. Major difficulties encountered and how these students actually cope with online learning, as well as the strategies and tools used to overcome the challenges will be investigated.

Keywords
Information Communication Technology, Hofstede's Cultural Dimension Model, International Students, Oles, Malaysian Higher Education.

UNDERGRADUATE RESEARCH SKILLS: COMBINING TRADITIONAL AND ACTIVE COLLABORATIVE APPROACHES TOWARDS MAXIMIZING RESEARCH CAPACITY

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ABSTRACT

"Copy from one, it's plagiarism; copy from two it's research" – John Milton (1649). This paper outlines and explores the challenges and problems faced by undergraduates in a local private university in undertaking research. Educators across academia are increasingly voicing concern over widespread plagiarism and the inability of undergraduates to research and write effectively. Literature attributes this malady to several factors: lack of knowledge and experience, poor language as well as research skills. The research strength and potential of a university is not only judged by the research competency of its faculty but also by that of its students. Thus it is crucial that efforts towards maximizing the research capacity of a university also address issues concerning undergraduate research skills. Towards this end, this study explored: the undergraduates' research and information skills competency, research experience and English language proficiency. Data collection was done via questionnaire distribution among undergraduates and information on curricular and pedagogical issues was gathered through interviews with faculty and undergraduates and document analysis. The results indicate that the undergraduates' comfort level and involvement in research work is still far from satisfactory. The undergraduates' perceived improvement of research and information skills is negligible and this is further confounded by the limited opportunities available to activate knowledge. This paper proposes that the traditional and active collaborative learning approaches be used in combination to provide undergraduates a more constructive research experience during their course of study and to simultaneously enable the university to enhance its research standing.

Key words: *Research Skills, Information Skills, Active Collaborative Approach*

TOWARDS A SYNERGIZED MULTI-LEVEL EFFECTIVE EDUCATION: THE SECONDARY SCHOOL – UNIVERSITY ALIGNMENT WORKSHOP – AN INITIATIVE FOR EFFECTIVE AND INFORMED TEACHING AND LEARNING

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ABSTRACT

The X-Generation and the Millennials involved in teaching and learning have to adjust to each other in order to make both the teaching and the learning effective. The explosive development of technology also impacted on these to the extent that the imminent arrival of expiry dates for engineering and technology qualifications has been expressed even by The World Bank.

Time is therefore of the essence and that effective education primarily of those who aspire to engineering and technological professions must be put in place. At the authors' institution, an initiative in the form of Secondary School Teachers' Workshop had been conducted with two major objectives, namely, keeping the teachers informed of various rapid development in the fields and providing them with relevant and practical examples of engineering applications of basic knowledge they teach to their pupils in the latter part of the school curriculum so that incoming engineering students are appropriately prepared.

Two of such workshops are planned for every year. The first was conducted in early 2008 and the second in mid 2008. Attendees welcomed this initiative and the major objectives above were achieved. The paper will discuss the processes involved, lessons learnt and improvements as well as potential new ideas identified. It is expected that the resulting synergy will enhance capacity building in several educational and national economic areas.

♦ Nirwan Idrus served as a Professor and senior management staff at two universities in Malaysia between 2005 and 2008.

THE EFFECTIVENESS OF BANKING COURSE IN BANKING DEPARTMENT AT STIE PERBANAS SURABAYA

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ABSTRACT

It is assumed that instructional process of a course during a certain period provides students with knowledge of the course itself. Thus, the term of effective is based on the score showing their achievement of the course after the course is finished. It is suggested that a course design and development should be based on on-going information that reflects the course itself during the class process. In addition, the continuous improvement for a course for instructional process in the classroom is required when the college really wants to provide the students with knowledge as desired in the instructional goal. This research attempts to see whether banking course taught to the students really provides them with knowledge of banking after a semester- instructional process. First of all, a test construction is made by having a try out to a group of students. Then, the result of try out is used for revising so that the test attains its validity. The valid test construction is used to measure the two groups of students: one is the group who have got banking course during a semester and the other is the group who haven't got it. Descriptive statistics is used to get mean scores of the two groups. These two mean scores are then compared to see which is higher. It is assumed that the groups who have got banking course get higher mean score than the other group who haven't got it. Based on the result of the analysis, it can be judged whether the course is effective or not.

Keywords: *Effectiveness, Course Design, Course Development, Test Construction, Validity*.

A STUDY OF IT LITERACY AMONG FIRST YEAR STUDENTS: A POWER OF PERCEPTIONS

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ABSTRACT

The knowledge and skills of computer usage is an important agenda in our daily lives in this IT era. Students are the groups who need to occupy themselves with various computing skills as one of the important elements to facilitate their learning process. This study is done to measure the level of computer literacy among Universiti Sains Islam Malaysia (USIM) first year students from all faculties and the relationship between their knowledge and computing skill levels. Questionnaires are distributed to respondents as a method of information gathering. Analysis shows that students have good computer literacy with high mean of skills and knowledge. Their perceptions indicate their level of knowledge and skills in using computer.

PRESET OBSERVATION INSTRUMENT FOR QUALITY TEACHING AND LEARNING

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ABSTRACT

The PRESET observation instrument is designed to help teachers develop their teaching skills and strategies. This observation instrument is successfully produced on the basis of several approaches that include the clinical supervision model, the collaborative and reflective model of supervision. The aim of this observation is to help in producing competent teachers and provide a common frame of pedagogical reference for teaching and learning. The proposed observation instrument is carefully designed and the criteria are selected from various observation instruments proposed by Flanders, Brown, Blumberg, etc. The criteria selected are based on the four categories suggested by Onibokun (1984). The four categories are:

1. Cognitive-based: Teacher's knowledge
2. Performance-based: Teaching behavior and teacher personality
3. Competence-based: Teacher's ability to teach by assessing pupil behavior; formative evaluation of pupil understanding.
4. Affective-based: Teacher/class/pupil/teacher interaction.

The paper will explore how this instrument can enhance institutional capacity by not just producing quality teachers, but also strengthening the system. We believed that PRESET can develop a certain skills or competence for the general upgrading of performance ability as it includes the creation of enabling environment with appropriate framework, as well as the involvement of everybody in the system.

ALTERNATIVE TERTIARY-LEVEL STUDENT ASSESSMENT AND FEED BACKING STRATEGIES UTILIZING CLASSROOM-BASED GROUP PROJECTS AND PRESENTATIONS IN GENERAL SOCIOLOGY AND ANTHROPOLOGY: ARGUMENTS FOR THIRD MILLENNIUM SOCIAL SCIENCE EDUCATORS

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ABSTRACT

Traditional views of educators and academicians have maintained the attitude that suitable ways of assessing tertiary-level students in any subject would be through the commonly-applied lecture method and paper-pencil test (ppt). The view include General Education subjects like Introduction to Sociology and Anthropology offered to all college students of De La Salle University-Dasmariñas, Cavite, Philippines. However, there have also been perceptions that at the end of each term or semester, some teachers have complained that their students evaluated them poorly and were extremely bored with the subject. These views continued to flourish among the students since they neither knew nor remembered anything worthwhile. Moreover, they ended hating both the subject and the teacher for not making the course relevant or significant to their skills training and needs. This paper therefore addresses the aforementioned issue in searching for the best and suitable alternative strategy which will not only benefit the Social Science teachers concerned but will address the relevance and significance of institutional capacity-building in teaching and learning on the tertiary level for the Third millennium as well.

This study largely employed the observational method through social experimentation and informal narrative accounts of how students would react to the teacher's idea of administering a long quiz or a series of graded recitations through collaborative group projects like role-playing, editorial cartooning, and slogan or campaign-making instead of the usual paper-pencil test. Additionally, the paper utilized live video excerpts of the students' actual classroom presentations and completed cartoon projects done on Manila paper as units for data gathering and analysis. The subjects used for this study were composed of college students belonging to the 1st to 4th year levels taking up Information Technology, Computer Studies, Nursing, Psychology, Tourism Management, and Hotel and Restaurant Management during the entire school year 2007-2008 (June 2007 to May 2008).

Keywords: *Lecture Method, Paper-Pencil Test, Student To Faculty Evaluation, Alternative Evaluation Strategies, Collaborative Group Projects, Institutional Capacity-Building, Role-Playing, Editorial Cartooning, Slogan/Campaign-Making*

A MODEL OF COMPUTER-AIDED INQUIRY-BASED MATHEMATICS LEARNING ENVIRONMENT

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ABSTRACT

Instructional courseware design approaches are often based on either objectivist or constructivist theories [Papert, 1993; Jonassen, 1995; Abtar, 1997; Lisa, 2003]. Objectivism is often associated with prescriptive declarative and procedural knowledge. On the other hand, constructivism emphasizes on conceptual understanding and higher order thinking skills. These two theories are often being viewed as dichotomous. Nevertheless, Mathematics learning requires understanding of concepts as well as mastery of procedural skills. In addition to that, it is generally agreed that learning of mathematics helps to promote thinking skills. As such, any instructional design model based on just one of the two theories appears to be insufficient as a holistic mathematics learning environment. The author attempts to break away from such traditional approach and proposes a new model of mathematics learning that employs inquiry-based learning process as the framework. The design of the model and the integration of the courseware into the learning environment are guided by design principles of microworld. The model relates learning with the inductive process in research. The author illustrates how courseware can be appropriately integrated into the learning process in such a way that procedural skills too can be learned in a constructivist way. The autonomy of the learner in this learning process is being emphasized. The author provides a lesson plan for the learning of multiplications based on this model of instruction.

TOWARDS SELF-ACCREDITATION OF STUDY PROGRAMS IN MALAYSIA: THE ROLES OF QUALITY-BASED AUDITS *VIS A VIS* STANDARD-BASED AUDITS

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ABSTRACT

An important part of Quality improvement is audits in which there has also been significant development. These appear to begin to converge towards what is increasingly becoming known as Quality-based or Fitness-for-use-based audits.

This paper discusses the newly introduced Malaysian Qualifications Framework and its Establishment and Institutional audits and their potential impacts on improving higher education in the region and thereby enhancing human capital development which results in intellectual capacity building.

As part of this process, it also discusses a method of developing Quality Standards and Quality Assurance for the various critical activities of an academic faculty. The method proposed is logically obvious but powerful and pervasive and can be employed to develop macro as well as micro Quality Standards and Quality Assurance.

The other powerful feature of the method is the rapidity by which shortfalls in the quality management system of an academic aspect are addressed. Such rapid turn-around is not possible with a Standard-based audit system, as the Standards involved will need to be modified first, followed by its evaluation, acceptance and then implementation. In the era of development at the speed of thought, accurate and rapid response to quality issues is non-negotiable. The paper then shows how all these contribute to the capacity of HEIs to responsibly self-accredit its study programs.

♦ Nirwan Idrus served as a Professor and a senior management staff at two Malaysian universities between 2005 and 2008

THE DEVELOPMENT OF A LEARNING ORGANIZATION MODEL OF AN AFFILIATED GROUP OF EDUCATION INSTITUTIONS IN BANGKOK

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ABSTRACT

Change and advancement in the academic system are rapid and progressive. An education institution cannot lag behind in regards to modern education systems, theories, and approaches. Hence, learning and development is a critical ingredient for success in providing teaching and learning process. Marquardt's (2002) suggested the learning of individuals could lead to learning of the whole organization. To achieve this result, appropriate processes must be planned to share individual learning to other personnel throughout the whole organization. Senge (2006) suggested a holistic approach to develop a learning organization through the fifth discipline, i.e. systems thinking that incorporates the disciplines of personal mastery, mental models, shared vision, and team learning. This research project investigated human resource development processes at a large affiliated group of education institutions. This group is one of major private education institutions in Thailand offering Thai and bilingual instructions. It has expanded and opened branches rapidly in recent years, and many talented newcomers were recruited. However, there is a problem of uneven levels of knowledge and competency among teachers, especially knowledge regarding the institution's policies and values. Hence, there is a need to develop and align learning in the organization level within each branch and across the group. This study collected data from all of the 23 top administrators of the group regarding the status and problems in personnel development based on Senge's frameworks. Focus group interviews were conducted to suggest methods to help the development of learning organization for the group. Information obtained was synthesized and a model toward learning organization was proposed.

THAI LEARNERS'DISPOSITION TOWARDS WEB-BASED METHODS OF SUPPORTING THE LEARNING OF ENGLISH AS A FOREIGN LANGUAGE

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ABSTRACT

This study is an investigation into the significant factors affecting learners' dispositions towards the use of web-based methods used to support the learning of English as a foreign language. A theoretical framework was set up to guide the study including methods of data collection and analysis. The analysis of interview data and observer notes revealed a number of emergent factors, which are also important in explaining dispositions in the use of web-based methods in learning a foreign language.

Sixty-seven English language learners from science- and English-based major subjects, two English language teachers and two university staff participated in the study. Questionnaires were the primary form of data collection used as a supplement to the main data from interviews and observer notes. Results from the questionnaire analysis reveal that among numerous variables, attitude was the core component and had the highest correlation with learners' intention to use the method. It was also found from the questionnaire analysis that there was an interdependence of a significant number of learners' dispositions towards web-based English learning. Data collected from the interviews revealed that despite some difficulties encountered in learning English, learners had an overall positive attitude towards using web-sites provided in the study. Among the various difficulties which were reported as constraints to the use of the methods, learners' personal limitations, particularly their inadequate English ability, seemed to outweigh the problem of computer applications. In addition to the limited English background, some learners in this study did not to attend the web-based sessions either because they did not consider the attendance as a priority or because of a lack of self-autonomy in learning English.

SELF-DIRECTED LEARNING READINESS AND THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AMONG STUDENTS IN A MALAYSIAN UNIVERSITY

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ABSTRACT

In a competitive environment of the twenty-first century, university students can no longer study solely on "traditional' way of learning. Students are expected to be self-directed learners where much of their studies are carried on their own initiative and effort. The pendulum in a university teaching is moving away from teacher-centered learning, towards more self-direction in learning among the students.

Pursuing with self-directed learning will be a new learning style among students at university level. One of the factors that can be associated with the willingness of them to practice this style is personality traits. This study was conducted to examine whether students were ready to pursue self-directed learning as their new learning style and to seek the relationships of the levels of readiness of self-directed learning with their personality traits. This study used a quantitative approach. The survey instrument was distributed to a sample of 470 final year undergraduate students. On the average, the students perceived themselves to be ready with self-directed learning style. The component of *Positive orientation to the future* was the most important in contributing to the readiness in self-directed learning. There was a positive and strong correlation between personality traits and readiness in self-directed learning style. The findings will be useful to educators and policy makers in universities and those designing flexible learning program for students.

Keywords: *Self-directed learning, Self-directed learning readiness, Personality traits, Malaysian university*

LEARNING AND TEACHING: HIGHER EDUCATION'S INSTITUTIONAL CAPACITY BUILDING BLOCKS IN THE KNOWLEDGE ECONOMY

Sub Theme:Learning & Teaching to enhance institutional capacity

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ABSTRACT

The twentieth century ended with a historically unparalleled explosion in knowledge generation and management in every area of human endeavour. The explosion of knowledge and its management has continued unabated, indeed in an accelerated manner in the new century. This phenomenal increase in knowledge is no doubt consequent on the parallel technological advancement and information management. As would be expected the explosion in knowledge has transformed the nature of the global economic activity with the most prosperous economies being almost exclusively knowledge driven: in fact such economies are now described as being knowledge based. An analysis of the historical antecedents of the knowledge explosion that characterised the twilight of the last century and which has accelerated in the new reveals a significant association with Higher Education reforms in a number of the countries mostly of the West. These reforms which have re-defined learning and teaching in practice, no doubt have been instrumental to the economic capacity building in those countries. In this conceptual paper, we will examine the nature of the transformation of learning and teaching which culminated in the advent of the knowledge based economy. On the basis of this and, identified elements of organizational effectiveness we will propose a model of capacity building in Higher Education and demonstrate its effectiveness and sustainability.

STUDENT LEARNING STYLES AND ACADEMIC PERFORMANCE

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ABSTRACT

Several studies have shown that many factors determine the academic performance of post-secondary students. Among them are their satisfaction towards the learning environment, interest in the study materials, secondary school academic background and learning style preferences. A student's learning style preference refers to the way they respond to stimuli, acquire and use information in a learning context. The objectives of this study are to ascertain the dominant learning styles of a special group of pre-university students and to investigate the relationship between their learning style and academic performance. Several different instruments have been developed for the purpose of investigating students' learning styles. For this study, the Grasha-Riechmann Student Learning Style Scales was administered to determine students' learning preferences in six learning style categories. The subjects of this study were first year students at the International Education Center (INTEC), Universiti Teknologi MARA Malaysia. These government-sponsored high-achievers were undergoing their preparatory programmes before pursuing their degree at reputable universities in Australia, New Zealand, the United Kingdom and the United States. Cluster analysis was used to identify their dominant learning styles, while discriminant analysis was used to identify the determinants of academic performance in the final examination at the end of the first year. The results show significant relationship between academic performance and learning style. Other significant predictors of academic performance are their attitude towards the learning environment and secondary school academic achievement in core subjects. Some of the implications of these findings for teaching and learning are also discussed.

Keywords: *Learning Styles, Cluster Analysis, Determinants, Discriminant Analysis*

THE OPEN UNIVERSITY MALAYSIA (OUM) LEARNING MANAGEMENT SYSTEM (MYLMS): EVALUATING THE EFFECTIVENESS OF ONLINE FORUM DISCUSSION FOR QUANTITATIVE SUBJECTS

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ABSTRACT

The blended pedagogy adopted by OUM for its open and distance learning (ODL) comprises three components; self-managed learning, face-to-face interactions and online learning through myLMS. The nature of online learning requires high commitment from the learners, especially self-managed learning and collaborative online learning. Learning quantitative subjects such as financial mathematics in a conventional environment is very demanding and it is difficult to grasp by a majority of learners, what more learning such subject through online learning. Interactions between the academic staff or tutors with the learners and also amongst learners are important. Thus it is critical that quality and effective teaching and learning progression take place in online forum discussion for such subjects. A study is carried out to explore the effectiveness of OUM's online forum discussion for the subject of Mathematics for Management (BBMP 1103). The effectiveness of the online forum discussion will be measured based on the community of inquiry model (Garrison, Anderson and Archer, 2000). The effectiveness of online forum participation will be evaluated using the three essential elements in online learning process – teaching presence, social presence and cognitive presence. The outcome of this study will be useful to facilitate effective and quality teaching and learning process for quantitative subjects via e-learning.

Keywords: *Learning Management System, Community Of Inquiry, Self-Managed Learning, Financial Mathematics, Online Communication, Peer Interaction*

ANALYSING STUDENTS' PERCEPTION ON THE EFFECTIVE TUTORS USING FUZZY SET OF GROUP DECISION MAKING

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ABSTRACT

This study is carried out to analyse learners' perception of effective tutors in Open University Malaysia (OUM) based on various criterion that we have identified. We analysed their perception using method known as Fuzzy Set of Group Decision Making Model. This method usually conducted in a multi-criteria environment, which mostly dependent on the subjective judgment of decision makers and is influenced by the uncertainty and vagueness of each individual preference. The model is proven suitable for quantifying imprecise information, reasoning and decision making based on vague data. This study aims to provide OUM an insight look and further knowledge on the attributes of effective tutors. It can be used as a rule of thumb when appointing external tutors. Effective tutors are vital in enhancing and achieving the objectives of teaching and learning process. The findings show that the proposed evaluation model allows decision makers to express their opinions about tutors' performance by using a more realistic qualitative and fuzzy decision making. It is a suitable tool that can assist decision makers to better evaluate tutors in order to select suitable and effective tutors so that teaching and learning process can takes place.

Keywords: Fuzzy Set Of Group Decision Making, Effective Tutors, Decision Makers, Linguistic Variable, Triangular Fuzzy Number, Group Decision Making

AN EMPIRICAL STUDY ON THE EFFECT OF LEARNING SKILLS WORKSHOP ON LEARNING READINESS IN AN ODL ENVIRONMENT

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ABSTRACT

Learners in higher education institutions require a set of learning skills in order to cope with their studies. This is even more crucial for ODL learners, majority of whom are working adults with multiple commitments. At Open University Malaysia (OUM), Malaysia's first ODL institution, a Learning Skills Workshop is conducted for new learners to assist them in adapting to their new learning environment and to equip them with the relevant skills to be an effective ODL learner. This paper examines the effect of the Learning Skills Workshop on the learning readiness of OUM learners. The study employs a survey approach using a set of 40 close-ended questionnaires distributed to 263 learners in four learning centers across the country. Pearson Correlation, Independent Sample t-Test and Stepwise Regression Analysis were carried out using the SPSS version 11.5 for Windows. The results showed that the workshop contents, namely, ODL Concept, Time Management, Assignment Preparation, ICT and using LMS have a positive impact on the level of learning readiness. The results also indicated that learners' level of satisfaction towards the conduct of the workshop, its perceived benefits derived from it and learners' self-confidence arising out of it have a positive influence on learning readiness. Out of the eight variables, only four explained 58 percent of the variation in the level of learning readiness. The variables are ODL concept, LMS, self-confidence and the level of satisfaction. The study thus indicates that the Learning Skills Workshop has been effective in enhancing learning readiness among new learners. This result concurs with that of another study on the efficacy of learning skills workshop on new students at OUM (Latifah & Jamaludin, 2007)

Keywords: Open And Distance Learning (Odl), Learning Skills Workshop, Learners' Level Of Readiness

ATTRIBUTIONS OF HIGH ACHIEVING THAI UNIVERSITY STUDENTS PERCEIVING THEMSELVES AS FAILURES IN ENGLISH USAGE

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ABSTRACT

The study investigates the attributions of Thai undergraduate students in a university in Thailand who obtain satisfactory grades in English but perceive themselves as failures in English language learning. An interpretive approach is used, taking into account the subjective meaning which the participants convey. The study explores the students' reasons for seeing themselves as failed learners and their views on how to become better language learners, and on the benefits of English language learning. Research findings indicate that there are various reasons why the students view themselves as unsuccessful English learners. Implications are drawn regarding English language learning and teaching as well as learners' achievement, and for the development of the curriculum in the particular context investigated.

THE ACCOUNTING STUDENT MOTIVATIONS TO LEARN ENGLISH: THE CASE AT STIE PERBANAS SURABAYA – INDONESIA

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ABSTRACT

The study aims to observe STIE Perbanas Surabaya accounting students perception on the motivation to learn English. The research design is exploratory research, using questionnaires with 30 items of questions as instrument for collecting the data. The sampling technique is random sampling, consisting of 141 accounting students and the data analysis is conducted by factor analysis.

The research result finds that, by chi-square analysis, there is a positive correlation between the score of English subject (*Bahasa Inggris*) in the first semester and English for Special Purposes (ESP) on Accounting in the second semester with their CGPA of the wholes courses. Another important finding, using factor analysis, from 30 items of questions, they were reduced into 7 factors of motivation of the accounting students to learn English: 1) intrinsic motivation; 2) individual development and social responsibility motivations; 3) learning situation; 4) immediate achievement; 5) motivation to go and live abroad; 6) way to increase confidence; and 7) success in the future life. These seven factors are generalized as instrumental, cultural, and situational motivations.

The research implication is limited to the Accounting Department at STIE Perbanas Surabaya. It was concluded that the seven factors of motivation mentioned above should be considered in the policy for designing English curriculum.

Keywords: *Motivation, Instrumental, Cultural, And Situational Motivation*

A FRAMEWORK FOR THE DEVELOPMENT OF ONLINE LEARNING COMMUNITIES

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ABSTRACT

Online learning communities are often part and parcel of blended learning pedagogies in both traditional and distance learning institutions to enhance learning. One of the popular models to help create these communities is the Community of Inquiry (CoI) model, designed to help learners become engaged with their course mates and tutors online. The goal is to create a community where learners collaboratively construct meaningful knowledge. It is believed that the three types of presence (cognitive, social and teaching) specified in the model will create an appropriate environment for more matured open distance learners. The CoI model was selected for a study at the Open University Malaysia (OUM) to determine the effectiveness of its current online learning implementation. Forums from 20 courses were analysed by a group of academicians. At the end of the study, it was believed that the CoI model could be used as a framework to implement its online learning, particularly in developing a community of learners as a means to enhance their understanding of the subject matter. Following the acceptance by the OUM academic board, the CoI model was introduced during the recent tutor training.

THE STUDY ON THE CHANGE OF LEARNING STYLE AMONG ENGINEERING STUDENTS

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ABSTRACT

Learning style is viewed as a method of education that is particular to personal study experiences to achieve the best learning results, which is some cases, the deep learning experiences. The understanding and the area of the learning styles are said to be both complicated and fragmented (Reid, 1995). Many researches have been carried out to investigate different aspects of the learning styles. The researchers have recognized at least 21 components, where normal individuals would have 6 to 14 strongly preferred learning styles (Dunn et. al, 1990). Looking on the students' learning styles fundamentally, one may need to identify the modality as visual, auditory or kinesthetic, which refer to the learning process through seeing, hearing and touching, respectively. The understanding of the learning styles helps in the design of the delivery of lecture to suit students' learning style to achieve deep learning among students. A recent analysis on the learning style was carried out on one of the engineering classes in the author's faculty by using the Barsch Learning Style Inventory. The preliminary results show that engineering students in this class generally have visual learning style; with some of them have a combination of two or three learning styles. Nearly half of these students have changed from one type to another, while others have the consistent learning styles throughout the learning process. This research aims to look into the change in learning styles among engineering students from different engineering disciplines and levels. In accordance to this, this paper will report the analyses of the types of learning styles among engineering students, and the changes they undergo at the end of semester.

A COMPARATIVE STUDY ON LEARNING PREFERENCES AMONG ENGINEERING STUDENTS

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ABSTRACT

The aim of this study is to investigate the learning preferences among engineering students in the Faculty of Engineering and Technology, INTI International University College, Malaysia. With globalization in education, a significant numbers of international students from different parts of the world are studying in the faculty so that not only their learning is assured but also their diversities are addressed. A comparison of the learning styles of Malaysian students considered as a homogeneous group and international students from various countries is investigated. Moreover the results of the study are used to examine trends with respect to gender and different disciplines in engineering. Two questionnaires are used as instruments: the first questionnaire is designed to find out the students' demographic information such as gender, age, nationality and field of study, etc. The second questionnaire is to use the Felder-Soloman's Index of Learning Styles (ILS) to determine the students' learning preferences. Samples are selected from students who are currently studying in diploma and degree programmes in the faculty. The preferences of learning styles on average of the students studying in the faculty are found to be sequential, sensing and visual. The Malaysian students as well as international students in the sample have the same characteristics as the overall sample, that is, their preferences on average are sequential, sensing, and visual. The learning styles of male students in this sample, on average are sensing, visual and sequential while the female students, on average are visual.

Keywords: *Engineering students, Felder-Soloman's Index of Learning Styles, Gender, Learning styles*

ENTRY-LEVEL TECHNICIAN SKILLS FOR SEMICONDUCTOR INDUSTRY: A COMPARATIVE STUDY ON MANAGEMENT EXPECTATIONS AND STUDENTS' PERCEPTIONS

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ABSTRACT

This study aimed to identify the mismatch in skills of semiconductor manufacturing technicians by doing a comparative study of the managers' expectations of technical graduate skills with students' perceptions of the skills that the semiconductor managers valued. The skills needed for entry-level semiconductor manufacturing equipment technicians were identified focusing on the first six months on-the-job. A self-completion survey instrument was used to rate the importance of a range of semiconductor manufacturing technician skills. The ranked standardized means were used to analyze and compare the relative importance of skills within groups (managers or students) and to assess the relative importance of skills standard between groups. To reveal any significant differences in the importance rating of the skills, *t* test of the standardized means was conducted.

The analysis of the ranked skill standard descriptors and skill standard groups shows the differences between the managers' and students' perceptions about the most important skills for a graduate entering a semiconductor industry traineeship or entry-level technician position. This result demonstrates that students have no realistic perceptions of the skills that semiconductor industry managers valued. The variations or gaps in the ranking of skills were found to be significantly different. This reveals that there are significant differences between management expectations and students' perceptions of the entry-level semiconductor technician skills that the managers valued. The gaps and the differences describe the skills mismatch between the technical graduates' skills and the skills requirement of the semiconductor industry.

The results challenged educators to align the graduates' skills to the skill needs of the industry using the validated skill standards. Close collaboration between technical schools and semiconductor companies is recommended to look into the opportunities of setting up a specialized course for semiconductor technology.

Keywords: *Entry-level Technician Skills, Semiconductor Industry, Management Expectations, Students' Perceptions*

THE DETERMINING FACTOR OF ACCOUNTING INFORMATION SYSTEM PROFESSIONAL QUALITY DEVELOPMENT IN HIGHER EDUCATION

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ABSTRACT

The role of university in creating the professional of accounting information system is highly required. The necessary efforts to be performed by the educators of accounting information system are subject development of accounting information system and deeper review process of subject content required to be accounting information system professional with the assistance of users who are graduated from accounting information system major. These efforts should be performed repetitively due to rapid and continuous development of information system and technology.

This study is aimed to find out the determining factors in the development of subject content related to Accounting Information System (SIA) to meet the demand of work circle of qualified Accounting Information System (SIA) professionals. The determining factors studied in this research are: (1) Business Knowledge Factor, (2) SI Progress Application Factor, (3) User Support Factor, (4) Programming Factor, and (5) System Planning Factor. The samples of this study are Provider companies in Surabaya, while the respondents are Information System Professionals divided into three groups, namely: analyst, programmer and end user support division at provider companies used as the samples.

The result of this study indicates that the respondents certify that business knowledge, system progress application, user support, programming and system planning Function variable are important factors in the development of accounting information system professional's quality as indicated that the average score of respondents' answers to those five variables is above 3.

This study shows additional evidence that those variables have a high correlation to each other unless for Business Knowledge function and Programming. It indicates that all those five variables are important factors in supporting the skill of information system professionals which means that the teaching at university should include business knowledge function, system progress application, user support, programming and system planning.

Keywords: *Accounting Information Systems, User Support, Business Knowledge, Programming and System Planning*

ANALYSIS OF MANAGERIAL, TECHNICAL, AND SOFT SKILLS IN AN INTERNSHIP PROGRAM

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ABSTRACT

This study examined managerial, technical, and soft skills of students working as internship staff in companies that went to three groups of banking, public accounting service, and banking industries. Managerial skills referred to the ability of students in developing the tasks carried out while technical skills referred to carrying-out and completion of jobs. Soft skills refers to skills that helps the students adapt, think, communicate and interact with other people at work. The three skills were prepared by college assigning the students, then companies hiring the students on internship program evaluated the way the students work through managerial, technical, and soft skills.

The study employed a survey using 70 questionnaires distributed to 20 companies users. These companies were the companies having hired students as their internship staff for 1-3 months. So, each company may evaluate more than one internship staff. These users went into three groups of industry i.e. banking, manufacture, and public accounting office. The data was statistically processed using statistic descriptive that was carried out by SPSS 11.5. The result of the study showed that the evaluation of each industry user on the competence of the students in Managerial, Technical, and Soft skills were not the same. In the banking industry it was found that Managerial and Soft skills were suitable, but Technical Skills were not suitable. In manufacture industry it was found that Soft skills and Technical Skills were suitable, but Managerial Skills were not suitable. Public Accounting it was found that Managerial and Technical Skills were suitable, but Soft kills were not suitable.

Keywords*: Managerial Skills, Technical Skills, and Soft skills, Internship Program*

UNDERSTANDING THE RELATIONSHIP BETWEEN THE UNIVERSITY AND THE WIDER SOCIETY IN THE KNOWLEDGE BASED ECONOMIC WORLD ORDER

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ABSTRACT

It is non debatable that the university as an ivory tower had not fulfilled the aspirations of society and seems to have consequently lost its position as one. The last few decades have witnessed a monumental growth of knowledge within but, of more relevance and possibly much more importantly, outside of the university. This has led to the belief in certain quarters that the university has also lost its position as the citadel of knowledge. In this conceptual paper, I will be arguing that although the generation, dissemination and communication of knowledge is not limited to the four walls of the university, the university is still the fulcrum of 'knowledge generation and management' in its various forms. Indeed it is evident that the capacity building for higher education in any society has become the strategic portfolio of its universities. Thus it is not surprising that the higher education reforms that started a few years ago in the leading countries of the western world have irreversibly transformed the world economy into one that is described as being knowledge based. In addition, I will be proposing a model of university 'knowledge generation and management' that is capable of maximising higher education capacity as a key driver of sustainable societal development.

STUDY OF MANAGERS VIEWPOINTS REGARDING OCCUPATIONAL HEALTH & SAFETY ISSUES IN A TECHNOLOGICAL UNIVERSITY

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ABSTRACT

Occupational health and safety is gaining in prominence within the workplace as revealed by an Australian study. However, a literature search reveals a dearth of published institutional research within a University context in this area. Higher education in general, but more particularly those offering Science and Technology programs, present certain risks to both students and staff in terms of chemicals, radiation and other hazardous material. Accordingly, this study reports on a survey of managers perceptions of Occupational Health and Safety within an Australian University of Technology. The quantitative analysis indicates a number of positive aspects of the safety environment including the fact that most managers understood their responsibilities under the relevant Act, and most of the respondents knew where to raise any outstanding health and safety issues within the institution. Nevertheless both the quantitative and qualitative survey analysis suggest certain concerns in this area, including perceived resource difficulties, need for future training in health and safety and enhanced functioning of the University-wide associated committee structures. Future research and associated implications of the findings of the study are considered.

ASSESSING AND MANAGING CUSTOMERS' EXPECTATIONS IN A COLLEGE INSTITUTION

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ABSTRACT

Drawing from the rich theories on customer expectation and satisfaction, as well as the resolve of school administrators to acquire greater knowledge of these concerns in relation to the peculiar nature of service quality in the school setting, a survey among 468 respondents was conducted to determine the degree of customer expectations on the different components or service quality offered by a college institution. It also analyzed the ranking of the specific factors that will make customers satisfied in a college institution.

Findings indicated that both students and parents are similar in their high degree of expectations on the different components that should be provided by the school. The top three components that should be very adequately provided according to the customers are: (1) laboratories, (2) library, and (3) instructions. Customers have the least degree of expectations on the areas of: (1) community involvement, (2) student services, and (3) faculty. Results also revealed that students and parents ranked (1) competitive learning environment, (2) quality of faculty, and (3) school reputation , as the top three indicators that will give them customer satisfaction, while the last three are (1) reasonable tuition fee, (2) co-educational system, and (3) brand/image.

In conclusion, a college institution needs to improve its ability to manage customers' expectations, and thereby dramatically improve its competitive advantage. Some strategies that can be considered towards this goal are establishing portals and placements; adopting a tool to measure the fit between customer expectation and experience; and upgrading laboratory and library facilities..

Keywords: Customer Expectation, Customer Satisfaction, Competitive Advantage, College Education

DETECTING STUDENTS AT RISK USING DECISION TREE

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ABSTRACT

Most universities aimed to produce graduates within the shortest time allowed. This can be accomplished by setting up an Early Warning System (EWS) to identify students at risk of failing their academic programme and implementing timely education interventions to help them cope with their studies. The students who are at risk of failing are identified based on their graduation status, while the predictors used to predict the students' chances of failing are grades attained in courses taken during their first and second semesters of their academic programme. This research uses decision tree to demonstrate the ability to predict the risks of failing to graduate. Two models are presented, binary and multi-class outcomes. Various tree configurations are also explored for each model. The predictive accuracies of the two models in terms of overall predictive ability and misclassification rate are compared.

Keywords*: decision tree, predictive analysis, misclassification rate, students at risk*

PRESENTED ABSTRACT

A COMPARATIVE STUDY OF THE ACADEMIC PERFORMANCE OF STUDENTS ENROLLED IN THE COLLEGE OF BUSINESS ADMINISTRATION OF DE LA SALLE UNIVERSITY-DASMARIÑAS

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ABSTRACT

The success of tertiary level academic institutions can properly be measured by the success their students achieve after they graduate either in terms of the number of job offers they receive, the range of their starting salaries, or their career progression. Sadly, most academics in the Philippines are faced with a growing concern: how can they sustain their historical success when the academic performance (measured in terms of end of semester grades) of tertiary level students has been deteriorating.

This paper focuses on students enrolled in the College of Business Administration of De La Salle University-Dasmariñas from the second semester of school year 2003-2004 to the second semester of school year 2007-2008. It makes no attempt to explain why students' academic performance deteriorate, but rather (using end of semester cumulative grade point averages, CGPAs) attempts to prove that it is in decline over the nine consecutive semesters covered.

Summary descriptive statistics (minimum, maximum, range, mean, standard deviation, coefficient of variation) along with crosstabs would be used to describe the data set. Furthermore, analysis of variance (ANOVA) would be utilized to determine differences in the sample. Two full batches of students would be traced and their academic performance on a semester-by-semester basis monitored and performance patterns determined.

The results of this study could become a useful input to school administrators and can help them realize that measures have to be put into place to ensure that the quality of graduates cease to deteriorate.

INVESTIGATES THE ACHIEVEMENT RECORDS OF THE MECHANICAL ENGINEERING DEPARTMENT OF POLYTECHNIC STUDENTS COMING FROM VOCATIONAL HIGH SCHOOL, SENIOR HIGH SCHOOL, AND ISLAMIC SENIOR HIGH SCHOOL GRADUATIONS

R. Edy Purwanto [1)],
Imam Mashudi [2)].

This research investigates the achievement level of polytechnic students coming from vocational high school (SMK), senior high school (SMU), and Islamic senior high school (MA) graduations, because there is an assumption that the students achievements level are varied and the system of recruitment. The samples of this research are the students of Mechanical Engineering Department, State Polytechnic of Malang at academic year of 2007/2008 in which they enter to this polytechnic through the formal entrance test (UMPN) and high level students records (PSB). The composition of the students from the two kinds of entrance model, there are 192 students. They consist of 50% or 96 (SMK), 5% or 9 (MA), and 45% or 87 (SMU).

The students are divided into eight classes. There are 24 students in each class. The class A is allocated to students from SMK and B from SMU, whose grade is in the 24th. The class C until H are given to the students from the SMK, SMU, and MA.

The result of research shows that there is no significant difference of achievement records (1st semester) of the students. If the attendee record becomes a medium of measuring of loyalty and activeness, the students from vocational high school having better achievement. The question, then, arises, why do the students from senior high school retreat from polytechnic? There are three students stop from polytechnic. This finding might provide the composition of students from SMK is higher than from SMU.

Key words: *Vocational high school, senior high school, achievement record*

IMPLEMENTING KNOWLEDGE MANAGEMENT IN HIGHER EDUCATION INSTITUTION : CHALLENGES AND OPPORTUNITY

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ABSTRACT

Knowledge management as the process of transforming information and intellectual assets into enduring value has been applied widely by corporations to achieve breakthrough competitive advantage. Nonetheless it is still at its preliminary stage in higher education despite of its usefullness to enhance decision making quality, reduced curriculum development and research time, improved academic and administrative services and reduced costs (Kidwell et.al, 2000).

The study aimed to explore the possibilities of implementing knowledge management in Indonesian higher education institutions. Despite the opportunities offered, there lies significant challenges specifically in the willingness of universitiy staff to accept, adapt and changed to fits in this new system. The analysis will be done qualitatively from reviewing related literatures and complemented with a mini research by applying Jones and Hubona (2003) acceptance model to measure staff willingness.

The result shows the urgency of knowledge management implementation by higher education institutions to gain competitive advantage.

Keywords : *knowledge management, competitive advantage, opportunities, challenges*

ACTION RESEARCH: AN INVESTIGATION OF PRIMARY HEADMASTERS' PERCEPTIONS OF THE SCHOOL MANAGEMENT PROJECTS AS PROFESSIONAL DEVELOPMENT PROGRAM.

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ABSTRACT

Accountability in education is perhaps the most significant issue faced by primary school headmasters today. With the education reformation of the Elementary and Secondary

Education in term of delivery system, Universiti Malaysia Sabah has been concentrating efforts on meaningful headmasters' development to improve school management.

The adoption of the Special Professional Education Program for Headmasters (PKPGB) has enabled the UMS to provide these primary headmasters with staff development opportunities during the school day to closely examine instructional practices. School of Education and Social Development, Universiti Malaysia Sabah has expanded this to include a specific headmasters initiated, action research initiative. The headmasters identify areas of inquiry upon which to gather data and make adjustments in administration to improve school administration. This study was designed to be a participatory action research based on headmasters' actions. Utilizing survey instruments and questionnaires, headmasters provided initial feedback to evaluate the effectiveness of the school management in the areas of school organization, curriculum, co-curriculum, finance, student affairs, etc. Data was gathered through both qualitative and quantitative means to establish support for the cultural impact of action research on the professional staff. Data were analyzed comparing nine distinct areas of school management concerns of school heads that completed the action research phase. The data were used to determine if the program had a positive impact on instructional practice and to what degree action research is sustained in the daily lives of the professional educators.

Results of the study suggested that a positive impact occurred with respect to

School management efficacy issues and improvements in management practice. Data suggest that action research, when used as a reflective/professional development tool was sustained after teachers were no longer formally involved in the PEP program as participants.

Keywords: Professional development, Action research, program evaluation, primary headmasters, and growth and benefits

MEASURING THE EFFECTIVENESS OF THE CONTEXTUAL TEACHING AND LEARNING ENGINEERING STATISTICS AT THE UNIVERSITI TUN HUSSEIN ONN MALAYSIA (UTHM)

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ABSTRACT

Contextual teaching and learning (CTL) is a system of instruction based on the philosophy that students learn when they see meaning in academic material, they see meaning when they can connect new information with prior knowledge and their own experience. Unfortunately, students often fail to find meaning in school, but the contextual learning classroom offers a place for meaning and content to merge. As for the Centre of Science Studies in the Universiti Tun Hussein Onn Malaysia (UTHM), the centre introduced the teaching and learning mathematics and statistics contextually. This reasearch was done to test the effectiveness of the contextual concept in learning engineering statistics for the engineering students in UTHM. The objective of this research is to identify the level of understanding, motivation, and acceptance between the students who had gone through the contextual concept and the non contextual concept based on the questionnaires. The quiz result was measured using the independent t-test. This research is done using the quasi-experiment. The sample consisted of 155 students which were divided into two groups : 72 engineering degree students in the treated group and 83 engineering degree students in the control group. The treated group followed the contextual concept while the control group followed the non contextual concept. The findings showed that there is no significant difference between the level of understanding and motivation from both groups. However there is a significant difference for the acceptance level between both groups. The findings also show that there is a significant difference for the Postest mean score between the two groups. The treated group who had gone through the contextual concept scored higher than the non contextual . In conclusion, the contextual concept is able to enhance the learning process of the engineering students in engineerng statistics.

Keywords : contextual, statistics, lab activity, video

CAPACITY BUILDING FOR INSTITUTIONAL RESEARCH IN HIGHER EDUCATION: ISSUES AND PROSPECTS FOR SOUTH EAST ASIAN INSTITUTIONS

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ABSTRACT

Institutional research (IR) provides an essential intelligence function that has system-wide ramifications for sustaining the state of health of an institution of higher learning. How well this sustenance can be maintained depends largely on the capacity of the IR unit that has been established in that particular institution.

This paper sets out to examine the capacity building requirements for IR that can contribute to the competitive advantage of higher education institutions in South East Asia in this era of globalisation by first revisiting the definition and meaning of IR and then teasing out the concept of capacity and its characteristics in the context of institutional development.

Capacity building for IR can be differentiated into infrastructural and human resource development. In this paper, the latter will be more focused, particularly in the direction of institutional leadership, in which the author argues is a critical issue for establishing competitive advantage in an institution. The other human resource issues examined relate to students and the faculty.

By examining the state of IR and its capacity building requirements in South East Asian higher education institutions, the paper hopes to reveal steps and strategies that can be taken in institutional policy formulation to establish and/or enhance the competitive advantage of higher education institutions in South East Asia.

CROSS-CULTURAL ISSUES AND THEIR IMPLICATIONS FOR BUILDING AND SUSTAINING A COMPETITIVE ADVANTAGE IN A GLOBAL ENVIRONMENT

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ABSTRACT

In this paper we will discuss the role of the Institutional Research Office in building capacity and sustaining a competitive advantage by developing a quality management system that takes into consideration and is adapted for cross-cultural differences.

Performance Indicators provide benchmarks for the institution as it needs to position itself in the competitive environment and to strengthen its competitive advantage in the global environment. Models that work well in one country need to be adapted to reflect the environment and differences in values and culture of another country. We will provide some examples of such differences and the adaptations that were necessary. Even though adaptations must be made, there are still overarching principles and steps that can be more universally applied.

In the paper we will explore the steps required to build a Key Performance Indicator (KPI) Framework as part of a total Quality Management system and how the Institutional Research Office can support, develop, measure and analyze these measures in the appropriate context to establish and sustain a competitive advantage.

FOUNDATION FOR QUALITY MANAGEMENT EDUCATION

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ABSTRACT

A college or university ideally serves students by providing an environment in which they can excel academically, professionally, socially, and personally. A business school provides students with a broad professional education and acquaints them with the principles, theory, and techniques of analysis, organization, planning, and control which are common to all organizations. As a graduate, students are expected to analyze business issues and make creative, innovative and sound recommendations for achieving business goals. This paper examines the role of liberal arts and science curriculum as a foundation for business education in a changing global economy.

PERCEIVED SERVICE QUALITY AND EMPLOYEE SATISFACTION : ARE THEY SIGNIFICANTLY LINKED?

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ABSTRACT

Perceived service quality is a gap between customers' expectations and perceptions. It has been identified in the literature that perceived service quality and customer satisfaction are important determinants of organizational performance. Employees are 'internal' customers in higher learning institutions and their levels of satisfaction can influence the service quality. Thus, to enhance service quality, the higher learning institutions should increase employees' satisfaction and reduce dissatisfaction. Furthermore, numerous studies have been investigated the service quality and students' satisfaction. Limited study has attempted to investigate the service quality and satisfaction from the employees' perspective. Therefore, this study examined the evaluation of employees' perceived service quality and satisfaction. This study also examined whether a significant positive relationship between the employees' perceived service quality and their overall satisfaction occurred. A self-administered questionnaire survey was employed as a data collection method. Data were randomly obtained from employees in various departments at Open University Malaysia. The employees' expectations and perceptions were measured using the service quality measurement. The satisfaction scale which consists of three items measured the employees' overall satisfaction. All scales used a 7-point Likert scale. Data were analyzed using the descriptive statistics and multiple regressions analyses. The results of this study are hoped to create better quality of services to the employees, and to achieve higher levels of employee satisfaction which consequently can lead to higher profitability. The quality improvement initiatives will be proposed to OUM. Future research is hoped to continue this study with regards to employee's performance and human resource management practices. (250 words)

Keywords: *perceived service quality, employee satisfaction, open and distance learning*

IMPLEMENTING AND PROMOTING BLENDED LEARNING IN HIGHER EDUCATION INSTITUTIONS: A CASE STUDY

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ABSTRACT

With the rapid development of the Internet, blended learning (online learning plus face-to-face learning) has become a model that more and more higher education institutions are exploring or intend to explore. This paper reports on how blended learning has been implemented and promoted at the Hong Kong Institute of Education since 2003. A number of projects have been carried out over the past five years, focusing on converting traditional face-to-face modules into partly face-to-face, partly online modules. The Blackboard online learning management system has been adopted as the main platform for carrying out blended learning. Other resources for facilitating blended learning have also been developed, such as a series of subject-specific websites to assist module delivery, online quizzes for students' self-assessment, and online wikibook projects requiring students to work in groups and write an academic textbook book together online (the focus of the projects being promoting online academic reading and writing, and online peer editing). To study and compare students' online and classroom behaviour, online computer-mediated communication discourse and classroom face-to-face discourse analysis were carried out. Data collected from these various projects and feedback from students and staff suggest that blended learning has been considered highly effective.

EVALUATION SYSTEM OF THE UNIVERSITY PROFESSORS IN DIFFERENT CULTURES

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ABSTRACT

Job evaluation of University Lecturers/Professors concentrates on their personal role performance expecting high competence level and professionalism. In some cultures e.g. Europe the unique personality of a professor is highly appreciated being the most important criteria sometimes even disregarding good relationship with students.

Highly competent lecturers play an important role in quality education staying as crucial factor for competitive advantage of the Institution.

University students evaluating their professors maintain the core source of evaluation at most Universities in the world. On the contrary there is growing critics about subordinates evaluating their superiors in business and most businesses withdraw from that unless 360 degrees method is applied that compares evaluation from several different sources.

Since the procedure of students evaluating professors is so common in a global academic community the reliability and consequences of this should get more of attention in the following areas: 1/choosing the right criteria, 2/elaborating proper procedures, 3/describing expected outcomes, 4 / proper feedback allowing professors defend herself/himself explaining, discussing and negotiating the students opinions, 5 / linking the evaluation scores to the salary level, promotion, training and other personnel decisions

The presentation will be based on research and comparisons from different cultures - Asia, Europe and the USA. The author was carried on the analysis in the field of Performance Appraisal and evaluation in business and academia for over 20 years.

TOTAL QUALITY ASSURANCE AND MANAGEMENT IN HIGHER EDUCATION: INTELLECTUAL CAPACITY BUILDING

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ABSTRACT

In general, quality assurance is defined as a planned and systematic process of checking to see whether a product or service being developed is meeting specified requirements. Total quality management (TQM), in the other hand, is a philosophy and a system for continuously improving the services and products offered to customers. With regard to higher education, quality education needs to be emphasized in ensuring progressive intellectual capacity building. Both quality assurance and management are also critical in ensuring that higher learning institutions provide better services to their primary customers. The continuous improvement and growth focus of TQM would offer more excitement and challenges to students and lecturers as compared to a "good enough" traditional learning environment that is widely being used. Elements of an education system that focus on total quality assurance and management will be discussed in this paper. The most important element is to ensure that each staff within the education system is provided proper awareness on this matter. A clear mission and vision must be in place and a proper learning system must be adopted. This paper focuses on the mastery learning approach, which is in line with total quality management. The learning process follows the Plan, Do, Check, Act or PDCA's cycle. It contains the following steps: *Plan*, teach (*Do*), *Check* (formative evaluation), revised teaching (*Act*), and *Test* (summative evaluation). The paper concludes with a framework that can be used as guidelines to total quality assurance and management in higher education.

FACETS OF QUALITY: A STUDY ON UNDERGRADUATE PROGRAMS OF PRIVATE HIGHER LEARNING INSTITUTIONS IN MALAYSIA

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ABSTRACT

In current competitive business world, it is visible that education should be beneficial to both students and their future employers. Since students are potential executives with prospect to have a successful career in their respective appointment, universities are accountable to offer programs that accommodate these needs. However, in order to achieve degree with quality which is consistent with practical requirement, universities are required to have an increase interest in developing an effective courses. Despite the fact that there is no authoritative definition of quality in higher education (Scott, 1994) it serve as a philosophical concept (Green, 1994). Furthermore, it should be applicable in every discipline of programs to improve the qualification with added value viz. attractive contents and syllabus that help students towards enhancement of updated skills which is pertinent to the employment environment and requirement. The objective of this paper is to explore the features of quality for academic qualification, evaluate its importance to the students, assessing the view of educators and proposing a composition that can improve the capacity. Findings gathered will determine the significant perspective of quality, the magnitude to the students and the consciousness of educators which generate long term reliability, performance, efficiency, flexibility and completeness in academics context.

Keywords: Competitiveness, quality, undergraduate programs, higher learning, Malaysia

STRATEGIC MANAGEMENT FOR SUB DISTRICT ADMINISTRATIVE ORGANIZATION DEVELOPMENT TO THE LEARNING ORGANIZATION

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ABSTRACT

The mainly to study 5 systems as follows (1) Learning Dynamic (2) Organization Transformation (3) People Empowerment (4) Knowledge Management (5) Technology Application in order to find solutions for the 5 systems and make them perfect. And this would lead to the development of Sub district Administrative Organization Development to the Learning Organization.

The 5 systems are (1) Learning Dynamic: The high level managements are lack of enough encouragement to create learning in organization. While intermediate managements are lack of support the operational employees to involve in deciding working plans. Also the low-level managements are lack of potentiality and confidentiality in work because they do not have enough training. (2) Organizational Transformation: The organization structure of the Sub district Administrative Organization is centralized and needed to be restructured, reengineered, and recaptured as the internal and external situations are changed and affected the organization. In addition, the organizations do not have right vision, mission, objective, strategic target, strategy, planning, and budgeting. (3) People Empowerment: Lack of empowerment to low level employees to be responsible to make decision on their own. Also the low level employees are lack to potentiality in working and coordinating with others. (4) Knowledge Management: Lack of team-working, interchange knowledge within Sub district Administrative Organization. No organizer to create brain storming or arrange seminar. (5) Technology Application: Lack of applying appropriate and modern technology in organization that help workers to work faster and more efficient since there are not enough high potential workforce and budget.

TOUR

BROMO TOUR

(6-7 November, 2008)

About Mount Bromo

Bromo Mountain located at Tengger Semeru National Park covers some 800 square kilometers in the centre of East Java. It is the largest volcanic region in the province and there stands Mt. Semeru, which rises 3676 meters above sea level. At its northern end is the spectacular Tengger Caldera with its 10 km barren desert-like sea of sand where volcanic cones of Batok and Bromo rise the deeply fissured volcanic cones of Batok and Bromo. Temperatures at the top of mount Bromo range about 5 to 18 degrees Celsius. Tengger sandy area has been protected since 1919, and its believed to be the only conservation area in Indonesia. There are several mountains inside the calderas namely: Mt Watangan (2,661 m asl)., Mt Batok (2,470 m asl), Mt Kursi (2,581 asl), Mt Watangan (2,661 m asl), and Mt Widadaren (2,650 m asl). To reach Bromo takes about 5 hours from Surabaya.

What to see during the tour?

SEAAIR tour will take the delegates to Bromo area and will stay 1 night in a resort hotel nearby.
At dawn, delegates will use a jeep (one jeep can be for 5 people) to go up to Pananjakan hill where the amazing sunrise slowly come up dragging the wonderful scene of chains of mountains of Bromo National Park. The way from the hotel to go up the hill passes the desert-like sea of sand where the volcanic cones of Batok and Bromo are there. But dawn does not offer good scene.

After seeing sunrise, jeeps will move down the the desert-like sea of sand of Batok and Bromo mountains. Batok mountains offers an amazing nature and is mostly taken as photo background. Jeep drive will be happy to stop here for taking photo. To get closer to the caldera of Bromo delegates may ride on a horse.

Batok mountain is just next to Bromo mountain, so after stopping at Batok mountain, delegates can climb up to the caldera through about 250 steps of stair. Local people of Tengger climb up this caldera for religious ceremony.

What to wear ?

At Pananjakan Hill at dawn will be very cold and can be a bit windy in November. Delegates are expected to wear: long sleeve T-shirt, jacket, glove, cap covering ears (see the photo), sport shoes, glasses .

Pasuruan Embroidery Home Industry

On the way back to Surabaya, delegates will stop at embroidery home industry in Pasuruan. If we are lucky, we can see the manggo festival, since November is the season for mango and Pasuruan is very well known with its good manggo.

Bromo Tour Schedule

Thursday, 6 Nov, 2008		
16.00	20.00	Go to Bromo Mountain
Friday, 7 Nov 2008		
03.30	06.00	At Pananjakan Hill, Bromo.
06.00	09.00	At Bromo Mountain
09.30	10.00	Check out from hotel at Bromo & back to Surabaya
12.00	15.30	Stop At Pasuruan 'Pendopo*' for lunch
		Embroidery home industry Exhibition in Pasuruan
15.30	17.30	Continue to Surabaya
17.30	18.00	Check in at near-airport-hotel, Sinar 2 Hotel
19.00	20.00	Dinner
Saturday, 8 Nov 2008		
--	--	Check out

CITY TOUR

(5 November, 2008)

Delegates will be taken to see Surabaya more by visiting an art handycraft shop where various batik and handycrafts representing many places of Indonesia. Many ethnic item can be bought, such as metal handicraft, leather handicraft , embroidered needlework, woven handicraft, batik, woodwork & fretwork, rattanwork, wooden furniture, ceramics, onyx & marbleware, platework, flower arrangement, painting, statues, carvings, antique, basket works, Silver works.

Then delegates will be taken to see the west part of Surabaya that is a bit away from the downtown to have dinner with a different nuance.

Note: The activity of spouse or accompanying persons during the day will be decided later when the number of spouse is fixed.

City Tour Schedule

Thursday, 6 Nov, 2008		
16.45	17.30	Reog Ponorogo Performance
18.30	19.30	Shopping at Mirota Batik
20.00	21.00	Dinner at Khayangan Restaurant
21.00	21.30	Back to Novotel Hotel

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QUALITY ASSURANCE PROCEDURES AND METHODS OF QUALITY ASSESSMENT ACROSS THE EUROPEAN HIGHER EDUCATION AREA

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ABSTRACT

The purpose of the article is to present the most common procedures which provide information needed to define the quality of higher education level in order to develop capacity building process. Different European schooling systems have been included within the scope of the paper, especially those concerning education in the field of electrical and information engineering.

In the first part different kinds of evaluation methods have been compared, whereas the second one refers to specific, self-evaluation quality assessment research which has been done at Lublin University of Technology, Poland. Its main objective was to conduct precise number of surveys between different groups of people. Results of this research led to acknowledgement of real quality of education level and also let to introduce appropriate methods of improving education standards. It was also an opportunity to understand which factors are crucial in the process of training different competences and forming of which skills ensures high efficiency at work after graduation.

In the matter of results, a quality of education level was marked as *good* by more than a half of all students. The most important competences which are required from well-qualified engineers were also recognized correctly by academic environments. The survey proved that these abilities were developed properly during the process of education.

Article refers to the report of European Association for Quality Assurance in Higher Education and to materials connected with internal quality assessment research at Lublin University of Technology.

Keywords: *Quality Assurance in Higher Education, Quality Assessment Procedures, European Higher Education, Electrical and Information Engineering*

INTRODUCTION

Quality Assurance as a Part of the Bologna Process

At the end of the 20th century, some legal regulations concerning structural and organisational aspects of higher education systems were introduced all over the Europe. In the 19th of July 1999 document called *Bologna Declaration* was signed by representatives of about 30 European countries. It determined, in general, the way to reform and reorganize higher education in Europe but also described the idea of improving and direction of developing those schooling systems in future. It was a

proposition to conform each education system to international rules, presented in *Bologna Declaration,* in order to create universal European area of gathering knowledge.

Suggested changes concerned almost all functional aspects of higher education. Firstly, there was a necessity to standardize existing law and formal regulations. Secondly, it was essential to create conditions which were suitable for increasing students and academics mobility across the European Union. Thirdly, education systems had to be adjusted to labour market requirements. Consequently, curricula had to be modified, to increase their flexibility. Finally, it was very important to expand a contribution of academic environment in the context of global civilization progress. These concepts started an evolution of education in Europe – a phenomenon called *Bologna Process* which is going on continuously up till now. Today these problems are crucial for whole academic environment across Europe. There is permanent discussion about future of European education and their function in global progress, which directly depends on research development and high quality of education level.

Representatives of academic environments from all countries which are applying ideas of the *Bologna Process* underlined that there was a strong need for international cooperation, in order to ensure high quality of education level. One of discussed solutions was to establish in each country central accreditation institution and smaller accreditation commissions at the level of particular fields of higher education system. It was unquestionable that to achieve expected results such central institutions had to cooperate with each other. Main task of these accreditation centres was to maintain quality of education at the proper level and to elaborate mechanisms of verifying conditions and efficiency of teaching process, realized in particular higher education institutions. After some time it was clear that to comply with *Bologna Declaration* it is necessary to establish central international accreditation institution for all European countries. That is the way to create universal quality-management system, which would be accepted all over the Europe.

National Systems Variety in Relation to European Integration

Despite the fact that many European countries supported an idea of introducing international central quality management system there are still some problems with ensuring its full homogeneity. In some countries it is difficult to change certain regulations, due to organizational, environmental, political, financial, cultural or mental aspects. Others developed quality assessment systems compatible with global one, although they have slightly different internal criteria. This means that their assessment is inadequate and it is impossible to make objective compartments reflecting actual situation in scale of the whole Europe. Nonetheless, there are also some aspects which are common for many countries. For all these reasons, it is hardly possible to discuss European quality management topic without dividing it into particular points of view, in order to visualize some groups of tendencies and separate some typical procedures and schemes. The purpose of this article is to present such division, compare and contrast certain environments and give an example of real procedures, applied at one of European universities.

At first, taking into consideration all issues mentioned above, appears characteristic of those activities which have European scale. Then, there are presented some differences between particular countries and – after that – quality assurance activities typical for Polish higher education system. At the end there is a possibility to familiarize with

practical application and results of quality assessment initiated at The Faculty of Electrical and Information Engineering, Lublin University of Technology in Poland.

QUALITY ASSURANCE ASPECTS IN THE FIELD OF EUROPEAN HIGHER EDUCATION SYSTEM

Characteristic of European Quality Assurance System

In order to create a structure covering the European Union within its scope of activity each national quality assurance system should be based on precisely determined principles which are common for systems in all European countries. These rules were firstly defined in 1995 as the methodological framework of the *European Pilot Project for Evaluating Quality in Higher Education*. Revised a few years later became known as the *four-stage model*, which is today generally accepted as the shared foundation of European quality assurance system. Following elements of this model can be pointed out:

1. Autonomy and independence in terms of procedures and methods concerning quality evaluation both from government and from institutions of higher education.
2. Self-assessment.
3. External assessment by a peer-review group and site visits.
4. Publication of a report.

First point, concerning an organization of quality assurance institutions or agencies and particular methods of evaluation has been described in detail in the next two sub-sections, due to its importance and complexity. What needs to be underline is the fact, that the variety in evaluation methods also causes a difference in four-stage model elements applied in particular country. For example, there are accreditation procedures, where self-evaluation does not take place, where external experts are not used or reports are not published. Nonetheless, four stages mentioned above are common feature in European quality assurance.

According to the report of The Danish Evaluation Institute, in most situations all over the European higher education systems there are external experts representing the field and very often international experts are included in the expert panel. In some cases students were included in the expert panel. The experts are typically appointed by the quality assurance agency and they have varying functions and responsibilities. However their core function is to participate in site visits. They also write reports with or without the assistance of the agency.

Management and teaching staff is usually part of the self-evaluation groups, whereas graduates are rarely represented. In the matter of documentary evidence, majority of self-evaluations are supplied with statistical data and some of them with additional surveys.

Site visits are part of all evaluation processes in Europe. The average length of the site visit is two days, but site visits connected with audits typically last longer. Almost all agencies work with interviews, tours of the facilities, final meetings with the management team and the examination of documentary evidence. In some countries classroom observations are also applied, although they are considered as controversial in other national systems.

Reports are published in almost all evaluations in European Education Area. However they are sometimes omitted in cases of accreditation. These reports normally

contain conclusions, recommendations and analysis. Sometimes also empirical documentation is included. It is typical to discuss the report with evaluated institution before publishing it.

Except elements of the four-stage model mentioned above there is a tendency to introduce the fifth feature which has been called *criteria and standards*. Some time ago the most fundamental reference points during formulating evaluation procedures were typically legal regulations or stated goals of the evaluated institution. Nowadays, in almost all systems of quality assurance some criteria and standards are applied in different evaluation procedures. However in some countries, those criteria are not defined clearly enough. In order to cope with this problem, there is necessary to make some global arrangements concerning many factors connected with a usage of criteria and standards. For instance, it needs to be cleared what is the difference between criterion and standard and who is responsible for formulating them. This practice tends to be useful in the aspect of international transparency and could be helpful during making international analysis and compartments.

Role of the Quality Assurance Agencies in Higher Education in Europe

Increasing focus on quality assurance aspects resulted in appearance of new European agencies. In most countries autonomous quality assurance agencies, responsible for promoting quality assurance in higher education sector, have been established on national or regional level. This tendency caused that it was necessary to introduce universal code of aims to be followed by all agencies in Europe. According to European Council recommendations, governments were encouraged to introduce following rules into their quality assurance systems:

1. To safeguard the quality of higher education within the economic, social and cultural contexts of their countries, while taking into account the European dimension, and the rapidly changing world.
2. To encourage and help higher education institutions to use appropriate measures, particularly quality assurance, as a means of improving the quality of teaching and learning, and also training in research, which is another important function.
3. To stimulate a mutual exchange of information on quality and quality assurance at Community and global levels, and to encourage co-operation between higher education institutions in this area.

The Danish Evaluation Institute conducted a research, in order to examine in what way quality assurance agencies in Europe are fulfilling the rules mentioned above. Independently of these recommendations three main functions of European quality assurance agencies can be identified:

1. Quality improvement and quality assurance in a traditional sense.
2. Disseminating knowledge and information.
3. Accreditation.

The first function, which is quality improvement, can be defined as a function, whereby higher education institutions are encouraged and helped to improve the quality of their education through evaluation.

Another important role that the European quality assurance agencies fulfil is to function as knowledge and information centres on quality assurance in higher education. More often they provide expert opinions and advise to both government and higher education

institutions. In some cases they investigate and decide about introducing or changing legal regulation concerning higher education institutions.

Finally, accreditation also is among main functions of European quality assurance agencies. It can be seen as both a method and a function of an agency, as it includes approval decisions. An agency can therefore both have the function of quality assurance and approval of higher education.

Not only from a higher education institution point of view, but also from a student perspective, it is positive to observe that the European quality assurance agencies take their role in quality enhancement, collection and dissemination of information on quality assurance very seriously. Higher education characterised by quality and transparency is an essential condition for good employment prospects and international competitiveness of individuals.

Nonetheless, there are some differences regarding the scope of activity of agencies in particular countries. Some organizations cover university higher education sector, others cover only non-university sector and some of agencies cover both. However the scope of any agency should be seen in the context of national educational system, as reflecting national distinctions between university and non-university education. For that reason it is very difficult task to find a common definition of university and non-university education.

Types of Quality Assessment in European Schooling Systems

Type of evaluation could be interpreted as a combination of two factors: the method and the category of focus. Among methods in the most cases appears: evaluation, accreditation, auditing and benchmarking. Taking into account the category of focus, it is possible to identify things like: subject, programme, institution and theme. The combination of the element-based method and focus resulted in 16 different types of evaluation.

The Danish Evaluation Institute conducted a survey in which quality assurance institutes were asked to tick the methods they used *regularly*, *occasionally*, *rarely* or *not at the moment*. Figures in Table 1 show the number of agencies carrying out the listed types of evaluation regularly or occasionally.

Table 1
Types of Evaluation Used Most Frequently Across European Higher Education Systems

	Evaluation	Accreditation	Audit	Benchmarking
Subject	6	1	1	6
Programme	21	20	5	7
Institution	12	10	14	4
Theme	10	0	1	4

The very small numbers in some of the boxes may indicate that some combinations of method and focus are of a very analytical kind. When looking solely at the combinations including *regular use*, the entire range of combinations used can be reduced further as *evaluation, accreditation, audit and benchmarking of a theme* are used on a regular basis by less than two agencies. This also counts for institutional benchmarking,

accreditation of a theme, and audit at subject level. Hence the results of the survey show that European quality assurance can be identified as resting on eight main types of evaluations that are used on a regular basis.

Figure 1 below illustrates that accreditation and evaluation of programmes are the two types of evaluation used most regularly in European quality assurance, followed, in order of decreasing frequency, by institutional audit, institutional accreditation, institutional evaluation, subject evaluation, programme benchmarking and subject benchmarking.

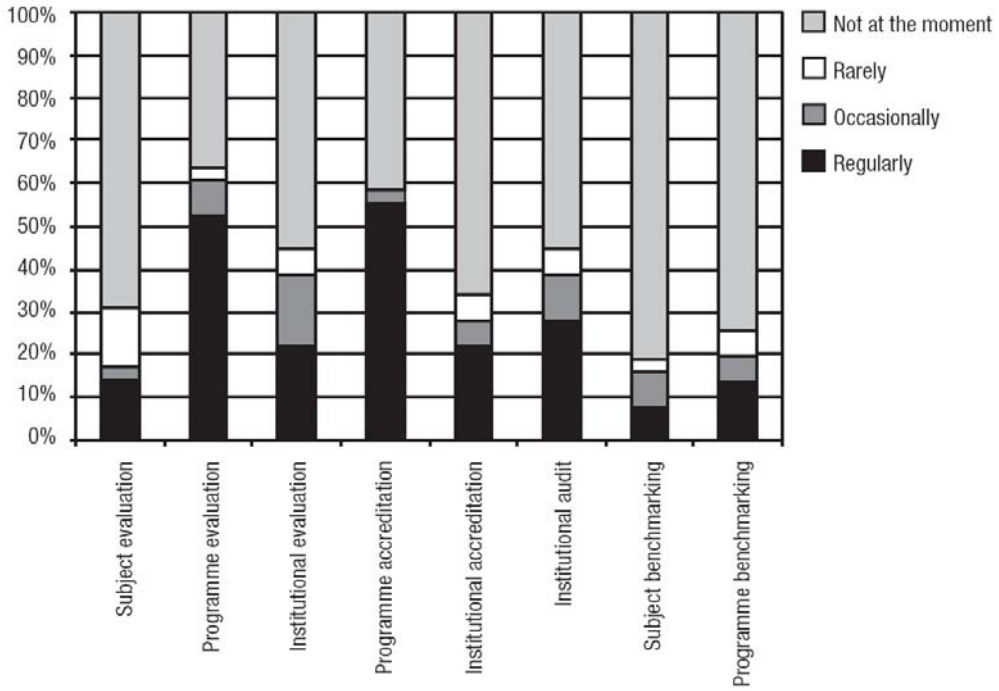

Fig. 1. Frequency of the types of evaluation used across European higher education systems

Evaluation is often used as a general term for the procedure of quality assurance. However, it could be also defined as a method parallel to other methods. *Evaluation* in this context is therefore combined with different focal points, such as subject, programme, institutions, and theme, defined as a type of evaluation. These types were identified as follows:

1. *The evaluation of a subject* focuses on the quality of one specific subject, typically in all the programmes in which this subject is taught.
2. *The evaluation of a programme* focuses on the activities within a study programme, which in this context is defined as studies leading to a formal degree.
3. *The evaluation of an institution* examines the quality of all activities within an institution, i.e. organisation, financial matters, management, facilities, teaching and research.
4. *The evaluation of a theme* examines the quality or practice of a specific theme within education, e.g. student counselling.

Programme and institutional evaluations are the basic ways of evaluating higher education. Evaluation of programmes is a type of method mainly used by the Nordic, Dutch or English-speaking agencies. Comparing the use of the methods in the university and non-university sector, there is more focus on programmes than on institutions in the non-university sector. This is probably due to the very strong vocational or professional emphasis of the programmes in the non-university field. The non-university sector also has a tradition of private, professional accreditation of programmes, e.g. in engineering. Evaluation of institutions examines the quality of all activities within an institution, i.e. organisation, financial matters, management, facilities, teaching and research.

Accreditation is another widely used method in European quality assurance. Countries such as Germany, Norway, and the Netherlands have decided that this should be the main type of quality assurance of higher education. It is an evaluation type primarily used by the German-speaking agencies, by the Dutch agencies, but also by Nordic and southern agencies. Accreditation of institutions is done for instance by German and Austrian. It needs to be underlined that the term accreditation is ambiguous. When looking at the accreditation process, accreditation is usually mixed with evaluation. It is, however, important to note that accreditation is not the same as evaluation. Accreditation could be defined as having the following characteristics:

1. Accreditation recognizes (or not) that a higher education course, programme or institution meets a certain standard, which may be either a minimum standard, or a standard of excellence.
2. Accreditation therefore always involves a benchmarking assessment.
3. Accreditation findings are based on quality criteria, never on political considerations.
4. Accreditation findings include a binary element, being always either yes or no.

What is more, accreditation always refers to a standard. Evaluation may or may not do so, or do so only to some extent. In certain countries the accreditation process is seen as a dual process, whereby one body of the agency evaluates and makes an assessment according to pre-defined standards, and another body (e.g. accreditation commission) takes the final decision whether to approve the programme or not. Accreditation can be directed at other levels than programme and institution. Agencies themselves also can be the objects of the accreditation procedure. This phenomenon can be observed in many parts of Europe.

An audit can be defined as a method for evaluating the strengths and weaknesses of the quality assurance mechanisms, adopted by an institution for its own use in order to continuously monitor and improve the activities and services of a subject, a programme, the whole institution, or a theme. The most common type of audit is “institutional audit”. Institutional audit is used regularly by all the Irish and British agencies and some of the agencies in Nordic countries. Auditing of programmes, subjects and themes is not very common in European quality assurance.

In the same way as the term *accreditation*, benchmarking may be discussed as a method or an element of evaluation. Whereas accreditation procedures are typically based on minimum standards or threshold criteria, benchmarking procedures are typically based on excellence criteria. However, it is possible to do benchmarking without any explicit criteria at all. Several agencies do experiments with benchmarking in some way or another, but it is probably too early to conclude anything about common procedures.

ADOPTING EUROPEAN STANDARDS TO POLISH QUALITY ASSURANCE PROCEDURES AND METHODS OF EVALUATION

Characteristic of Polish Quality Assurance System

In Polish higher education system there are legal restrictions, which specify bodies responsible for appointing and supervising quality of education standards. These institutions are: Main Council for Higher Education, Central Commission for Degrees and Titles and State Commission for Accreditation.

Main task of the Main Council for Higher Education is to formulate opinions and suggestions concerning all aspects of higher education. For instance, the Council proposes the names for particular courses. Except that it makes opinions about projects of new legal regulations and creates legal fundamentals of quality assurance system.

The Central Commission for Degrees and Titles is an institution which normally realizes advisory and decision-making tasks within the scope of assessing academics and work they have done. It also supervises the quality of degrees and titles. Except that it approves resolutions concerning conferring on certain degrees and specifies who is authorized to confer on other degrees. As a result the authorization is given only to those units, which comply with legal restrictions and ensure appropriate quality of education level.

The State Commission for Accreditation is a body which controls quality of education. It presents to the appropriate ministry opinions and suggestions concerning opening new university and authorizing existing university to start a certain course of studies at particular level of education. Commission is also in the right to check the level of quality of education and the compatibility with some requirements connected with organizational and formal aspects of studies. Despite the fact that organizations mentioned above fulfil control functions, only higher education institutions themselves are able to ensure appropriate quality of education level.

In certain environments external site visitors are supposed not to be objective enough for many reasons. What is more, there is a tendency to believe that efficiency and quality of education could be assessed correctly mainly by the graduates of evaluated institution. This thesis is justified by the opinion that it is possible to mark the quality of education only after finishing process of education. Only then value of a knowledge gathered during education could be objectively assessed. However, official ranking of higher education institutions does not take into account feedback from graduates' environment. In conditions mentioned above it is observed that introducing new and rational methods of self-evaluation in higher education becomes more and more significant. Despite the fact that working out new criteria tends to be one of the most important problems of many quality assurance agencies, some new factors were proposed by a group of Polish educators. They are as follows:

1. Repeated choice of the same higher education institution, if there would be such possibility.
2. Influence of process of education on private and professional life.
3. Changes in the context of position in the vocational hierarchy.
4. Studies influence on promotion frequency.
5. Mental potential to continue education on higher level.

The system of five mentioned criteria has been introduced and tested in certain Polish HE institutions.

The Quality Assessment Case Study: Lublin University of Technology, Poland

At the end of 2007 Lublin University of Technology conducted an internal survey which main objective was to examine and identify general and specific competences, in order to rate them in terms of usefulness and quality of teaching. This process resulted in creating a hierarchically-organised lists, charts and comparisons which could help to grade a quality of education at the university. On the basis of this research it was possible to specify which competences are important and which are not for a various group of people. This means that education standards could be adjusted in future to real requirements of employers in the field of electrical and information engineering.

A group of people who responded to the survey is composed of academics, graduates and students, connected with Electrical and Information Engineering Faculty of Lublin University of Technology. Except that, some local employers, who are active on the electrical and information engineering field, have been invited to cooperation. Each kind of person has its specific attitude to the issue of quality of education and different influence on developing competences during the process of education.

During conducting the survey people were asked to grade a quality of education level. In addition, students were asked to rate the possibility of finding a job in the field of electrical and information engineering, after their graduation. The following scale of marks was allowed to use during making an assessment: 1 – very poor, 2 – poor, 3 – fair, 4 – good, 5 – very good.

Figure 2 shows how was quality of education marked, in relation to total quantity of students, whereas Figure 3 presents how employment potential assessment varied among students. As it can be seen slightly more than a half of all asked students rated both quality of education level and employment potential as relatively good. What should be emphasized is the fact, that small percentage of students has negative opinion in described matter.

Table 2 shows how a quality of education was marked by other groups of respondents. Presented values were calculated as an average of particular marks within each group of people. It is necessary to highlight the difference between students' and graduates' opinion. Similar phenomenon could be noticed between academics' and employers' judgements.

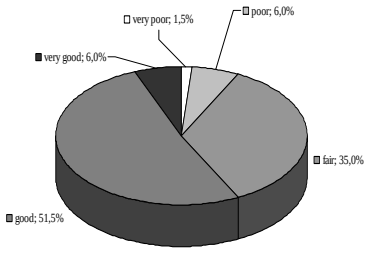

Fig. 2. Variety of quality of education assessment between students

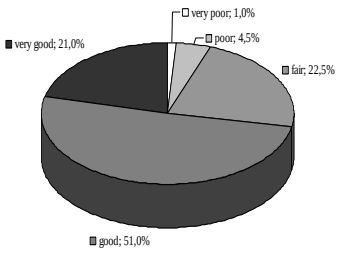

Fig. 3. Variety of employment potential assessment between students

Table 2
Average Mark of Quality of Education

Name of a Group	Quality of Education Mark
Academics	3,90
Students	3,55
Employers	3,42
Graduates	3,00

CONCLUSIONS

In conclusion, it needs to be emphasized that European quality assurance has extended in scope and in terms of the emergence of new European agencies. In most European countries autonomous quality assurance agencies have been established on national or regional level. The phenomenon is most common in the university sector but also the non-university sector is being embraced by quality assurance. Some agencies cover both sectors; some agencies cover only one sector. This difference in organisation typically finds its explanation in the structures of the national higher educational systems.

One of the major conclusions must be that at a national level European quality assurance agencies use a variety of evaluation types. Not only do agencies seem to have extended their focus of evaluations. Agencies also tend to combine different types of evaluation, such as institutional auditing, with programme evaluation. The agencies also tend to be committed to one or two methods, which are then used systematically throughout an area of higher education. However, it is very difficult to deduce, when a certain evaluation type is used. This is definitely an interesting question to examine more closely, but it calls for a qualitative in-depth study of the evaluation history in various countries.

Regarding a quality assessment at Lublin University of Technology, understanding divergences between average marks of quality of education within each group of people is crucial to increase effectiveness and usefulness of higher education process. If the main task of education was defined as a *creating qualified specialists in order to meet the demand of modern industry sector and labour market*, it would become obvious that the correct starting-point for discussion should be the employers' and the graduates' point of view. From this perspective it seems to be clear that quality of education level have been overestimated both by people who are responsible for its primal defining and those who are directly affected by the process of education. On the other hand, if it was assumed that quality of education is on the satisfactory level (what implies that it was underestimated by the employers and the graduates) it would prove that developed competences could not be used properly during work in the electrical and information engineering field.

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PERCEPTION OF REGISTERED NURSES ON IMPLEMENTATION OF MANDATORY CONTINUING PROFESSIONAL EDUCATION FOR RE-LICENSURE IN PEDIATRIC INSTITUTE

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ABSTRACT

Awareness to mandate continuing education for registered nurses fro re-licensure began in early 1970s in developed countries like America and Great Britain. However, it is believe that MRCP would improve the quality of nursing practice. However, it remained as controversial issues. In realizing the importance of mandatory to nursing practice, the Malaysia, continuing professional education (CPE) is still considered as voluntary, although it is stated in code of professional conduct for nurses that nurses are supposed to obtain minima of 10 hours CPE points annually. The purpose of this study is to explore the nurse's perception towards mandatory continuing professional education (MCPM). This is a cross sectional descriptive study which was done in the clinical areas in Pediatric Institute, Kuala Lumpur Hospital. 50 %(n =200) of the total RNs in the clinical areas in Pediatric Institute were selected randomly for the study. Self explanatory questionnaires were used to collect the data. The data was analyzed using SPSS version 11.5. The finding found that high perception on CPE and moderate agreement on MCPE for re-licensure. The finding reveal RNs have a positive attitude towards MCPE. It is suggests that a personal factor does significantly influence the participation. Chi-square test was used top test the relationships and showed a significant relationships, example year of service and education level ($P<0.005$).In conclusion, MRCP is considered to be an important measure to increase nurse's participation in CPE. Therefore it is timely for justifying the introduction of MCPE for re-licensure, by thoroughly investigating the proportion before it is implemented.

INTRODUCTION

The phenomenon of continuing professional education (CPE) has been globally recognized by all professionals as a primary method to top up basic professional education regularly. As the 21st century begins, the scientific discoveries, technological advances and increasing demand from the society have influenced the need for continuing education for professionals. So in order to keep practice relevant and future orientated, professionals need to keep updated with current trends and issues so that they don't practice obsolete practices that have been emphasized as ineffectiveness.

CPE in health care disciplines is accepted as an essential component of professional practice due to the fact that there is an rapid changes in structure and culture of health care industry(Mersery & Manso, 1987 cited in Hogston 1995). Thus the importance and relevance of CPE to nurses has been increasingly emphasized and repeatedly asserted throughout the literature ((Fruze, 1999; Furze & Pearcey, 1999; Lee & Levet-Jones, 2005; Macdonald, 1994; Thurston, 1992). Further more Mersery & Manso (1997) as cited in Hogston (1995) have reported that in order for nursing profession to achieve professionalism, it require greater skill, higher education and life

long learning. This is supported by William (1977) that , knowedge that is acquired through basic professional education has a half-life of about two and a half ears and b the end of that period, whether knowledge is acquired from their basic professional education will become outmoded or obsolete. This is further supported by Gillies & Petengill (1993) as cited in Beatty(2001) that basic education for practice becomes obsolete within 5 years of graduation and the obsolescence can cause nurses to perform poorly and lead to client disability, continued illness and even death of clients. So it is important that nurses need to update their knowledge and skill continuously (Schoen 1982).

In addition, Newman (1986) as cited in Tomey & Alligood(2002) have further reported " nursing is at the intersection of the focus of the health care industry, therefore nurses are in a position to bring about the fluctuation within the system to a new, higher order of functioning. Therefore education obtained at a higher level would necessitate a shift in thinking from the existing view of health to a newer and synthesized view that accepts disease as a manifestation of health."

Advocates for mandatory CPE (MCPE)state that the reasons to imposed MCPE are to improved nursing practice through increases competency, increases productivity in professional roles, the development of new skills and knowledge and keeping abreast of new developments in nursing (Adami & Kiger, 2005; DeSilets, 1995). Many researchers asserted that most of the nurses do not voluntary update their professional knowledge regularly, thus mandatory requirement is timely to be implemented (Chiarella, 1990; Hibbs, 1989; Kershaw, 1984). This is supported by Adami & Kiger (2005) that MCPE is pre-requisite to high standard care delivery and it should be compulsory to ensure who need most will turn up. It is in line with the code of conduct, all registered nurses are required to assume responsibility for continuing education (United Kindom Central Council for Nursing, Midwifery and Health Visiting, 1992). Many studies have argue that MCPE is a prerequisite for re-registration to overcome the problems of 'laggards', patchy, unplanned provision of CPE and barriers to uptake ((Hogston, 1995; Hutton, 1987). More recently in Australia, a discussion document on continuing professional development (CPD) for registered nurses and midwives in Victoria has been circulated which outlines a proposal to introduce a compulsory continuing professional development program linked to annual registration (nurse Board of Victoria, 2006).

In Malaysia, the registered nurses form the largest group of health care personal, providing health care services to the county's population both in the public and private sectors. These nurses undergo three years of Diploma or four years Degree in nursing education and are registered with the Malaysia Nursing Board. In the both program, nurses are introduced the concept of continuing education. Subsequently their participation in CPE activities will largely depend on the influence of nurse educator, nurse manager or peers. In line with the issue, in the Malaysian Nursing Act 1950, there was no clause stipulating the requirement of voluntary or mandatory continuing professional education for the re-licensure of the nurses' annual practicing certificate. As such, registered nurses (RNs) in Malaysia have since participated I available CPE activities on their own initiative due to interest I a specific subject. However the globalization wave regarding development I nursing has influenced the Nursing Board of Malaysia in 1998 had included the requirement of continuing education in the Nurses' Code of Conduct. All nurses should at least have ten contact hours in CPE activities I a year. Since the addition of this statement, nurses participated I available CPE activities on their own initiative and on voluntary basis because the Nursing Board did not mandate the participation. Hence the question arise whether our Nursing Board Leaders, heath

authorities, consumers and legislators and the registered nurses themselves should voluntary participation to continue or should it be changed to the mandatory approach to CPE. Nursing Board Malaysia in realizing the important of CPE had proposed guideline of CPE and legislation of MCPE for Malaysia nurses. It has implemented in 2008.

The legislation of MCPE will be able to ensure each and every member of nursing profession to undertake the responsibilities on themselves to update their knowledge and skills regularly so that the clients' interest is always safeguarded. Thus we may see an increase in participation in CPE activities in the future, as is seen in many other countries in the world that have implemented this ruling as criteria in obtaining their nursing practicing license. Unfortunately this assumption cannot be taken into consideration but it must also be seen from the RNs point of view regarding the implementation of MCPE for re-licensure. Therefore agreement and cooperation from all the RNs practicing in Malaysia is required if the Nursing Board of Malaysia wants to implement the MCPE for re-licensure successfully.

STUDY AIM AND OBJECTIVES

The aim of this study is to assess the perception of pediatric nurses regarding implementation of mandatory CPE participation for re-licensure.

The objectives of the study:

1. to explore the registered nurses' perception towards CPE
2. to determine registered nurse's perception towards implementation of mandatory CPE for re-licensure.
3. to determine the relationship of demographic characteristics on the perception of registered nurses regarding the implementation of mandatory CPE for re-licensure.

METHODOLOGY

This is a quantitative study using non-experimental with cross-sectional design to examine the registered nurses perception on implementation of mandatory continuing professional education for re-licensure. The study was conducted at the clinical areas in Pediatric Institute, Kuala Lumpur Hospital. The hospital has 415 registered nurses. The nursing staff makes up the major population of personal in the hospital. The registered nurses comprise of basic diploma trained nurses and post basic pediatric, intensive care, oncology, orthopedic, neonatology, and nephrology. Nursing staffs are distributed in various areas of the hospital according to patient care needs.

The data was collected using the self –explanatory questionnaire technique. The completed survey forms were collected within a time frame of two weeks. The participants were explained briefly regarding the study before the questionnaires was distributed. All participants were instructed to put the completed questionnaires in an envelope and seal it so that to maintain confidentiality.

The target population was 415 registered nurses in Pediatric Instituted. A total of 200 samples were selected using stratified random sampling method. According to number if staffs from 16 wards/units in the hospital.

The instrument used was modified and adapted from previous literature (Larocco & Polit, 1978). A total of 21 items of self- reporting questionnaire was used in this study. A 5-point likert scale was used to indicate relative agreement for each item. Response choices range from 1 (strongly agree) to 5 (strongly disagree). The questionnaires are divided into 3

sections which consists of: section A consist of demographic data of the respondents; section B of the questionnaire asking the perception of registered nurses regarding continuing professional education and finally section C consist of questions to explore nurses perception regarding mandatory continuing professional education.

Validity & reliability of the questionnaire was determined by consulting the experts and pilot study was conducted to pretest the tool. A Crobach's Alpha Coefficient of .597 and .671 illustrated an acceptable degree internal reliability related to the key variable of research use in practice. Ethical consideration was obtained from the Director of Kuala Lumpur and Assistant Director (Medical) of Kuala Lumpur Hospital. Informed consent was implied by return of the completed questionnaire in the sealed envelop.

Data was analyzed using the SPSS statistical Package version 11.5. Frequency, percentage, means and tables were used to describe the data. Cross-tabulation with Pearson Chi-square test was used to identify the relationships between relevant variable. A p value of < 0.05 was used to establish statistical significance.

FINDING AND DISCUSSION

The total respondent in this study are 200 RNs from various wards and units in Pediatric Institute, Kuala Lumpur Hospital. The total population was 415 and only 50% of the population was involved in the study. The response rate was 96.6. Table one shows demographic data of this study. Majority of the respondents are junior nurses and are below the age of 35 years old which belong to the reproductive age group. This is primarily because the turnover of nurses in Kuala Lumpur Hospital is great. Only ten percent of the nurses have post basic or tertiary qualification, because the study setting is a tertiary centre and situated in the capital of Malaysia thus it becomes a transit centre for nurses whereby they usually get transferred to their native village or follow their spouse. In this study, the participation of respondents in CPE program was quite encouraging only twelve percent have not attended any form of CPE activities for last two years due to the fact that they have just qualified and still in the transition period of getting adjusted to working life. The educational method with most participation was in-service followed by seminar, workshop and finally conference the finding is congruent with study by Harpes (2000).

This phenomenon is probably due to the fact; the CPE are offered weekly in the Institute and enable the nurses to attend freely. Secondly, their participation is in full force because CPE attendance is made compulsory and this is used as criteria for annual pay revision assessment. Although many adult learning theorists have said that learning cannot be forced but the enforcement in way or rather have increased nurses' participation in CPE activities. Only 45% of the respondents have indicated that they have read one or more nursing journals in the past two years and only 29% of the nurses assess internet for CPE purpose. This finding reveals that the respondents are not aware, or not interested in information seeking pertaining to nursing using the latest trends in information technology. The potential explanation of the above ma be because of lack of facility such as computer for assessing internet and also lack of nursing journal I the small library in pediatric Institute. These study are congruent with study finding of Wan(2002) where the study finding reveled nurses have less interest I reading habits.

Table 1: Demographic Characteristic of Respondents (N=200)

Demographic Data	Frequency	Percentage
Age		
≤ 25	69	34.5
26-35	88	44
36-45	13	6.5
≥46	30	15
Highest Professional Education		
Certificated/Diploma	180	90
Post basic/ Degree	20	10
Attendance to CPE in last two years	176	88
seminar	80	40
conference	35	17.5
In-service education	180	90
Journal read in past 2 years	90	45
Assess internet	59	29.5

Respondents in this study have favorable attitude towards CPE, as shows in the table 2 most of the respondent agree that CPE is valuable for nurses professional practice, CPE is necessary for better patient care , rapid technological changes make it necessary for nurses to upgrade their skills through CPE and participation in CPE activities contributes to increase in professionalism. This could be interpreted an indication that nurses are aware of the need to be knowledgeable of the changing techniques and concepts n their profession. Nurses acknowledge and support the practice of CPE in their nursing profession and perceive attitude towards it (Kersatism 1997: Hogston, 1995: Harpes, 2000). Most of the respondent disagree that the CPE activities are not required for experience nurses, this has showed that nurses understand the needs of life long learning. As whole the respondents have positive perception over CPE for nurses.

Table 2: Distribution of respondents regarding statements on perception of CPE (N=200)

Statements	Strongly Agree n (%)	Agree n (%)	uncertain n (%)	Disagree n (%)	Strongly Disagree n (%)
Participation in CPE is valuable for nurses professional practice	100(50)	40)	19(9.5)	1(0.5)	0
Participation in CPE is necessary for better patients care	100(50)	80(40)	19(9.5)	1(0.5)	0
Rapid technological changes make it necessary for a nurse to upgrade her skill through CPE	108(54)	70(35)	21(10.5)	1(0.5)	0
Participation in CPE activities contributes to increase in professionalism	105(52.5)	60(30)	34(17)	1(0.5)	0
Hospital should have more CPE programs available for nurses	117(58.5)	50(25)	32(16)	1(0.5)	0
CPE activities is not required for those nurses who are experienced	0	13(6.5)	29(14.5)	108(54)	50(25)

Table 3 shows the perception of respondents of 80(MCPE that only one quarter of them agrees MCPE should be require for licensure and 40% do not committed them. Perhaps nurses who genuinely favour MCPE feel that colleagues do not hold their views. On the other hand, nurses who do not favour MCPE feel that is socially unacceptable. To hold those views so they respond in a more acceptable manner. Some nurses also may feel at ease indicating "unsure". (Larocco& polit, 1978). Generally respondent agreed for more free programs should be available if MCPE is implemented because nurses comprise of middle-income earners and are keen on free programs due to financial constrains or family commitments. Respondents while uncertain in whether they should be responsible to their learning needs, thus bear the CPE cost their selves. Usually nurses have more positive attitude towards CPE if certain rewards are given for their participation and also employer assistance (Kersaitis, 1997). Younger respondents agree that MCPE requirement will interfere with nurses' personal/social life, as they are in the reproductive age , most of them have younger children which has actually cause resistance when MCPE is implemented.

Table 3: Distribution of respondents regarding statements on perception of MCPE (N=200)

Statements	Strongly Agree n (%)	Agree n (%)	uncertain n (%)	Disagree n (%)	Strongly Disagree n (%)
MCPE should be required for re-licensure	18(9)	50(25)	80(40)	52(26)	0
MCPE will ensure continued competence	43(21.5)	98(49)	49(24.5)	10(5)	0
If MCPE is implemented, free programs should be available to all nurses	105(52.5)	55(27.5)	34(17)	6(3)	0
If MCPE is implemented, nurses should be responsible for their learning needs, thus bear the cost themselves	2(1)	14(7)	87(43.5)	90(45)	7(3.5)
MCPE requirement will interfere with my personal/social life	59(29.5)	51(25.5)	52(26)	38(19)	0

Overall analysis shows that nurses with longer years of experience that is 11-220 years and 20 years and above have different perception compared to the group of nurses with 1-5 years and 6-10 years of experience. This finding is congruent with the study done by (Larocco& polit, 1978 & Bariball, 1996) where the study findings reveal that younger and less experienced nurses favour MCPE. One of the reasons stated was that younger nurses are more aware of the need to supplement their basic education with frequent updates. Another possibility is that younger nurses are less sure of their skills and feel a need to give them more confidence. Older nurse have been reported to be more of independent learners, thus proffer on the job experiences. Older nurses are also reported to be selective in learning preference while younger nurses have been reported to be more open to CPE programs and not question its relevance.

The result of Chi-square analysis failed to find any significant relationship between educational level and perception on CPE in this study. The study finding is also unable to find the significance relationship because of the small number 20 of respondents who

have post basic or degree courses compared to the non post basic holders. This study finding is contrasting to the study findings of Lorocco & polit (1978), where it stated that there is a significant relationship between nurses who have received post basic courses and their perception towards CPE because of the education encounter or exposure that they go through during the course. Overall the study findings reveal that there is an association between demographic factors such as age, number of children below five years old and also the years of experience to the perception of RNs regarding implementation of MCPE for re-licensure.

Implication to Nursing

The finding of this study has shown that generally nurse have a positive perception towards CPE and MCPE for re-licensure. DPE is considered and important issue in any profession because it can enhance the growth of the profession thus aids in achieving professionalization in some profession especially nursing profession in Malaysia. This implication has cause the Malaysia Nursing Board to derive a guild line on continuing professional development for Malaysia nurses. CPE has made compulsory for all nurses to renew their clinical practice the legislation is mandate and effective from 2008. All nurses are required to attend at least 35 hours of CPE per year in order to renew their license of practice. An out line in the CPD Credit Points System has shown difference activities are awarded difference points. Highest points (50 points) are given to tertiary education such as degree, master and PhD study yearly through out the course. This is step taken to encourage nurses to pursue higher education. The Ministry of Health Malaysia has acknowledged nurses with higher degree in promotion exercise. Thus this external factor has motivated nurses to enroll for higher degree study.

The nurse leaders should be a role model to be actively involved in CPE. Predominantly nursing administrative departments should plan and focus more on CPE activities for nurses and ensure that all in-service trading activities are run regular and updated. Plan schedule for their nurses to pursue higher degree education. Provide an environment conducive for nurses to learn for example library facilities and subscribe relevant journals.

This study will also give implication to nursing education such as evaluation of the CPE program and the effects of the program nursing education should work together with nursing administrations to reevaluate the CPE program and the adequacy and the quality of the program. In order to upgrade the nursing status in Malaysia, nurses are encouraged to pursue higher education. The nursing education in Malaysia is developing progressively. The degree program was started in 1993 by University of Malaya. It has increases to seven public universities offering full time degree program. There are also distance learning offered by Open University Malaysia, Marsha College University and UITM. The distance learning is using the hybrid on-line learning systems which incorporate the on-line and face-to-face method in delivery of the courses. The distance learning has enabled more nurses to participate in CPE.

The degree nursing programs offered are categories in to pre-registrations and post registration cause. Pre-registration course is full time courses usually are for school leaver. However, post registration courses are meant for existing nurses who are desired to pursue tertiary education to upgrade them selves.

The nursing degree curriculum in Malaysia generally encompasses nursing sciences, behavioral science, health sciences and information technology and communication skills. Research is an important component of degree program, student are required to attend 3 credit hours of research and biostatic courses and to conduct a project with contribute 6 credit hours of the courses.

Generally most of the course offer shared quite similar learning outcome:

1. Acquire current knowledge related to nursing specializations.
2. Demonstrate safe, competent and current skills in related nursing specializations.
3. Demonstrate caring and appropriate attitudes towards clients.
4. Participate proactively, ethically and collaboratively in the health care team.
5. Communicate effectively with internal and external clients.
6. Apply critical thinking and problem solving in the health care team.
7. Communicate effectively with internal and external clients.
8. Demonstrate leadership, managerial, information technology and entrepreneur.
9. Appreciate life long learning to maintain the highest standard of nursing practice.

Beside pursue degree program, more nurses are further their study to master and PhD study. Majority of them are self sponsored and doing on their own time.

RECOMMENDATION

The study finding reveal that there are certain constrains among nurses in CPE participation. Based on the findings, a few suggestions have been recommended. A more structured program of CPE should be planed and produced with the collaboration of the three aspect of nursing. A nursing committee should plan a structured program where the evaluation of CPE program can be done. With the findings, future activities can be planned accordingly to the learning needs of nurses. A care full planning of CPE program is needed if mandatory CPE has to be implemented. The rationale based upon the factual evidence should be thoroughly examined. Without careful planning and research, mandatory CPE is unlikely to deliver the anticipated development of reflective practice and critical thinking considered crucial for improved patient care. A nursing research team should be formed. All the nursing edge graduates should be motivated to be involved and share their knowledge in doing the research. Research is very important to enable nurses to tackle the issues in nursing profession. The research also can give us guide to implement necessary measures to encounter CPE implementation.

In this information communication technology (ICT) era, many young nurses are ICT booming generation; perhaps the nursing administration and education should take advantage of the ICT to promote CPE. Support more tertiary nursing education through on-line learning. Initiate more innovative teaching and learning method such as wetblog, on-line PBL, reflective community and accessibility of e-library.

CONCLUSION

From this study finding, it shows that most nurses in institute Pediatric acknowledged the importance and the value of continuing professional education. There are also agreed if the mandatory continuing should be implemented in the organization. Nursing administrative and nursing education should deeply analyze the need to their nurses with regard the mandatory continuing professional education. With the finding s stated above, it is important for the organization and its members to examine the importance and the necessity of CPE and MCPE in our Malaysian setting especially in the Hospital Kuala Lumpur whereby it has about 2000 nurses working here. Collaboration among the nursing leaders in evry area is vital as to increases our practice and the most important, our nursing profession.

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QUALITY MANAGEMENT INITIATIVES IN AN OPEN AND DISTANCE LEARNING UNIVERSITY

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ABSTRACT

As an open and distance learning institution, the Open University Malaysia (OUM) needs to ensure that it offers quality services to its learners. A Quality Management System (QMS) was thus established by the Centre for Quality Management and Research & Innovation (CQMRI). The paper describes the initiatives taken to establish the QMS and will detail the Internal Quality Audit process. In addition, it will describe the challenges faced by OUM in managing the four ISO 9001:2000 certified units. IQA determines the governance and control structure in a Quality Management System. The effectiveness of the IQA processes and procedures will be shared. It was found that the introduction of the internal quality audit programmes has increased the level of quality awareness amongst the staff through the internal auditor as an agent. Interviews with the heads and management representatives of the units were conducted to determine the challenges. The findings are expected to be useful to other institutions who are implementing the Quality Management System.

INTRODUCTION

Open University Malaysia (OUM) is an open and distance learning (ODL) university. It has enrolled 69,672 students with staff strength of about 437 people. The prime ODL institution in Malaysia, OUM's mission statement reads as follow:

> *"To widen access to quality education and provide lifelong learning opportunities by leveraging on technology, adopting flexible mode of learning and providing a conducive and engaging learning environment at competitive and affordable cost."*

OUM's implementation of Total Quality Management (TQM) for its operations is based on a three prong approach. The first approach is adherence to regulations set by Malaysian Qualification Agency (MQA). The second approach is by implementing ISO 9001:2000 Quality Management System (QMS) and the third approach is via internal quality assurance.

MQA is a government body that regulates and assures the quality of higher education institutions' programme in the Malaysia. The quality of academic programmes at OUM is assured via adherence to regulations set by MQA. In implementing ISO 9001:2000 QMS, OUM adopts partial certification on four of its units which provide support services. They are the Registry, Tan Sri Dr. Abdullah Sanusi Digital Library (TSDASDL), Centre for Instructional Design and Technology (CIDT) and Centre for Student Management (CSM). The remaining units adhere to internal quality assurance mechanism which is independent from external standards. This multi-faceted approach is continuously improved by regular internal quality audit exercises.

LITERATURE REVIEW

A Quality Management System (QMS) is an organisational structure that builds on responsibilities, activities, resources (Man, Machine, Material, Money) and events. The structure provides methods and procedures to govern the implementation to ensure an organisation meets quality requirements. A variety of interactions and inputs within an organisation is critical to the success of a QMS. Hence, properly structured QMS ensures the achievement of quality assurance and quality control goals. To set up a QMS, ISO 9001:2000 entails for an organisation to document and describe its capability to supply products and/or services. This activity must be in compliance with the quality standards. In order for it to be successful an organisation must be able to prove that they are capable of providing the products and/or services that conforms to the customer's specification. It also must be able to meet the customer's satisfaction thus achieving the quality goal.

To ensure the success of a QMS, an organisation must (based on Tricker & Sherring-Lucas, 2005):

- Be able to offer products that satisfy a customer's expectations
- Deliver products that comply with the relevant standards and specifications of a contract
- Market products at competitive prices
- Be able to supply products or services at a cost that will still bring a profit to that organisation

Malaysia's higher education institutions need to compete with other local and foreign institutions in providing the best academic programmes and services. The urgency to assure the quality of services is made crucial as the impact of the private higher education institution in Malaysia and their cross-borders partners provided wide access to higher education, reduce outflow of revenue and build local competency, it also raises negative impact such as poor quality programmes, different quality standards, insufficient commitment and monitoring of the delivery by partner institutions, different quality standards to name a few (Zita, 2006).

Many institutions are prompted to assure their service quality through TQM and several other quality assurance standards such as ISO 9000 and Six Sigma. ISO 9000 is used to complement TQM since quality is seen as a process, can be managed and can provide a methodology for continuous improvement (Md. Ariff, Khalifah, Mohd. Omar, Ali, Sulong, 2003). In the case of adopting ISO 9001:2000, efforts to link tasks of the various departments within an organisation resulted in a more coordinated management across the board (Sohail, 2003).

Malaysian Qualification Agency (MQA) is responsible for quality assurance in higher education in Malaysia and to implement The Malaysian Qualification Framework (MQF) . MQF classifies and develops qualifications based on agreed learning outcomes and credits. It is intended to enhance clarity and consistency of qualification values and nomenclature, facilitate equivalency and recognition, guides curriculum development, increase academic autonomy, reduces fraudulent practices and most important improves local and foreign confidence of Malaysian qualifications and educational structure (Zita, 2006).

The role of the audit process in products and services, serves to improve the quality of service or intervention by promoting adherence to standards (Paxton, Whitty, Zaatar, Fairbain, Lothian, 2006).

The Quality Management System At Oum

In 2003 OUM felt that it was necessary to implement TQM to assure quality of its products and services. For this purpose, the Centre for Quality Management and Reseach & Innovation (CQMRI) was established. CQMRI seeks to engage and promote quality management, research and innovation activities in open and distance learning. The centre was mandated to plan, manage and execute quality assurance activities throughout the university.

In 2004 various efforts were taken to achieve the implementation of ISO 9001:2000 QMS. Quality awareness talks and seminars were held for the entire university. Work procedures or standard operating procedures (SOPs) developed. Internal quality auditors were recruited and trained. In 2005 three units were externally audited and awarded ISO 9001:2000 certification by SIRIM Berhad, the sole national standards development agency appointed by the Department of Standards Malaysia. The units include the Registry, Centre for Instructional Design and Technology (CIDT) and Tan Sri Dr. Abdullah Sanusi Digital Library (TSDAS Digital Library). This was followed by the Centre for Student Management (CSM) being awarded the certificate in 2007.

The QMS model at OUM was designed to focus on the quality assurance. Figure 1 depicts the quality assurance model. The university has adopted a model whereby a quality assurance positioned in the centre of the QMS. Three binding efforts surround the focal point of quality assurance. They are MQF, ISO 9001:2000 and Establishment Audits.

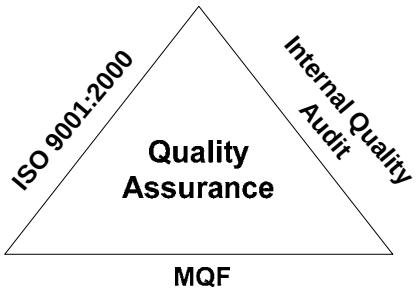

Figure 1. Quality Assurance Model

Figure 2 depicts the ingredients of OUM's Quality Management System (QMS). It includes people, standards, resources and documentation. These elements contribute towards the formation of the QMS. It is constantly surrounded by challenges that need to be dealt with through continuous improvement efforts.

Figure 3 depicts the structure of functional roles in relation to ISO 9001:2000 QMS. At the university level, it is headed by the President/Vice Chancellor as the System Owner and the Senior Vice President as the Management Representative (MR). At unit level such faculties, centres, departments and units within OUM, their respective heads of unit assume the positions as the system owners and the assistants as the MRs. Other non-ISO 9001:2000 certified units are functionally structured in the same way. For this discussion, only the certified units are captured in the figure for illustration purpose.

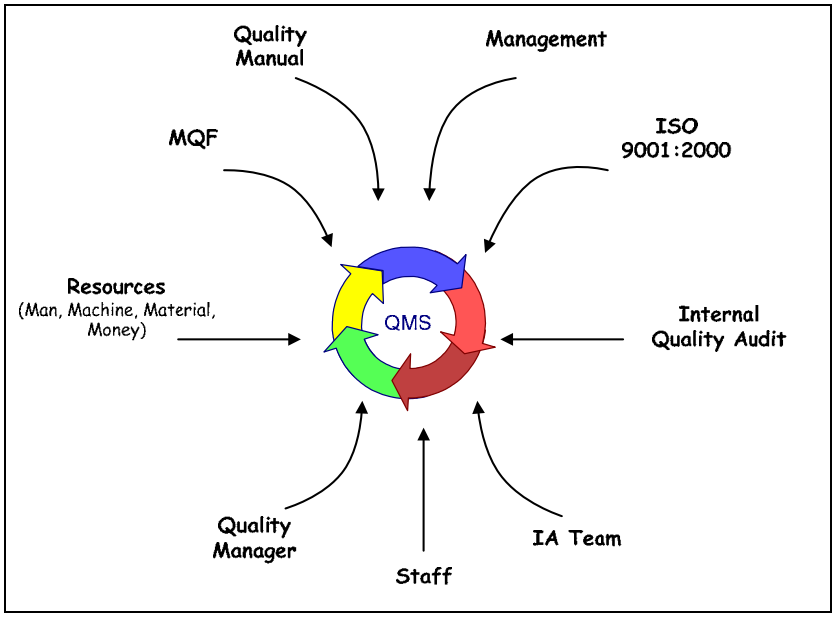

Figure 2. Ingredients of the Quality Management System

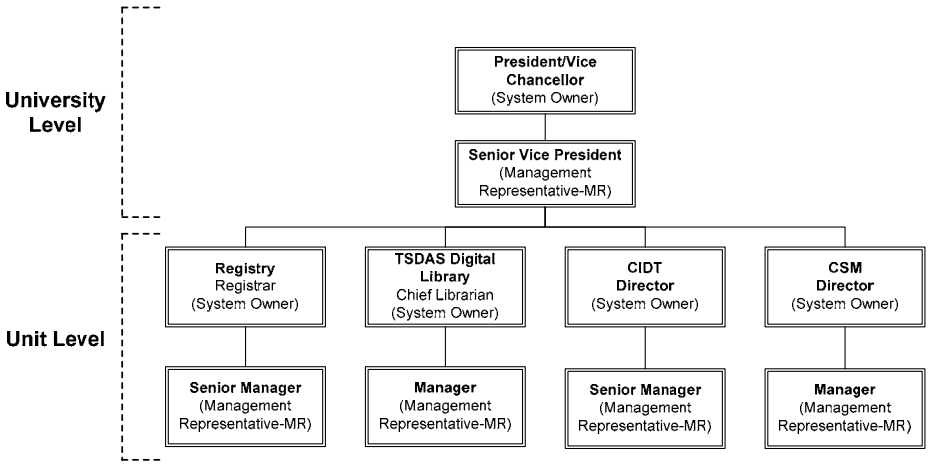

Figure 3. Functional Roles in Relation to ISO 9001:2000 QMS

Internal Quality Audit Process

As part of OUM's process to continuously assess its internal processes, the internal audit process was outlined together with other ISO 9001:2000 requirements in a document MGT-822-01 Management of Internal Audit, which was endorsed by the management in 2005. It has been the policy of the university to recruit auditors from all level of staff and to have a representative from every department/section within the institution. This is to encourage quality awareness and quality culture throughout the

university. The aim is for the auditor to become the agent and champion of quality at his or her respective department/section. The Audit Group is headed by the Chief Internal Auditor and assisted by a Deputy Chief Internal Auditor.

Ia Recruitment Pocess

Steps are taken in recruiting internal quality auditors. A few of the auditors are trained as Lead Auditors (LAs). Initially 10 staff comprising of administrative and academic staff were trained as LAs of the 30 auditors recruited. To date, the total number grew to 63 with a mixture of 20 LAs within the group. All auditors are required to attend a two-day prerequisite intensive training either conducted internally by CQMRI or externally by a third party training organisation. As for LAs, the group has to go through a five day Lead Auditing course conducted by an external party.

In selecting the auditors, the following criteria were used (based on Reid and Ashelby, 2002):

- Be systematic and thorough
- Be independent and impartial
- Be rigorous but not aggressive or confrontational
- Have appropriate background knowledge and work experience
- Have a committed to quality enhancement
- Be good listener
- Be patient and courteous
- Pay attention to detail without being pedantic
- Have the ability to identify good and bad practice
- Have regard for a gender balance

Prior to appointment of auditors, they are to attend the two-day prerequisite training session. Upon successful attendance of the training, they will be appointed as auditors. As a 'novice' auditor he/she will be attached to an audit team which serves as a mentor. The auditor will be part of the audit team and will co-conduct audit with the mentor. This peer guided auditing exercise will improve their learning curves. This ongoing process is replicated every time new appointments of auditors are made.

Audit Process

Typically CQMRI prepares the Yearly Audit Plan of the university at the beginning of every year. Audits are conducted by several teams with at least three auditors led by a Lead Auditor. The team includes at least one new auditor ('novice' auditor). One important aspect of the audit is impartiality. These auditors are assigned to audit a unit other than their own. Following the approval of the Yearly Audit Plan by the President/Vice-Chancellor, the plan is then circulated to all heads of departments and auditors. It is also shown at the OUM website.

Audit Notices are issued by the Director of CQMRI, 15 days prior to the audit date, to the head of unit to be audited. A copy is sent to the President/Vice-Chancellor (as the system owner – university level), the Senior Vice President (MR – university level), the Chief Internal Auditor and the audit team.

A separate communication is sent to the audit team members' head of department to request for permission for his/her subordinate to be relieved for the period of the audit. This is to ensure that there is ample time for the preparation and performance of audit. A pre-audit meeting by the audit team is conducted for the purpose of discussing any issues

arising prior to the audit exercise. It also serves as a point of delegating processes to be audited among the team members. The Lead Auditor plays a major role in communicating with the auditee for any requirements such as documentation request and finalising audit schedule.

During the auditing period, the audit team and the auditee go through the steps of convening an opening meeting, audit conduct and closing meeting. Follow-ups will resume after 14 days of the audit exercise. Subsequently, a report is compiled and submitted to CQMRI for filing and monitoring.

This auditing task is above the auditors existing job scope and no remuneration is given in carrying out the audits. However, the auditor group members appreciate the opportunity to learn and gain extra skills which prove to be valuable for their self-development. Apart from that, recognition to the auditors comes in the form of participation in benchmarking trips or study trips to other organisation – locally and abroad.

Challenges

For this paper, two separate sets of questionnaires were sent to auditors and auditees respectively. The main objective of the questionnaires was to ascertain the challenges faced during the implementation of ISO 9001:2000 QMS leading to the certification. Much could be learnt from the 3 years of experience in implementing the QMS.

Four system owners and MRs from the four ISO 9001:2000 certified departments i.e the Registry, Tan Sri Dr. Abdullah Sanusi Digital Library (TSDAS Digital Library), Centre for Instructional Design and Technology (CIDT) and Centre for Student Management (CSM) had responded to the questionnaires. Their responses are discussed below.

Auditee Perspective

When asked what major challenges they faced throughout the implementation of the system, the following findings were recorded:

- The majority agreed on the importance of ensuring all levels of staff understand and internalise the principles and the mechanisms of ISO 9001:2000.
- The degree of understanding the internal processes by the staff at their respective departments correlated with whether they practiced what was documented.
- Getting staff 'buy-in' from within the departments was necessary as part of the inculcation of quality awareness. This requires change management to counter the resistance at the initial stage of implementation.
- With regards to SOP familiarisation training to the process owners, consideration must be given on how effective the training was due to fitting this activity within their hectic operational schedule. Thus, it raised the question of how far the SOPs were followed.
- A greater cooperation and support were expected from external departments that interact with their QMS. This was due to the need to comply with the procedures. Any non-compliance would impact their performance and quality of services provided.

When asked how they ensured the understanding of the procedures and instruction by the staff and how effectively they are implemented, the following findings were recorded:

- Feedback from audit findings either from internal audits or external audits proved to serve as a yardstick of their performance
- Continuous in-house session were held to review and improve the processes
- Continuous monitoring of the tasks related to the documented procedures were carried out
- Self-audits were conducted at least once a year
- The presence of auditors within the staff unit provided a point of reference.

When asked what corrective actions were taken when the documented procedures and instructions were not properly implemented, the answers are as follows:

- Root cause was investigated and corrective actions were devised and carried out
- Discussions and consultations with external departments were held to find solution
- Consultations with CQMRI were held in certain situations when they require independent view as a party outside the unit

When asked if the internal audits conducted facilitate the implementation of ISO 9001:2000 and improve their processes, majority agreed that the audits did facilitate in improving their processes. However, an important note to consider is the need for audits to be conducted by adequately experienced, qualified, competent, well-trained and committed internal auditors. The auditees also stressed the importance of being thorough and paying attention to key improvements as compared to concentrating on trivialities during the audit conduct.

When asked what the changes observed before and after implementing ISO 9001:2000, the following feedback were gathered:

Before the implementation, the following were observed by the auditee:

- Flexibility in running operations resulted into too many changes on the procedures. The inconsistencies rendered quality to be at stake.
- Insufficient resources (Manpower, Machines, Method and Money) to carry out tasks due to unclear task delegation or overlapping tasks assignment. Absence of clear performance indicators made it difficult to justify request for additional resources.

After the implementation, the following changes took place:

- Increased process reliability
- Processes were more organised and manageable
- Increased level of staff awareness about the processes and procedures
- Better work integration and reduction of wastage
- Less error and work duplication which improved employee motivation
- Increased productivity and efficiency
- New processes introduced or some processes eliminated to increase efficiency
- Room for innovation were made, where in some instances, processes were eliminated or other departments were empowered to make decisions
- Increased customer satisfaction

Some examples or instances on changes or improvements given by the departments are captured in Table 1.

Table 1: Instances of Change (Improvements)

Department/unit	Instances of Change (Improvements)
Registry	▪ Files of new students were created on-site at the learning centres. Before this it was done at the main campus which took a long time due to waiting for the contents to come from the learning centres where learners registered. ▪ Decentralisation of Registry functions to learning centres e.g. conditional offer process, open entry process. ▪ Time taken to process application had improved. ▪ Documents at Academic Unit were well categorised and labelled for ease of retrieval.
Digital Library	▪ Each procedure had its own Key Performance Indicator (KPI) that contributes to the KPI of the individual staff. These KPIs were continuously upgraded every year for improvement. ▪ Continuously improving processes and instructions for better result in less time or cost. Documents were reviewed regularly and new documents were drafted to reduce unnecessary process, thus increasing productivity.
CIDT	▪ Improved documentation ▪ Systematic flow of work, consistent and no bypassing of steps ▪ Improved understanding of the need for quality and what it entails when complying with ISO 9001:2000
CSM	▪ Improved written documentation ▪ Processes were more systematic and clear

Auditor Perspective

When asked to describe their role as auditors, from the answers it could be seen that they were clear of their role; that is to examine and ensure the work processes in the relevant unit(s) conforms to the requirement set in the ISO 9001:2000 standard and SOPs. They saw themselves as agents of improvements.

When asked to list down the top three most challenges faced as auditor and how these challenges were overcame, the following findings are recorded:

- The commitment as an auditor was seen as a challenge. Auditing works were extra tasks that they had to perform on top of their existing routine job. This resulted into the audit tasks being given a low priority.
- No proper recognition on the effort by auditors. Some auditors were having a perception that the management were not recognising their effort. They perceived that no compensation was given in performing the task. It was also perceived by their superior as unimportant. Some superiors were not clear on how to measure it in the annual performance appraisal. They were under the impression that this effort is not considered by the Staff Evaluation Panel which moderated Staff

Appraisals. As such, there must be a clear and systematic way to include audit work in the Appraisal System.

- Improving the skills and techniques to perform audit was seen as another challenge. Auditors felt that they require more training in order to be efficient at auditing. This is important because auditing competency is crucial in helping auditees to make the most out of the audit exercises.

CONCLUSION

From the discussion above, it is clear that the internal quality audit process at OUM has contributed substantially towards improving the processes within the university. Much could be drawn as lessons from the challenges faced by CQMRI in coordinating the audit process across the institution and the auditors in carrying out their tasks. The same could be observed from the outcomes of the interviews with the system owner and MR who shared their experience and challenges they faced. It could be seen that the introduction of the internal quality audit programmes has increased the level of quality awareness amongst the staff through the internal auditors as agents.

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IMPORTANCE-PERFORMANCE ANALYSIS OF SERVICE QUALITY AMONG UNDERGRADUATE STUDENTS: A PILOT STUDY

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ABSTRACT

Service quality and quality management are key factors in differentiating service products and ultimately building competitive advantage. Therefore, assessing its importance and performance is vital in assuring high-quality services in higher learning institutions. Using SERVQUAL attributes in a modified Importance-Performance Analysis Model, this pilot research survey was undertaken to investigate the importance of service attributes and evaluation of service quality of lecturers from the undergraduate students' perspectives.

Twenty two attributes which are subdivided into five key variables of SERVQUAL model i.e. tangibility, reliability, responsiveness, assurance and empathy are considered, the most important being assurance, while the least important dimension was reliability. The results also reveal that all students' importance means of services attributes were higher than their performance means. It is also found that all students' importance means except for one attribute (reliability and dependability) are significantly different from their performance means at 0.01 level. The importance-performance grid demonstrates that twenty attributes fall into Quadrant B "keep up the good work", one attribute (Willingness of the lecturers to provide services in a timely manner) is close to the boundary between Quadrant A and Quadrant B, and one attribute (ease of contact) falls into Quadrant B "concentrate here". The latter suggests improvement by the lecturers.

The results of this pilot could serve as an extensive study in quality assurance and management in the context of higher education. It is in our opinion that students should be part of defining quality of lecturers in any university. This would ensure good service delivery performance so as to maintain standards for the competitive advantage of the university concerned.

Keywords: *Service Quality, Lecturers, Importance-Performance, Undergraduate Students*

INTRODUCTION

Assessing the performance of service quality is indeed crucial in determining the standard of quality and the overall satisfaction for firms or organisations that provide services products. In higher institutions such as universities, the delivery performance of service quality will determine the number of students' enrolment into the universities. Consumers, in this case students, tend to select places that could provide them with high quality services education and high satisfaction. Moreover, customer-focussed corporate culture has gained popularity and many have recognised the importance of getting to know the customer-needs and requirements, "customers are always the king".

In the service quality literature, SERVQUAL model (Zeithmal, Parasuraman, and Berry, 1988) has been used by many researchers to include manufacturing, financial services and education (Anbalagan, 1995; Soutar, 1996; Arasli *et. al*., 2005). Through numerous qualitative researches, the SERVQUAL model was later based on a set of five

dimensions, which have been consistently ranked by customers to be the most important for SQ, regardless of service industry. These dimensions are:

1. Tangibility (the appearance of physical facilities, equipments, personnel, and communication materials),
2. Reliability (the ability to perform the promised service dependably and accurately),
3. Responsive (the willingness to help customers and to provide prompt service),
4. Assurance (the knowledge and courtesy of employees and their ability to convey trust and confidence) and
5. Empathy (the provision of caring, individualized attention to customers).

A total of 22-item instrument was developed to measure customers' expectations and perceptions (E and P) of the five dimensions.

This pilot study is undertaken to examine the importance of service attributes and how lecturers performed from the undergraduate students perspectives. In addition, the study also looked at the overall service quality provided and students satisfactions.

LITERATURE REVIEW

Many of the researches on service quality have been carried out within the framework of widely accepted service quality model (SERVQUAL instrument) developed by extensive research by Parasuraman *et. al*. (1985, 1988, and 1991). Since then, many researchers have used their 22-item scale to study service quality in different sectors of the services industry including financial institutions (Gounaris *et. al*. 2003; Jabnoun and Al-Tamimi 2003; Arasli *et. al*. 2005), educational services (Soutar and McNeil, 1996; Kitcharoen, 2004) and hair salon industry (Jean and Walker, 2000).

Later, the SERVQUAL attributes were adapted and modified to measure service quality using Importance-Performance Analysis. The Importance-Performance Analysis was first introduced by Martilla and James (1977) for automobile dealer's service. They rated the importance on a four-point scale; extremely important, important, slightly important, and not important. Performance was also rated under four-point scale; excellent, good, fair and poor. The results were then demonstrated in the form of matrix of four quadrants as follows;

1. Concentrate Here. (High Importance, Low Performance)
   Customer believes a specific attribute is very important but performance is lacking
2. Keep Up the Good Work. (High Importance, High Performance)
   Customer believes specific attribute is very important and they are satisfied with the performance
3. Low Priority. (Low Importance, Low Performance)
   Customer is not satisfied with the performance of a specific attribute but the attribute is relatively unimportant
4. Possible overkill.(Low Importance, High Performance)
   Customer is satisfied with the performance but the specific attribute is relatively unimportant

This model was later modified and used in many research works for example, Ennew *et.al*., (1993), Slack (1994), Ellis and Vogelsong (2003), Kitcharoen (2004) and Joseph *et. al*., (2005). Ennew *et. al*., (1993) studied small firm's perceptions towards service quality of their banks in the UK while Slack (1994) investigated managers of two

separate industrial service companies. Ellis and Vogelsong (2003) studied birdwatcher preferences through importance-performance analysis whereas Kitcharoen (2004) studied the service quality in private universities in Thailand. Joseph *et. al*., (2005) used this model to examine the use of banking technology in the UK.

PILOTING METHODS

The questionnaires were designed based on the work of Kitcharoen (2004). The 22-item under five dimensions was as follows:

1) Tangibility (Statements 1 – 3);
2) Reliability (Statements 4 – 6);
3) Responsiveness (Statements 7 – 9);
4) Assurance (Statements 10 – 16);
5) Empathy (Statements 17 – 22).

This pilot testing was conducted using 20 second-year pioneer students taking Bachelor in Business Administration, in the Faculty of Business Management & Accountancy, University Darul Iman Malaysia. The students were guided throughout the survey for clarification. The questionnaires consist of three parts; Part One relates to Importance of the service quality attributes (How important are these service quality attributes?), Part Two relates to performance (How well did the lecturers perform?) of the service quality attributes and Part Three relates to overall perceived service quality offered by lecturers and their overall perceived satisfaction towards the services offered. These items were measured using a 5-point, Likert-type format with the following anchors: 1 = very low, 2 = low, 3 = neither low nor high, 4 = high and 5 = very high.

Internal consistency of the study was demonstrated using Cronbach's alpha. Descriptive statistics (percentages, means and paired *t*-test) were used in this pilot study.

RESULTS

Reliability Analysis

Reliability of the measures was assessed with the use of Cronbach's alpha. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. As a general rule,
the alpha coefficients for each of the dimensions under importance and performance as well overall alpha coefficients were computed. The results of all these analyses are shown in Table 1.

The results show that the Cronbach's alpha coefficients of service quality dimensions (importance and performance) were satisfactory with the exception of alpha coefficient of tangibility dimension (0.410). However, the overall alpha coefficient was high, 0.948 and 0.902 respectively.

Service Importance

Based on the mean analysis, students gave high importance to service assurance. Undergraduate students placed high importance on the knowledge, courtesy and the ability of lecturers to convey trust and confidence in delivering service. The second of importance was related to empathy, followed by responsiveness, tangibility and reliability. With regard to performance of service attributes, the table showed that service assurance was also ranked first followed by

reliability, tangibility, empathy and responsiveness. Further examination, as an overall the importance means for all dimensions were higher than the performance means.

Table 1
Descriptive Statistics of the Importance-Performance of the Service Quality Attributes and Cronbach's Alpha Values

Service Quality Attributes	Importance			Performance		
	Mean	Standard Deviation	α	Mean	Standard Deviation	α
Tangibility	4.303	0.701	0.641	3.409	0.723	0.410
Reliability	4.136	0.654	0.769	3.455	0.612	0.654
Responsiveness	4.364	0.671	0.818	3.167	0.597	0.618
Assurance	4.448	0.657	0.913	3.636	0.635	0.790
Empathy	4.424	0.678	0.863	3.288	0.796	0.888
Overall Score	**4.368**	**0.676**	**0.948**	**3.421**	**0.705**	**0.902**

Table 2 shows the findings of gap score between importance and performance of services' attributes among undergraduate students. As can be seen from the table, the results showed that all students' importance means were higher than the performance means. Translating the findings in terms of Quadrant, 20 items fell under Quadrant B (i.e. good, keep up the good work), one item i.e. item 8 "Ease of contact (accessible at any time) of the lecturers" fell under Quadrant A (i.e., not good enough and concentrate here) while item 22 "Lecturers pay attention to individual needs of students", was close to the boundary between Quadrant A and Quadrant B.

Table 2
Mean Difference between Importance-Performance of Service Attributes Among Students

No.	1. Service Attributes	I Mean	P Mean	Quad-rant	I - P	*t*-value	Sig. (2-tailed)
1	Visually appealing appearance of the lecturers (clean & neat)	4.136 (0.64)	3.727 (0.46)	B	0.41	2.881	0.009**
2	Having suitable buildings, places and facilities for effective services	4.318 (0.78)	3.182 (0.73)	B	1.14	4.926	0.000**
3	Cleanliness & safety of buildings, places & facilities	4.455 (0.67)	3.318 (0.84)	B	1.14	4.568	0.000**
4	Reliability & dependability (the degree of trust in service delivery) of the lecturers	4.000 (0.69)	3.636 (0.58)	B	0.36	1.891	0.073
5	Consistency of service by lecturers (The level of service delivery is maintained)	4.273 (0.63)	3.409 (0.67)	B	0.86	4.305	0.000**
6	Attention to details of the service delivery by the lecturers	4.136 (0.64)	3.318 (0.57)	B	0.82	4.827	0.000**
7	Willingness of the lecturers to provide services in a timely manner	4.409 (0.67)	3.136 0.64	B	1.27	5.542	0.000**
8	Ease of contact (accessible at any time) of the lecturers	4.273 (0.70)	2.955 (0.58)	A	1.32	6.217	0.000**
9	Ability of the lecturers to provide services in a timely manner (within a certain time as promised)	4.409 (0.67)	3.409 (0.50)	B	1.00	6.205	0.000**
10	Competence (knowledge and skill) of the lecturers	4.409 (0.67)	3.591 (0.50)	B	0.82	4.500	0.000**
11	Levels of courtesy, politeness and respect received	4.455 (0.74)	3.591 (0.73)	B	0.86	4.557	0.000**
12	Believability and honesty of the lecturers	4.500 (0.67)	3.545 (0.74)	B	0.95	4.482	0.000**
13	Knowledge of the information that I need from the lecturers	4.455 (0.67)	3.773 (0.61)	B	0.68	3.382	0.003**
14	Assurance that the lecturers keep the academic and personal information in the service delivery confidential	4.318 (0.65)	3.773 (0.61)	B	0.55	4.294	0.000**
15	Assurance that information communicated is correct and up-to-date in the service delivery	4.545 (0.60)	3.591 (0.73)	B	0.95	4.713	0.000**
16	Lecturers have knowledge and necessary service skills	4.455 (0.67)	3.591 (0.50)	B	0.86	4.557	0.000**
17	Lecturers communicate with me in a language that I could understand easily	4.455 (0.60)	3.864 (0.89)	B	0.59	3.052	0.006**
18	Approachability (friendliness and warmth) of lecturers	4.318 (0.65)	3.227 (0.69)	B	1.09	4.446	0.000**
19	Effort of the lecturers to understand my needs	4.545 (0.60)	3.182 (0.80)	B	1.36	6.100	0.000**
20	Sincere interest in servicing the students	4.455 (0.67)	3.227 (0.75)	B	1.23	5.642	0.000**
21	Sincere interest in solving the problems of students	4.455 (0.74)	3.227 (0.75)	B	1.23	5.400	0.000**
22	Lecturers pay attention to individual needs of students	4.318 (0.84)	3.000 (0.69)	A/B	1.32	6.217	0.000**
Notes: ** = Significant at 0.01. Figures in parentheses are standard deviations Tangibility (1–3), Reliability (4-6), Responsiveness (7-9), Assurance (10-16), Empathy (17 -22).							

Table 2 also outlines the results for the *t*-test that we used to examine the statistical difference between the responses (i.e., the means) with regard to students' responses of both service quality importance and performance. In the Table, all attributes were significantly different from their performance means at 0.01 level except for attribute 4 (reliability and dependability). The results also showed that all importance means of services attributes were significantly higher than their performance means. Moreover, attribute 8 (ease of contact) showed that students' importance mean of services attribute was high (4.27) but the performance mean was low (2.95). The result also showed that the students' importance mean for attribute 22 (Staff members pay attention to individual needs of student) was high (4.32) but the performance mean was neither low nor high (3.00). Such differences between the responses should send an important message to the faculty concerned with regards to how students rate the importance of the service quality attributes and how they perceived lecturers' performance

We also plot the mean data of the importance and performance scores with horizontal and vertical gridlines as in Figure 1.

Figure1

Mean Data Plotting of the Importance and Performance Scores with Horizontal and Vertical Gridlines for Undergraduate Students

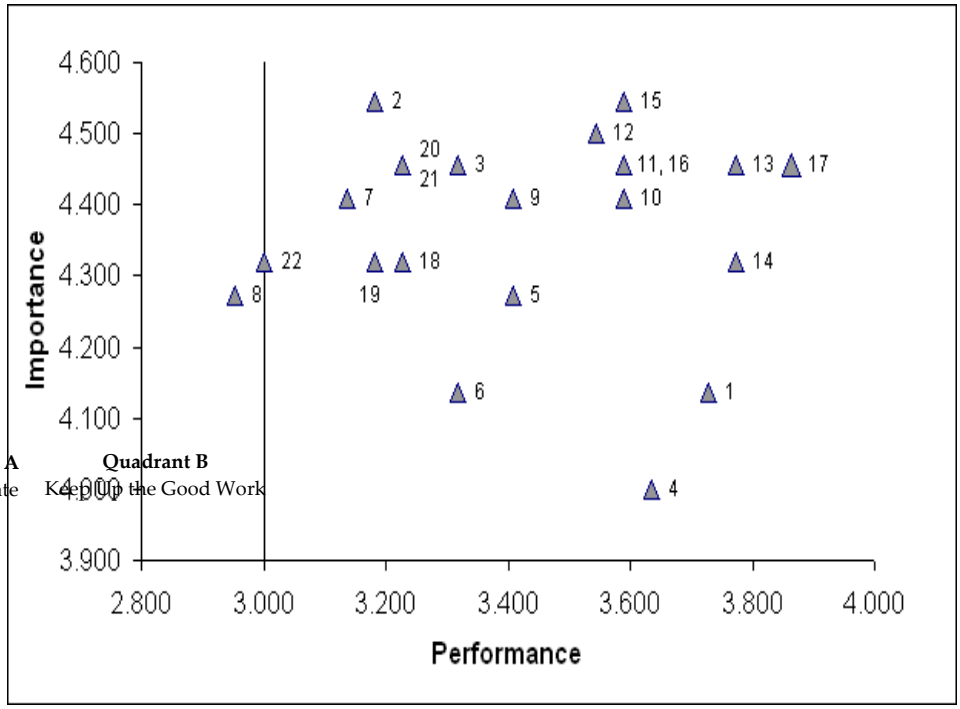

Table 3 presents the overall service quality and satisfaction towards the lecturers from the undergraduates students. The results showed that 18.2 percent of the total respondents stated that the overall service quality was low, 54.6 percent stated that it was neither high nor low, 27.3 percent stated that it was high. The overall mean of service quality was 3.09 out of 5.

In terms of overall satisfaction, 13.6 percent stated that their satisfactions was low, 63.6 percent stated that it was neither low nor high, 18.2 percent stated that it was high and 4.6 percent stated that it was very high. The overall mean of students' satisfaction was 3.14 out of 5.

Table 3
Students' Evaluation of Overall Service Quality and Satisfactions

Statements	Overall Service Quality (Percent)	Overall Satisfaction (Percent)
Very Low	-	-
Low	18.2	13.6
Neither Low nor High	54.6	63.6
High	27.3	18.2
Very High	-	4.6
Total	100	100
Mean	**3.09**	**3.14**

CONCLUSION

This pilot study was carried out to examine undergraduate students' importance of service quality attributes and evaluation of performance in this pilot study revealed the following main findings; The Importance means were higher than their performance means and that there were significant difference in means of the service quality attributes except for one attribute i.e., reliability and dependability (the degree of trust in service delivery) of the lecturers. Further, the results also indicated that improvement should be made on ease of contact (accessible at any time) of the lecturers as shown by the high importance mean (4.27) and low performance mean (2.95).

These findings may be concluded that overall, undergraduates students perceived the service quality provided by the lecturers was good (keep up the good work). However, they suggested that lecturers should improve on the ease of contact.

Results of this pilot study indicate that Importance-Performance model could be used as a promising model in assuring good service quality in higher education settings. Since this is a pilot study, future research should incorporate greater sample sizes and, adopting factor analysis on the service quality attributes to improve the Cronbach's alpha coefficients. This will offer greater insight into the appropriateness of using SERVQUAL attributes in Importance – Performance Analysis model in the context of a university.

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DATA AND WISDOM IN INSTITUTIONAL CAPACITY BUILDING IN THE TWENTY-FIRST CENTURY

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ABSTRACT

As globalization continues to occur each of our institutions is preparing students to either work locally or internationally in an economy that is, in fact, an international economy. The local guidelines and identifiers of university productivity may no longer be appropriate as we examine our institutions with respect to competitive institutions throughout the world.

Those involved in Institutional Research are critical to the future of higher and further education because they provide the data and studies that decision makers in the schools and government use to determine the direction of these very important institutions. As the world becomes flat the expectations of higher and further education become similar across countries and regions.

At the recent World Universities Presidents Summit in Bangkok a recurring theme was the challenge to prepare students to work in an economy and to live in a society. This clearly implies that higher and further education is not only to prepare students as workers and professionals, but it must also prepare them to be good neighbors and citizens.

Most of the data provided to decision makers revolves around different measures of productivity which in turn respond to budget requests. In most cases these data are only helpful in managing budgets. The most important information, used to manage education, is less available, less often requested, and more difficult to define. We therefore use proxies for academic quality that may not be appropriate for the world our students will be living in.

INTRODUCTION

It is my pleasure to be with you here today at the Annual Meeting of the South East Asian Association for Institutional Research (SeaAIR). The theme of this year's conference is ambitious and important. I am humbled to address you today and hope that in some small way the comments I make will encourage you to make a difference at your colleges and universities. Although I have spent the last nine years as Vice-President for Academics, I have spent the previous sixteen years in various Institutional Research positions and still consider myself an IR professional. I want to take this time to congratulate you on being in a profession that has been instrumental in forming the important discussions in higher education around the world. Although many of you may not be decision makers, you are the people that the decision makers quote. And because of that, you are quietly powerful. It is my opinion that the IR professional understands his or her campus better than anyone else, including the President, Rector, or Vice Chancellor.

With that quiet power comes responsibility. It is the responsibility to not only provide adequate data, but to also provide insights. Data by itself on a computer screen or

on a paper is meaningless. The context is the important thing that brings power to the data.

AN EXAMPLE

I'd like to share a personal experience to illustrate this. Twenty years ago I was responsible for program evaluation at the Milwaukee Area Technical College (MATC), the largest technical college in the United States. MATC had over 120 career programs and an annual budget, at that time, of over US$250 Million. MATC developed a rather sophisticated program evaluation process that took into account various program indicators. There were thirteen indicators that were both criterion referenced and evaluated using a Likert scale. The system, as developed, was quite successful and used by several colleges in Wisconsin and Texas. It consisted of systematic data gathering to address those thirteen criteria. Each criterion was answered by a simple yes or no. These criteria and their questions are listed as follows:

- Enrollment Rate: Is the enrollment rate at 80% or more capacity?
- Graduation rate: is the graduation rate 25% or greater?
- Graduate placement in appropriate field: Are 70% or more of the graduates placed in a related field?
- Employer requests: Do the number of job requests equal or exceed the number of graduates?
- Advisory committee recommendations: has the advisory committee met during the last 12 months and recommended continuance of this program?
- Cost per FTE: Is the cost per FTE 200% of the College cost per FTE or less?
- Productivity ratio: Is the faculty productivity ratio 50% of the College average or greater?
- Relation to College mission: is the program consistent with the College's current mission?
- Needs assessment: Is the curriculum meeting the current needs of our employers as shown in our survey?
- Physical facilities: Are the physical facilities adequate for program objectives?
- Equipment: is the equipment adequate for program objectives?
- Enrollment of female, minority, and handicapped: Does the program enroll at least 20% female, minorities, or handicapped?
- Availability of program from other agencies: Will the elimination of the program seriously damage the supply of skilled workers in Metropolitan Milwaukee?

Each program was then monitored according to these variables and placed in a category depending upon how many yes responses were given to the questions. In addition to the simple "yes' and "no" questions, each criterion was evaluated on a five point Likert scale using specific quantitative standards. I will use one example to illustrate. Example of application of the five point Likert scale to gathered data.

Criterion: Graduation Rate (the percent of students starting a program who actually graduate)

Activity: Examine the graduation rate over the last five years. Rate as shown below.

Graduation Rate	Rating
80% - 100%	5
60% - 79%	4
40% - 59%	3
20% - 39%	2
0% - 19%	1

For example, a program with a five year average graduation rate of 29% would receive a rating of 2, but would be checked 'yes" because the graduation rate was greater than 25%. (Roberts, 1986)

It was helpful in making tough decisions regarding program reduction and discontinuance. The data was helpful, but potentially dangerous without insight. An example, our data flagged the Associate Degree (two year) Program in Welding Technology for possible discontinuance. Why? Because the program had only one graduate in the past three years and that graduate did not get a job in the welding technology area.

I was familiar with the manufacturing industry in and around Milwaukee at that time and was quite surprised at the data. Data doesn't lie, but it doesn't always tell the whole truth either. So I dug further and here is what I found: The students in the program were in such high demand that they were being hired at extremely high salaries before they were able to graduate. Industry was "raiding" the students after one or one and one-half years in the program. The exception was the one very poor student who did not get hired but did stay in the program long enough to graduate with very poor grades. This student was never very interested in welding and ended up working in a different area.

So, the program, rather than being poor, was an extremely strong program because the mission of the Technical College was to provide skilled workers to the local business and industry. A disaster was averted. As a result, we began gathering placement data from those who did not finish programs. As you can imagine, this involved additional work and was only applied when a program did not look good using our existing methods.

AN EXERCISE

The following quote is often attributed to Albert Einstein. *"Not everything that can be counted counts, and not everything that counts can be counted"* I am going to ask you to help me in a little exercise that I hope will illustrate his point. Will each of you take a piece of paper and write the numbers from one to ten on the paper? I am now going to administer the easiest true false exam you may ever have taken because I am not going to bother you with the detail of the ten questions. As far as I am concerned, the questions don't matter. So, I will not confuse you with them. I will tell you that for each number there is a correct answer and I know what it is because I have the answer key.

Each of the participants will then be asked to grade their answers against an answer key.

After grading, the participants will be assigned to groups according to their grades.

This data can now be used to draw conclusions about the group.

"Now, will each of you place your grade on the top of your page? This will determine which of you will be promoted when you return home and which of you will

be fired. Let's do the analysis together. A very small percent of the participants will be promoted and a very small percent will be fired. The rest of you, the average ones, will stay as you are."

As you can see, data was used to make the decision regarding your future. Clearly there was no correlation between the data and your actual capacity to perform your job.

Wisdom, as we can see is the ability to not only ask the right questions, but to also gather the appropriate information to answer those questions.

In this era of information overload, it is imperative that we intelligently weed through all of the data available to be both effective and efficient in our deliberations. I believe that our effectiveness will be determined as much by what data we discard as it is by what we use. This becomes especially critical as we compare across nations, regions and systems. This conference has to do with competitive advantage.

USING THE DATA

Let me go back to my previous thirteen criteria. As I continued to work with the data and analyze it over the years regarding which data identified truly strong programs, I developed a Program Effectiveness model that involved only three criteria.

Program Effectiveness = (Enrollment Rate)(Graduation rate)(Graduate Placement in Appropriate Field)

Example: If PE=(85%)(60%)(90%) Then PE=45.9%

In simple language, this means that for every 100 seats available for students, 46 graduates eventually enter the workforce.

This PE indicator was easy to determine and calculate and allowed the college to make decisions quickly. The other indicators were calculated on three to five year rotations.

COMPETITIVE ADVANTAGE

What exactly is a competitive advantage when different definitions are used to describe the details of our enterprise from country to country and region to region? The European Union is struggling with this and has high hopes for the implementation of the Bologna Accord which is attempting to standardize definitions across European universities.

In most countries with National systems accountability measures are administered by the government and linked closely to funding. As you may already know, higher education in the United States differs from higher education in the majority of other nations in that it does not have a national system. Within the United States there are regional accrediting bodies. The regional bodies assure the quality of each of the colleges and universities in a given geographical area. These regional accrediting bodies have mandated that American colleges and universities show evidence that they are, in fact, doing what they say they are doing, that they are accountable. Over the last several years there have been a wide variety of methods, terms and concepts to address this accountability. One could discuss Institutional Effectiveness, Student Outcomes Assessment, Program Viability, Faculty Productivity and various other topics to measure accountability. The term "performance indicator" is useful as a summary reference to all of these indicators of accountability because these terms and concepts are really ways of indicating how a particular institution is performing. But, it is important to understand that performance indicators are just part of a broader context in which post secondary education has been operating in the United States and Europe and, more recently, Asia.

UNIVERSITIES ARE LINKED TO THEIR SUPPORTING SOCIETIES

Martin Trow states that "…the underlying nature of accountability is one of three fundamental ways in which colleges and universities are linked to their surrounding and supporting societies: the others are trust and market" (Trow, 1996).

Let's look at these three ways colleges and universities are linked to their communities;

First, Trust. Older established universities have value in their communities because of the factor of trust. Each of you, in your communities, countries or regions knows which universities these are. These are the universities you look to and often aspire to be like. Over the years, fewer and fewer universities can rely on trust alone.

Second, Market. In the United States community colleges have been identified with market and, in fact, most of their missions are market driven. But, in recent years, alternate funding schemes have required universities to become very market driven to generate the enrolment needed for tuition and state aide. In 1997 at the Australasian Association for Institutional Research (AAIR) Forum in Melbourne, I stated that two dominant trends that are challenging American higher education are the rise of for profit universities and the expansion of distance education. Both of these are responding to markets and changing the landscape of American higher education. Certainly, the presence of universities from Australia, New Zealand, Europe, Canada and the United States throughout Asia are evidence of this change.

In responding to markets there is a tension between the university and the student. When we define market do we mean the employment market? Do we mean the needs of the community? Do we mean the needs of the student? Each is different. In my opinion, the ideal university has some "wiggle room" so that a student can negotiate within the university to assure that his or her skills, talents and interests match the course of study.

Third, Accountability. In the context of Higher Education there has been increasing demand for accountability. This has come from politicians more than from parents or the community. But, it is now well established in accrediting agencies and government expectations. An interesting comment regarding this is Martin Trow's comment that "Education is a process pretending to have a measurable outcome." But, as each institution attempts to become more competitive it is expected to prove itself. Outside assessments such as rankings and league tables are usually measuring trust and therefore weigh heavily in favor of the old traditional universities.

So, it is within the context of accountability that we discuss "performance indicators". In a study conducted several years ago with John Boldt, we examined Performance Indicators used in the UK and the US and placed them on a 2X2 matrix with leagal/financal and Academic measures on the horizontal axis and External and Internal along the vertical axis. The institution from the United States had twenty-two performance indicators, nine were internal. That represented 41% of the indicators. The institution from the United Kingdom had forty-four indicators, twice the number of the US institution, and ten were internal. That represented 23% of the indicators. Our conclusion was that the driving forces for accountability, at that time, were external. (Bolt, 1997)

That is still the case. But the internal indicators, which have to do more with the content of the curriculum and the actual learning that occurs are also important.

There are several issues that manifest themselves regarding performance indicators. These have to do with the questions: What are we measuring? And why are we

measuring it? If we are measuring our outcomes, what are they? If we are measuring quality, what is quality? Why are we measuring these things? There appears to be two justifications for developing performance indicators. One is for funding purposes and the other is for program improvement.

THE USE OF DATA

Most of the data provided to decision makers revolves around different measures of productivity which in turn respond to budget requests. In most cases these data are only helpful in managing budgets. For example, Cost per FTE is often used as a measure of budget efficiency. But, an FTE is not an outcome; it is a construct that represents an investment of either effort or money. A more difficult measure is the content of that FTE. The most important information, used to manage education, is less available, less often requested, and more difficult to define. We therefore use proxies for academic quality that may not be appropriate for the world our students will be living in. A proxy for learning may be a standardized test score or a score on a national exam or the satisfactory completion of a series of courses. But the complexity of our society and the differing standards from country to country and region to region combined with a constantly changing political, economic and technological environment put demands on these proxies that cannot be met.

At the recent World Universities Presidents Summit in Bangkok a recurring theme was the challenge to prepare students to work in an economy and to live in a society. This clearly implies that higher and further education is not only to prepare students as workers and professionals, but it must also prepare them to be good neighbors and citizens.

Given these concerns it is still easier to assess our success in preparing someone to work in an economy than it is to assess our success in preparing them to live in a society. As Institutional researchers, your task is to support the integrity of your institutions relative their missions while at the same time responding to outside forces. Most often, outside indicators are thrust upon institutions and our task becomes trying to determine how these indicators can help us better understand and manage our institutions.

Funding, on the other hand, often poses problems because it is attempting to emulate the free market using indicators as a proxy for the market place. An institution with tuition driven funding is already in the free market. It must compete to attract students willing to pay tuition high enough to finance the university. Universities with large endowments and significant government financing usually create funding formulas that are not similar to the free market. In addition the messages inherent in this activity are garbled. This is further complicated by the different nature and orientation of the training of the chief financial officers and the chief academic officers. As long as performance indicators are tied to funding they will not be used to manage the college or university, they will be used to manage the budget.

In 1998, George Dennis O'Brien, the former President of the University of Rochester, indicted, as a result of the Salzburg Seminar on the future of higher education in the twenty-first century, that there are three propositions for higher education in the twenty-first century.

1) There will be an increase in the number of students attending colleges and universities.
2) There will be no proportionate increase in government funding for higher education

3) Responsibility will be delegated to local senior management charged to make higher education efficient and economically viable (O'Brien, 1998)

It has been the case in the United States for the last sixty years, and more recently in Europe that the increased accessibility of higher education has demanded a change in both curriculum and pedagogy. The pressure will continue to be to deliver education that is more sophisticated and at the same time less costly. The challenges will be great and the task may be overwhelming at times, but in our goal to become more competitive we must remember that we are preparing our students to not only work in an economy but to also live in a society. The measure of our success may very well depend upon how well we do the later rather than the former.

In summary, there is no amount of data that can prevent us from making unwise decisions if we do not have wisdom in the first place. That wisdom depends upon the decision maker knowing and understanding the institution within the context of the greater community however it is defined. It depends upon the decision maker knowing which data related questions to ask, and it depends upon the institutional researcher providing the correct data and interpreting it in a way that best responds to the question.

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A PRELIMINARY STUDY ON READING HABITS OF STUDENTS AND STAFF IN ASIAN HEIS: TOWARDS A BALANCED GLOBAL K-CAPACITY BLUEPRINT

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ABSTRACT

Literatures on reading and reading habits showed that knowledge achievement is best facilitated through reading. The corollary is obviously that a lack of reading ability and capacity will diminish knowledge acquisition.

This paper reports on a research project involving three HEIs in neighbouring countries of Southeast Asia on readings and reading habits of both their students and academic staff. Surveys on these respondents generally show that both the students and academic staff in these institutions do not do readings outside their text book requirements.

By deduction therefore these students and academic staff are imposing unintentional self-restriction on their knowledge acquisition capacity. As a result there arises a globally imbalanced development that may perpetuate the domination in knowledge of one by another. The short-term advantage of such a situation for the latter is likely to cause long-term disadvantage for all. The onus, however, is on the side with the stunted capacity to reinvigorate itself and thus join the pace to achieve a balanced global knowledge capacity development.

INTRODUCTION

We have entered the Knowledge Era and the computer technology has facilitated our transformation into Knowledge People.

If we think about the steam engine for example, it too changed the way people live at that time. We also know that it took the steam engine some one hundred years to be accepted by people of that time as their new technology that re-shaped their lives and industries.

Computer technology did all that and more and in a comparatively much shorter time. It pervades all aspects of our lives, more than the steam engine did. What is also significant is that it makes itself inevitable. If we do not *get on the band wagon* we will be permanently left behind and suffer the consequences.

The uptake of computer technology has been singly phenomenal. For example, while only some 90,000 people were involved in internet usage in 1990, by 2005 almost a billion people were involved and the increase in users is about a million a month if not more [Cheng, 2001]

The acquisition of knowledge in the last 30 years has been estimated to be the same as what was accumulated over the last 2000 years [Cheng, 2001]. This means that we are able to generate and accumulate knowledge seventy times faster than before.

Computer technology in fact had made inflation a thing of the past. For example, the costs of various aspects of banking have been reduced instead of increased with more facilities available to the consumers. Banks around the world are now charging quite a hefty amount for any transactions over the counter. Bank customers therefore had no other choice but to be more computerized, particularly when such choice in fact makes

banking more convenient and comfortable as it could be done from anywhere in the world.

With all the above background, it would seem inevitable also that we have to change the way we acquire and develop new knowledge. The media for transferring knowledge itself has changed significantly. Books, while still printed, are superseded by information uploaded on websites. Observations would show that the competitor is winning hands down. There is a lot more information accessible via websites and they are free, or at least most of them are. The random access to information allowed by computer technology cannot be provided by printed media. We now see a lot of bookshops either closing down or having all-year sales selling books at prices not seen before.

The question now is: what happens to reading?

What happens to reading in the computer age?

The computer technology, the websites, the blogs and other upcoming knowledge media are simply that. They are media that bring the information to us. The information is one that we chose.

We still need a medium to move the information from the media to our knowledge repository, our brains. Some questioned whether there is any need for any of the information to be transferred to our K-repository? We simply need to know where to find the information and when we need it we could access that information extremely quickly anyway.

The question however remains. What do you do then when you have the information that you wish to use? Naturally, you have to read it. Thus it is true that we do not need to "download" all the available information from the virtual information bank, but when we do, we still need to read the information before we could use it for whatever purposes we wish.

Thus reading remains to be an important medium for K acquisition and use. Ratner [2008] said that even on things that we did not spend time on 15 years ago, we are now spending some 66-plus hours a month including accessing the computer. People ages 35 to 49 are now spending 88.5 hours a month (i.e. 3 hours a day) on the computer.

The survey reported by Ratner, also showed that the young people who are in fact shying away from reading prints, are also the ones who spent least time on the computer. This is ominous in respect of K-acquisition of young people and our future leaders.

Thus reading must be reinvigorated especially among our young people and particularly by our higher learning institutions.

What is reading: a brief musing.

Sebastian Wren [2001] in a project supported by US Department of Education at the Southwest Educational Development Laboratory (SEDL), developed the Framework of the Cognitive Foundation for Learning to Read as shown in Figure 1 below.

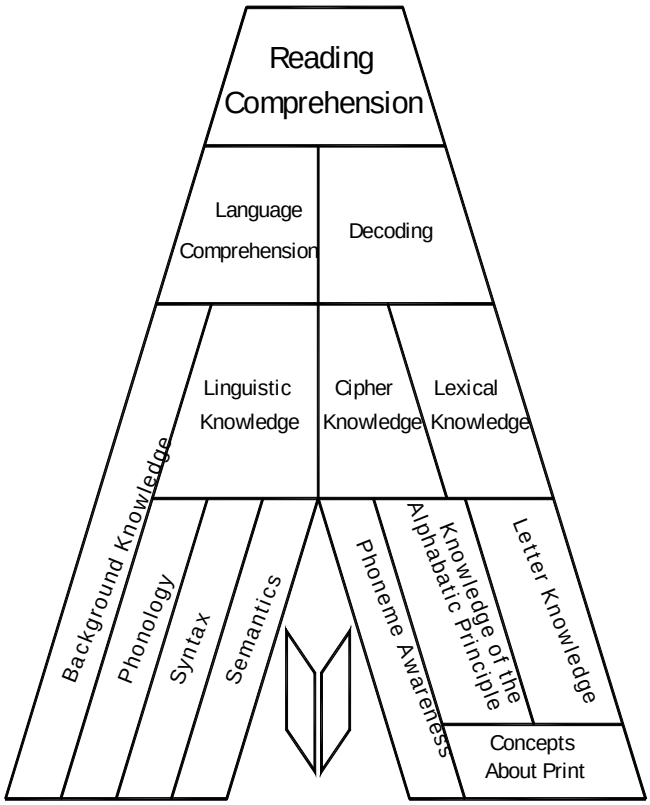

Figure 1 – SEDL Reading Framework
(after Wren, 2001)

Clearly, the SEDL Framework shows that good reading comprehension is supported by two "legs", namely *language comprehension* and *ability to decode* what the reader sees in front of him/her. Importantly, each of those legs are further supported by *background knowledge* and *linguistic knowledge* on the one "leg" and by *Cipher and Lexical knowledge* on the other. And these are further supported as shown in Figure 1.

This Framework explains many things that we observe at university level teaching today. For example if a student is not used to the spoken language and thus is unable to comprehend then his/her reading comprehension will be impaired, even if s/he could identify the words, i.e. able to decode. The same is true the other way round. That is, the student reading comprehension is impaired if his/her decoding ability is low.

Hence the supporting legs, in the case of Language Comprehension, the need for *Background Knowledge* and *Linguistic Knowledge*. Students who are unfortunately enough not to have these *Knowledge* and had not been exposed to acquire such

knowledge through guidance by parents or teachers, will suffer *Language Comprehension* and thus Reading Comprehension as a whole. Lots of reading and exposure to the spoken language will certainly help the students improve his/her language comprehension. Lots of reading will also help in the student's ability to *decode* which forms the other leg of Reading Comprehension.

The SEDL studies revealed that:

> *"…if children are still struggling with reading skills in the third grade, the odds are, they will be struggling the rest of their lives.", and*
>
> *"…in reading, pupils who have foundational reading skills before entering school will learn new reading skills."*

perhaps similar to saying that the rich gets richer and the poor gets poorer. The first quote above is indeed a grave indictment of the lack of reading at early childhood.

Pigada and Schmidt [2006] in their Case Study on Learning a foreign language found that:

- Overall, more vocabulary acquisition is possible from extensive reading
- This confirms another finding (Horst et al, 1998) that there is high correlation between the number of times each word occurred in the text and the relative learning gains made
- The nature of the words themselves affect the ability to learn them, sometimes they need to be seen several times before they could be remembered
- That vocabulary acquisition is a function of the proficiency level of the learners
- The previous point appears to confirm the SEDL's observation that there is a need for a background as well as linguistic knowledge in order to have *Language Comprehension.*
- A capable learner can substantially increase his or her vocabulary knowledge through extensive reading

Undoubtedly, as academics we have seen varying understanding levels of our students based on their ability, willingness and commitment to reading. Those who read extensively, and outside their immediate learning requirements, e.g. text books, are able to engage in discussions in and outside class on subjects either related to the course they are taking or otherwise. They would appear to be more intelligent and as a result, as has already been shown in the work of SEDL and Pigada et al, that these are the students who will even increase their knowledge further. In that sense the world appears to be unfair.

Reading in HEIs in Asia

While this paper does not pretend to expound research on reading and reading habits in the whole of Asia, much of the reasons in embarking on this research project, is the author's own observations over several years in Australia, New Zealand, Papua New Guinea, Indonesia, The Philippines, PR China, Thailand and Malaysia, where distinct performance differences of students and graduates in the Asian countries mentioned and

in Australia and New Zealand are observed. These observations include of those Asian students studying in Australia and New Zealand.

In general terms, much of the differences lie in their ability to be independent learners. Idrus & Koh [2007] pointed to one possible reason for these differences, namely the preoccupation of Asian students in memorization or *rote learning* rather than *understanding* as compared to their Australian and New Zealand peers.

In effect, *rote learning* precludes reading outside the immediate subject matter and dampens the inquisitive capacity of the students' minds. Hence it also reduces the need for and the commitment to reading. In its turn, this situation increases the spiraling down of knowledge acquisition.

In the end, the lack of reading in Asian students and Asians generally, will widen the gap between them and the rest of the people in the world. This creates a grave concern that globalization will widen the knowledge gaps brought about by the lack of reading in the case of Asians and Asian students.

This research project therefore starts with establishing first of all the reading habits of students in a number of Asian universities. This will give an indication for a starting point in rectifying the situation so that a balanced blueprint for the global K-capacity is achieved.

Two higher education institutions (HEIs) in Indonesia and one in Malaysia took part in this preliminary survey. As this study is not meant to compare across countries, but to seek out similarities, the names of these HEIs are not revealed here. The instrument is shown as Appendix "A".

The choice of universities is based on the wish to include a number of factors simultaneously, namely, a large provincial city institution, a small regional university outside main population areas of Java, Indonesia and also a well established university in another country in Southeast Asia that has a significant number of international students.

No attempt was made to ensure that there is homogeneity across the three HEIs, as this is a very tall order. The languages used for example are different. In Malaysia English was used, while in Indonesia Bahasa Indonesia was used.

Due to the significant international student proportion at the Malaysian institution, and although the language of instruction is English, in the survey conducted in this study, books read could be in languages other than English, while in Indonesia all books and magazines read are in Bahasa Indonesia.

SURVEY RESULTS

Figure 2 summarizes the results of the survey on staff at the Malaysian HEI.

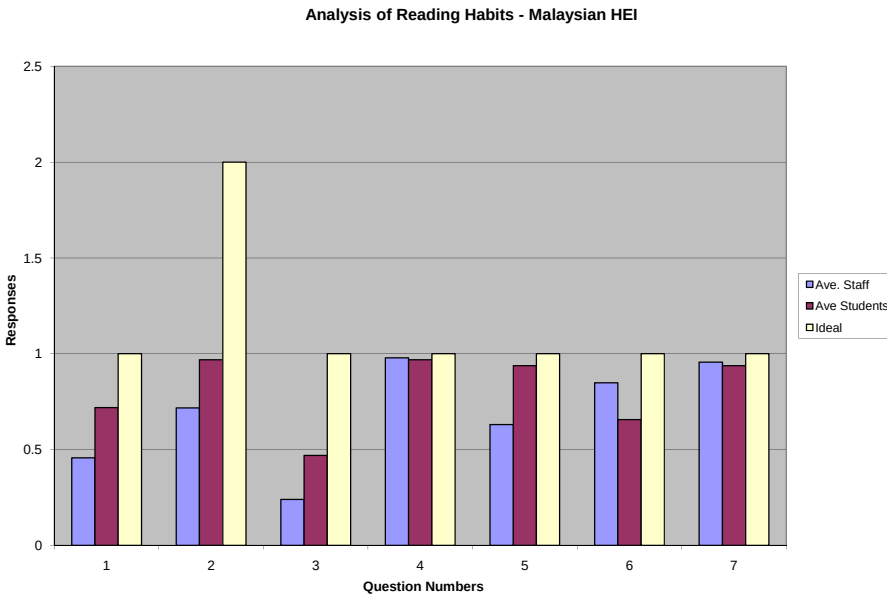

Figure 2 – Survey results on reading habits at the Malaysian HEI
(Averages of staff and students responses vs the ideal responses)

Figure 3 summarizes the survey results at the Indonesian provincial centre HEI.

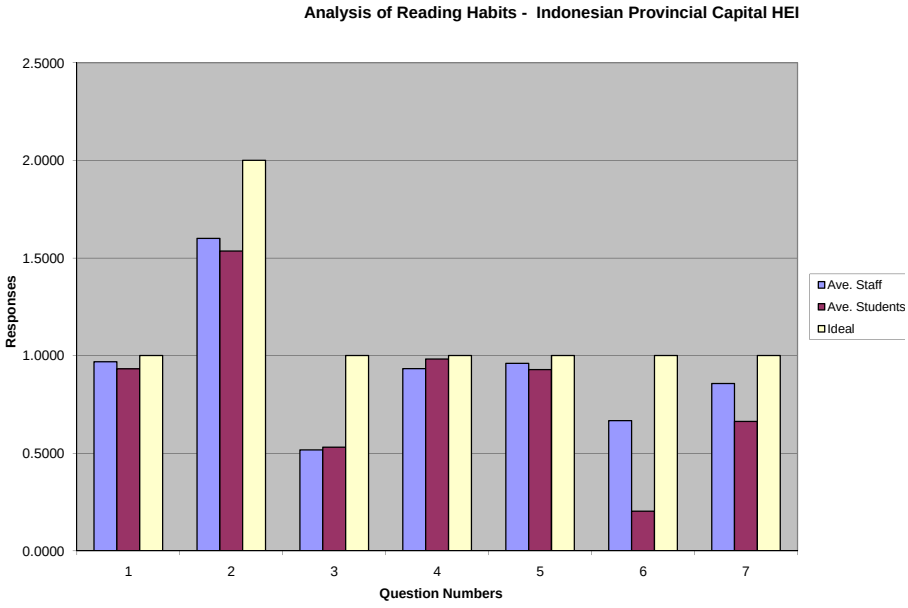

Figure 3 – Survey results on reading habits at the Indonesian Provincial Capital HEI

Figure 4 summarizes the survey results at the Indonesian regional HEI:

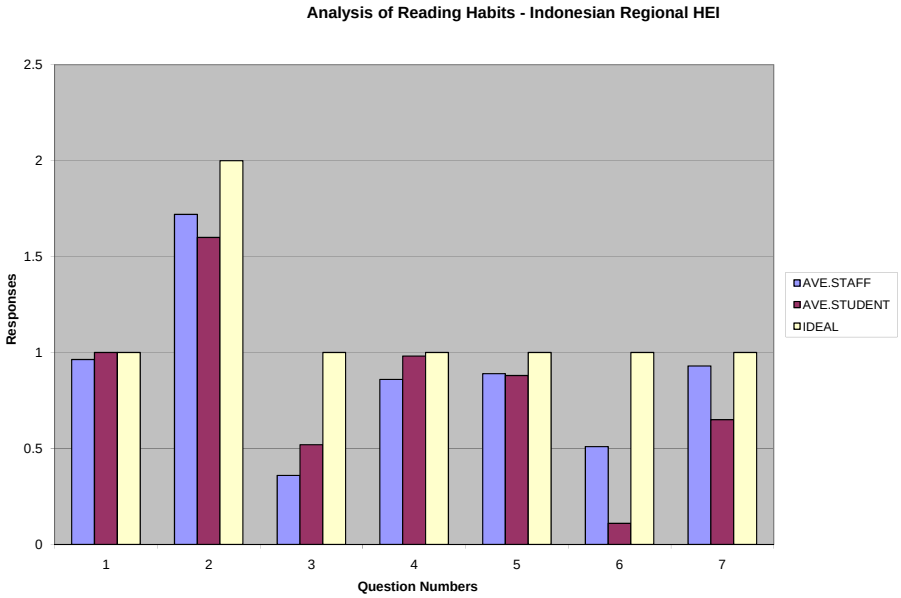

Figure 4 – Survey results on reading habits at the Indonesian regional HEI

Referring to the three figures above, the following observations are made for the respective institutions studied

QUESTIONS	Malaysian HEI	Indonesian Provincial Capital HEI	Indonesian Regional HEI
No. of staff surveyed	48	32	56
No. of students surveyed	100	517	274
1. Latest Non-text book recently read	Less than 50% of staff read any non-text recently, while about 75% of students did	Almost all staff and students read a non-textbook recently, though slightly more staff are doing so. Most of the books read are in Bahasa Indonesia	Almost all students and staff said that they recently read a book, with staff slightly edged ahead of the students. Most of the books read are in Bahasa Indonesia
2. Number of books read per year	Staff read less than .75 books/yr while students read almost one book /yr on average	Staff read about 1.6 books/yr while students read 1.5 books/yr on average. Most of the books read are in Bahasa Indonesia	Staff read about 1.8 books / yr while students about 1.6 books / yr on average
3. Category of non-text books read	Staff only read 0.25 fiction books / yr while students read about 0.4 fiction books/yr	Both staff and students read only about 0.5 fiction books / yr with the students showing slightly more than staff	Staff only read about 0.4 non fiction books while students read slightly over 0.5 non-fiction books / yr
4. Reading important for self-development?	Almost all staff and all students agreed that reading is important	More students than staff said that reading is important for self-development, though more than 90% of each said so	More than 90% students said yes to this and only about 80% of staff did.
5. Will you start reading this year if you are not reading now?	Only about 60% staff said yes to this question while almost 90% students said yes	Both staff and students said yes to this question with staff slightly exceeding the students on average	Equal number on average of students and staff said yes at around 90% level
6. Do you read magazines regularly?	About 80% of staff said yes and only about 60% of students did	More than 60% of staff and only about 25% of students said they do	Almost 50% of staff but only about 10% of students responded in the affirmative.
7. Will you encourage others to read?	Almost all of staff and students said yes, though less students than staff were willing to do so.	Staff are more positive on this than students with 80% and about 60% respectively responding affirmatively	90% of staff on average and only 60% of students said yes.

DISCUSSION AND ANALYSIS

While the two universities in Indonesia are in different provinces, one in a provincial capital and the other in a regional centre on two different islands, the results above showed uncanny similarities. This makes comparative analysis against a Malaysian HEI a little easier.

1. Staff and students in the Malaysian HEI are not doing as much reading as their counterparts in Indonesia
2. The Malaysian staff will need to double their effort in reading in order to match their counterparts in Indonesia. Currently the Malaysian staff read less than 0.4 of a fiction book.
3. The Malaysian staff are generally reading half of the number of books their counterparts in Indonesia do a year.
4. Less than half of the books read by both Malaysian and Indonesian academics are non-texts.
5. Staff and students in both countries agreed that reading is important
6. Malaysian staff and students read a lot more magazines than their counterparts in Indonesia. The results showed that Indonesian students read a quarter to a third of the magazine reading done by their counterparts in Malaysia
7. Malaysian students are more willing to encourage their peers to read than their counterparts in Indonesia.

IMPLICATIONS

a. Despite accepting that reading is important, academics and students in both countries surveyed are well behind the average reading done in the developed world. This has direct relationship to the acquisition of knowledge as shown by the work of SEDL.
b. If reading is not urgently instilled in our schools and HEIs, the *Matthew Effect* alluded to earlier will be more evident. Given that the knowledge explosion is already here, the longer we wait to improve the reading skills and volume of our students and academics, the further behind we will be quickly
c. Reading skills are directly related to critical thinking, eloquence in discussions and other types of communications and the overall standing of the nation *vis a vis* international relations and negotiations. The lack of these will disadvantage the country as a whole.

CONCLUSION

Although more research is required to provide further evidence and data, the average state of reading in Malaysia and Indonesia based on the surveys reported in this paper, is poor. Living in the K-era, this situation puts both countries in a precarious position with respect to a balanced global K-capacity.

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I am grateful for the assistance received from staff and students at each HEI where the surveys were conducted, and hope that the results will also be useful for their respective universities.

Nirwan Idrus

APPENDIX "A"
The Survey Instrument used in the three HEIs.

Note: For use in Indonesia, this instrument was translated into Bahasa Indonesia first.

SURVEY ON READING HABITS

1. Please state the latest non-text book you had recently read:
   …….
   Approximate date when you finished reading that book: ……..
2. Please tick next to the number below, how many non-text books do you read a year:
   Less than 2 ☐
   2 ☐
   More than 2 ☐
3. Category of the non-text books you read during the last year:
   Fiction ☐
   Non-fiction ☐
4. Do you think reading, generally, is important for your own development?
   Yes ☐
   No ☐
5. If you are currently not reading any non-text books, will you start doing so this year?
   Yes ☐
   No ☐

   Do you read magazines regularly? YES ☐ NO ☐
   How many ? ☐ *Please state the number in the box.*
   Please state the title of one of the magazines:
   …….
6. Will you encourage others to read aside from their text books?:
   Yes ☐
   No ☐
   If you ticked this box, please explain below:

   ……
   ……

AN ALTERNATIVE MONITORING SYSTEM TO ASSESS ACADEMIC PROGRAMME PERFORMANCE

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ABSTRACT

A continuous monitoring system of student academic performance is essential to any institutions of higher learning. Since the key factor in measuring students' academic performance is the cumulative grade point average (CGPA), it could also be used as an indicator of whether each programme offered meeting certain required standard. The first ISO Quality objective of UiTM states that at least 30% of the students should obtain CGPA of 3.00 and above. In this study, the CGPA of students from various programmes offered in the Science and Technology faculties are explored and their empirical distributions are determined. As an initial stage, only normal distribution is considered. Based on this normal distribution, the probability that a student CGPA of greater than 3.00 are calculated for each programme. Those programmes having probability lower than 0.3 will be classified as not meeting the required target. Hence, this alternative monitoring system that could be carried out regularly in order to identify those programmes not meeting such target so that an immediate remedial action could be taken.

INTRODUCTION

To produce a high achieving, well-rounded and marketable graduate is an ultimate goal for all institutions of higher learning including UiTM. Hence, UiTM has given top priority in producing graduates with such qualities. In most of higher education institutions, the key factor in measuring their students' academic performance is the cumulative grade point average (CGPA) which represents the accumulated score over the study period. The importance of this academic measure is very obvious, since achievement awards are given based on it. Some of the previous research done on students academic performance that made use of CGPA as its measuring tool are Palmer & Bray (2003), Arun Mohamed *et al (*2001) and Hadariah Bahron *et al*.(2001). As a whole, these studies are comparative in nature where comparisons are made based on gender, ethnic groups, student background and not on the CGPA itself.

Since the primary customer in any learning institution is the student, hence, it is natural that their academic progress should be monitored continuously (Hartman, 2001). In reference to the first Quality objective of UiTM (Quality Manual, 2004) which is to produce 30% of graduates with CGPA of 3.00 and above, UiTM should utilize the readily available data in order to produce a quantitative measure to monitor students' academic performance which could be used as evidence on the status of this objective. A continuous assessment should be carried out regularly. By doing so, the programmes that do not meet the target of ISO Quality objective could be identified so that an immediate remedial action could be taken.

METHODOLOGY

Data

Data on the students CGPA are obtained directly from the Integrated Student Information Systems (ISIS) system of UiTM. In this preliminary stage of study, only Science and Technology (S&T) students of Semester 4 and above will be considered.

Objective

The main objective of this study is to identify the programmes which do not meet the first ISO 9001:2000 Quality objective of UiTM. Hence, the findings from this study could be used by the management of UiTM in their monitoring process so that early corrective measures could be taken to rectify such situation.

Method of Analysis

Since the CGPA is a quantitative measurement, the students CGPA of each programme could be described by some form of a standard statistical distribution. The list of possible distributions that could be used in the fitting process has been discussed in depth by Silverman (1986).

The shape of the distribution of the CGPA would be explored using all the Exploratory Data Analysis (EDA) graphical presentation such as Box-plot, histogram, stem-and-leaf plot. In addition, the central location and the spread of the distribution would be obtained and used to describe the academic performance of the S&T students. Any departure from normality assumption could be observed through the use of normality test found in most statistical packages such as SPSS, S-Plus and others. On the other hand, if the students' CGPA distribution is skewed, some other distribution may be considered. Among the other distributions that are possible for fit are Gamma, Log-normal and Weibull.

For those students CGPA that follow a normal distribution, the sample mean is the best estimator for the population mean and the sample variance is the most efficient estimator for the population variance (Hogg & Craig, 2001). By fixing in estimated values for the parameters, the probabilities could be obtained by using a written Fortran program.

FINDINGS

The descriptive analysis of students'CGPA for each programme offered in S&T are obtained. As an illustration, the descriptive measures regarding the CGPA for students doing Bachelors Degree in a certain programme are given in Table 1. Out of 1368 students enrolled, it revealed that the mean and median CGPA is 2.83. In other word, at least 50% of the students in this programme obtained CGPA of 2.83 or higher. From the Stem-and-Leaf plot, it can be concluded that the distribution of CGPA for the students is normally distributed. That assumption is being supported by the box plot given in the SPSS output of Figure 1, where the median value is located in the middle of the box (Coakes, 2005).

Table 1 : SPSS Output for the descriptive statistics

Descriptives

			Statistic	Std. Error
CGPA	Mean		2.8312	.01403
	95% Confidence Interval for Mean	Lower Bound	2.8037	
		Upper Bound	2.8587	
	5% Trimmed Mean		2.8281	
	Median		2.8100	
	Variance		.176	
	Std. Deviation		.41915	
	Minimum		1.80	
	Maximum		3.93	
	Range		2.13	
	Interquartile Range		.60	
	Skewness		.134	.082
	Kurtosis		-.476	.164

CGPA Stem-and-Leaf Plot

Frequency	Stem & Leaf
.00	1 .
15.00	1 . 899
41.00	2 . 0001111111
82.00	2 . 2222222233333333333
126.00	2 . 44444444444444555555555555555
167.00	2 . 66666666666666666667777777777777777777
154.00	2 . 88888888888888888888899999999999999
119.00	3 . 00000000000000001111111111111
95.00	3 . 2222222222222333333333
55.00	3 . 4444445555555
33.00	3 . 66666677
5.0	3 . 8&

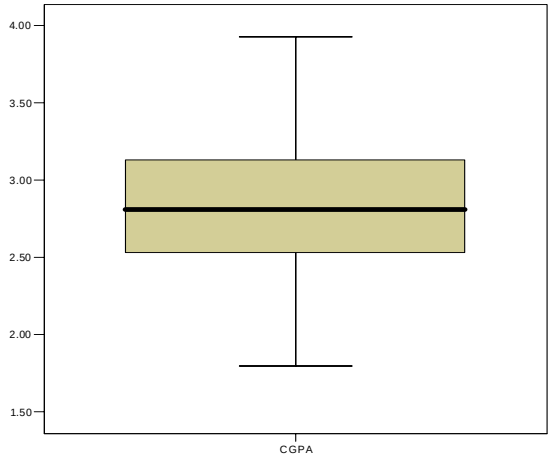

Figure 1: SPSS output for checking normality assumption

The probabilities obtained are used to estimate the chances that each of the programmes will produce students with CGPA of 3.00 or higher. Each column in Table 2 represents the probability of obtaining CGPA greater than 3.00 and above.

As can be observed from Programme I, it shows that 42% of the students in this programme achieved the CPGA of greater than 3.00. Whereas, programmes III, VI abd VII do not meet the ISO Quality objective of producing at least 30% of the students with CGPA greater than 3.00. The calculated probabilities given in the Table 2 is incremented by 0.01. For example, if the required CGPA is increased to 3.08 or higher , only programme I could still meet that target.

Table 2: Probability Values

Programme	>3.00	>3.01	>3.02	>3.03	>3.04	>3.05	>3.06	>3.07	>3.08
I	0.42	0.41	0.4	0.39	0.38	0.37	0.36	0.36	0.35
II	0.31	0.3	0.29	0.28	0.27	0.26	0.25	0.24	0.23
III	0.22	0.21	0.2	0.2	0.19	0.18	0.17	0.17	0.16
IV	0.37	0.36	0.35	0.34	0.33	0.32	0.31	0.3	0.29
V	0.3	0.29	0.28	0.27	0.26	0.25	0.25	0.24	0.23
VI	0.17	0.16	0.16	0.15	0.14	0.13	0.13	0.12	0.11
VII	0.28	0.27	0.26	0.25	0.24	0.23	0.22	0.21	0.2

CONCLUSION

In summary, we could conclude that the monitoring process of the students' performance for programmes offered by the UiTM could be done systematically and efficiently. With such mechanism, it is hoped that the management of the UiTM could identify any programmes which do not meet the required target so that an immediate action could be taken to improve the academic excellence of our university.

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THE ROLE OF SELF EVALUATION IN QUALITY SSURANCE: WIDYATAMA CASE STUDY

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ABSTRACT

To obtain quality assurance, an institution should conduct self evaluation for continuing improvement purposes. The purpose of this study is to investigate the implementation of Self Evaluation in quality assurance at a higher education institution. This paper looks at the effectiveness of self evaluation implementation at Widyatama University Bandung – Indonesia as an example for the investigation. The paper, therefore, explores the process and the role of self evaluation in quality assurance at the university. Data is collected through evaluating quality management documents, observation, and inquiries. Through research, the paper reveals the following contributions on the self evaluation in quality assurance:

1. Supporting university management and promoting quality assurance,
2. Strengthening the idea that "quality assurance is the "king" of a university
3. Improving the process and the role of self evaluation in quality assurance
4. Building campus culture to help people at the university be more involved in conducting self evaluation.

Key words: *Quality Assurance, Self Evaluation, Internal Auditing, Higher Education*

INTRODUCTION

Quality assurance in higher education institution has become an issue of major concern among universities all over the world. Due to the rapid changes in education environment, improvement on the quality retains its high priority the principles program of institution. In Indonesia, quality assurance has now recently placed on the main agenda as well. There are some environment forces imposing the need for quality assurance. These include:

1. The increase of nationally and internationally competition in higher education industry.
2. The rise in public accountability and demand for transparency in the way in which higher education institutions are managed.
3. An increase diverse students population as a result of international program
4. Greater expectation of students as paying customers.
5. An increase in collaborative provision between institutions.

Some of these forces demand that higher education institutions have quality assurance procedures that are transparent to the stakeholders.

One of the key elements in implementing quality assurance is self evaluation program. Self evaluation should be conducted systematically, independently and documented to assure that the quality management system comply with the standard that has been established. This article focuses on the experience of Widyatama University on

quality assurance, especially in the implementation of self evaluation at unit and overall organization levels.

Basic Concept Of Self Evaluation In Quality Assurance

Evans (2002) stated that Quality assurance was informal; every effort was made to ensure that quality was built into the final product by the people who produced it. These themes, which were lost with the advent of the Industrial Revolution, are important foundations of modern quality assurance efforts. Bazargan (2002) suggested that quality assurance is the whole process whereby a particular organization is managed to achieve and hence be able to assure quality.

In the 1920s employees of Western Electric's inspection department were transferred to Bell Telephone Laboratories. The duties of this group included developing new theories and methods of inspection for improving and maintaining quality. The early pioneers of quality assurance- Walter Shewhart, Harold Dodge, George Edwards, and others are including W. Edwards Deming-were members of this group. It was here that the term *quality assurance* was coined. These pioneers developed many useful techniques for improving quality and solving quality problem. Thus, quality became a technical discipline of its own (Evans, 2002).

For the quality assurance purpose, an organization or institution should implement quality management systems. The quality management system is required when an organizations (a) needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements, and (b) aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable regulatory requirements (ISO 9001:2000)

If an organization claims to have a system for the quality management, the organization should conduct self evaluation process through monitoring, measuring and improving activities (ISO 9001:2000). Organization should improve the effectiveness of its quality management system continually. Organization should plan and implement the monitoring, measuring, analyzing and improving activities needed to show product conformity, ensure the compliance of quality management system and continuous improvement on the quality management system. This process should be done in all levels of organization, unit as levels as well organization as a whole.

Self evaluation should be initialized with reporting of any activities in all level of organization. The self evaluation to the process by which an institution review the effectiveness of its quality management system for assuring, developing, and monitoring the quality of organization performance against the established criteria (Arens, 2008). Self assessment is useful for encouraging fundamental review of objectives, practices and outcomes (Bazargan, 2002).

In self assessment process, the unit collects and analyzes data on where it is and what it wants to be. The analysis covers the strengths, weaknesses, and the development programs which are prepared to indicate how the unit is going to reach the objectives (Kells, 1995).

The self evaluation has two objectives. Firstly, it should be used as documentation for the final report and its recommendations. Secondly, it should be seen as an inspiration for the evaluated unit or for quality improvement. Miller (2002) stresses that self assessment in higher education implies two aims: to contribute to

higher education quality improvement and provide reliable information about existing higher education quality including studies and research.

Self evaluation process is conducted through monitoring, evaluating and improving activities. Organization should plan and implement monitoring, measuring, analyzing and improving processes needed to show the compliance of quality management system, and to ensure continual improvement. The function of this process occurs in all levels of organization, unit level as well as organization as a whole.

Self evaluation within an organization involves an audit process called as internal quality auditing. Internal quality auditing is required to be a part of management. Ratliff (1996) purposes that internal auditing is an independent appraisal function established within an organization to examine and evaluate activities as a service to the organization. Arens, Elder and Beasley (2008) argue that auditing is accumulation and evaluation of evidence about information to determine and report on the degree of correspondence between the information and the established criteria. Based on these definitions it can be concluded that the authors see auditing process from different approach.

The objective of internal auditing is to assist organization member at all levels to implement their tasks effectively and efficiently (Hiro Tugiman, 2003). Ratliff (1996) said that the objective internal auditing is to assist member of organization in effective discharge of their responsibilities. Internal auditing furnishes them with the analysis, appraisal recommendation, counsel and information concerning the review of the activities.

Messier (2006) argues that the role of internal audit fall into two primary categories: assurance service and consulting service. Assurance services involve the internal auditor's objective assessment of evidence to provide an independent opinion or conclusions regarding a process, or system. Consulting services are advisory in nature, and are generally performed at the specific request of the client.

In higher education, internal audit aims to provide a mechanism for the identification and transmission of good quality management practice and to assists organization in identifying its strength and weaknesses in their operations.

The internal audit process covers the testing and evaluation of internal control in the organization. Internal audit plays an important role in organization for three reasons: (1) To increase efficiency and effectiveness of organization performance,(2) To provide reliable information, (3) To ensure that the organization obeys legal requirement and law.

The actualization of professionalism in audit is shown in professionalism standard of internal audit, which includes: independency, professionalism capability, scope of the job, audit implementation and internal audit management.

As every organization is unique, they should have an internal audit report that suits the management needs. Differences occurred in the procedure how to write, evaluate, improve and disseminate and follow up the report.

Audit report is the main product of internal audit unit which is usually distributed to the senior management, board of directors, and audit committee. Since the report is the only product that the management received, they tend to associate the quality of the report with performance, competency and professionalism. It implies that the report should be made in clear, concise, accurate, wise, appropriate manner.

Organization should conduct internal audit at planned intervals to determine whether the quality management conforms to the planned arrangements, the requirement of this International Standard, and the quality management system required by the organization, and is effectively implemented and maintained (see 7.1, ISO 9001:2000)

An audit program should be planned, taking into consideration the status and importance of the process and areas to be audited, as well as the results of the previous audits. The audit criteria, scope, frequency and methods should be defined. Selection of auditors and conduct of audits should ensure the objectivity and impartiality of the audit process. Auditors should not audit their own work (ISO 9001:2000).

The responsibilities and requirements for planning and conducting audits and for reporting results and maintaining records (see 4.2.1) should be defined in documented procedures.

The management responsibility for the area being audited should ensure that actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities should include the verification of the actions taken and the report of verification results (see ISO 9001:2000, 8.5.2)

The Quality Assurance At Widyatama University

Widyatama University was established by Ministerial Decree on 2 August 2001, integrating School of Economics, School of languages, School of Engineering and School of Visual and Communication Designs. Through out its process of development, Widyatama has consistently committed in implementing quality management system.

The vision of Widyatama University is to be widely recognized as a university with high capability of producing professional human resources in their fields, yet always proactively adjust to the fast on-going development of knowledge, technology and arts in international environment.

The missions of Widyatama University are:

- Presenting programs, leading to the development and implementation of knowledge, technology and arts.
- Creating conducive atmosphere to improve the efficacy of teaching-learning process, and research to produce creative and innovative graduates.
- Promoting relevance and interrelations among all academic activities and ensuring that the school's graduates turn out to be professional with positive attitude.
- Building partnership with national and international institutions so that the teaching-learning process and its materials are constantly updated.

The initial plan to implement the quality management at Widyatama University was first formulated in 2002. A series of meeting, workshops, and seminars were organized from management to faculty level to plan, prepare, and produce the document required for the program. The university established Widyatama Quality Assurance Center. Since 2003, Widyatama has been accredited ISO 9001:2000, certified by TUV International German. This certification has proven the university's concern to satisfy not only the wishes and the needs of the customers but also continuous quality improvement.

Widyatama Quality Assurance Center (WQAC) is entrusted with the responsibility of carrying out a periodic review of the various programs, where the process assessment and quality assessment are set out. WQAC director tasks are:

1. Ensuring that the institutional quality system is established implemented and maintained accordingly to ISO 9001:2000 standards.
2. Reporting the quality system performance to the management to be reviewed.
3. Providing a mechanism for the identification and transmission of good quality management practice across the university.
4. Promoting institutional awareness for stakeholders' needs.

The organizational structure of Widyatama Quality Assurance Center is as follows:

The implementation of quality assurance at Widyatama University is the actualization of management commitment to quality and quality assurance. The policy of university, therefore is designed to focus on quality improvement. It causes a comprehensive change in university management compared to previous approach in managing university. The management of quality assurance at Widyatama University represents a completely new approach to enhance various aspects of quality at the institution.

Although the QMS is constructed in such a way to involve all members of Widyatama University into designing, implementing and developing process, but its functioning still faces many obstacles. The reasons for this situation are:

1. The misperception of the QMS especially ISO 9001 which is regarded as a system that only fits for manufactured environment.
2. The absence of the quality culture among Widyatama communities.
3. The reluctance of Widyatama communities to overview their work openly, to critically evaluate oneself and to be evaluated by others (e.g. students, heads) and to be compared to the colleague achievements.

The Implementation Of Self Evaluation At Widyatama University

Existing internal quality assurance system at Widyatama University has been functioning according to the implementation and being constantly developed quality management model to integrate the system of quality management ISO 9001. The functioning is cyclic and its implementation is actualized through self evaluation.

Self evaluation process at Widyatama University is systematic, occurring in a particular cycle: all units, departments assess the previous annual activities according to the forms prepared by WQAC. Each area of activity in the form of self analysis is defined according to the certain criteria and indicators that have been established. Study program is the most important and widely analyzed. In this process continual pursuing for quality improvement is considered to be inseparable from the principle of accountability. Every semester the heads of departments present their self analysis must report to their deans and the deans to the rector of the university. This process indicates that the study program and the faculty should manage their activities complied with the established objectives and procedures.

At Widyatama University, self evaluation reports provide a good basis for a review and assessment content characteristics of faculties and for defining activities aimed at achieving improvement. Managers of Widyatama University are responsible to establish a new approach to management that will enable the organization to maintain and improve its performance in a changing environment. Each member of the organization contributes something different; but should be in line to the University goals.

The rector a long with the working group from Widyatama Quality Assurance Center drafts an annual summary report of the university activity analysis which is presented to the academic community of the university through management review meeting.

As self evaluation is conducted at every level, students as the main customers of the university, their opinions concerning teaching and learning process, teaching staff, facilities, department, faculty and overall activity quality are very important. Students' surveys are carried out annually.

After the self analysis of activities has been conducted, advantages and weaknesses are revealed, a very important component of internal quality assurance is public presentation through a report of internal audit findings.

Self evaluation at Widyatama University as a component of internal audit process is based on valid and reliable data collection and analysis. Due to this reason issue of objectivity, openness and analytical approach of self analysis occurred at all levels.

The process of continual monitoring and assessment has succeeded in improving a high level of quality assurance awareness at Widyatama University. Systematic and regular monitoring has facilitated the creation of a quality culture although there are some denials, or resistance from the organization members. According to Sallis (2002), development of quality culture is a long running process and a very difficult task.

Internal Quality Audit Process

Internal Quality Audit conducted as a part of self evaluation. The audit process consists of monitoring whether there has been compliance with regards to the core process and quality document. The audit process also examines whether the quality objectives has been achieved and measures taken to ensure continual improvement. Dictionary ISO 8402 defines an audit as follows "Thorough and independent checking aimed at finding out whether activities and results regarding quality are in accordance with the planned measures and whether these measures are implemented correctly".

The main parties involved in internal quality audit are:

1. Audit team leader/lead auditor- the person responsible for planning and managing audit activity.
2. Auditors- the persons carrying out the audit
3. Audi tee- the persons, usually managers, responsible for the area or process being audited.

The internal audit process usually consists of 3 stages:

1. Self Evaluation. The first stage of internal audit is self assessment process of the units and the preparation self assessment report. The objectives of self assessment report are: (1) to provide a framework to stimulate internal discussion on the strengths and weaknesses related to the unit. This will provide the basis for further improvement and development of quality assurance system in Widyatama University (2) to provide the necessary documentation for the work process of the audit.
2. Site visit. An internal auditor conducts one-day site visit in which the auditor seeks confirmation of the unit performance report, asks for explanation. Based on this visit, the auditor compiles a report with recommendations.
3. Reporting. The analysis, conclusion and recommendation of the audit are documented in the audit report.

Independence And Competence Of Internal Auditor

The audits are performed by trained auditors. Most of them are lecturers, but quite few come from the management (deans, head of departments). In the present there are 10 internal auditors at Widyatama University. The internal auditors are qualified in doing their jobs. They have been trained in internal quality audit base on ISO 9001 standard and some received more intense training in order to be able to act as a chair person of an audit committee.

The independence of internal auditors is actualized by the audit procedures which state that the auditor is not allowed to audit in the unit where he/she engage in his/her activities. This requirement indicates that internal auditor must have independent mental attitude that auditor should maintain in performing their tasks.

Internal Quality Audit Report

When the audit process is implemented, the next step is preparing the audit report. The audit report is written based on the auditors' findings. The findings can be classified as: conformed, observed, minor, major. The report is then distributed to the unit audited which will be used as the basis for corrective actions and discussed in management review meeting.

Conclusions And Recommendations

Quality assurance in higher education institutions plays an important role due to the rapid changing in education environment. Widyatama internal quality assurance system is based on ISO 9000 principles. The greatest attention is focused on the customers' satisfaction.

Based on the organization and the process, self evaluation in quality assurance at Widyatama University is functioning quite effectively. It can be seen by the establishment of Widyatama Quality Assurance Center and implementation of quality management system based on ISO 9001.

Internal quality audit process has conducted quite effectively as well. Internal quality audit is being systematically and regularly implemented through self evaluation covering all

units/levels at the university, individually and as a whole of organization. The process determines comprehensive identification of strengths, weaknesses to be improved, opportunities and threats in different areas of activities at the university. The process of continual monitoring and evaluation has facilitated the university in creating quality culture among the organization members.

There are still some weaknesses in self evaluation process especially in internal quality audit. Internal quality audit sometimes cannot fulfill the audit schedule. Another matter that should be considered in improving internal quality audit is concerning with managers' perception on internal quality audit function. The managers' perception on internal quality audit function is still influenced by the old paradigm. They do not see internal auditors as their partners or as consultants; they tend to see them as "watch dog" instead.

Internal auditors should also improve their abilities to conduct their function as catalyst government and to give value added in management process of the university.

RECOMMENDATION FOR FUTURE RESEARCH

Based on the description of Widyatama case, it is suggested that further research in quality assurance to improve internal audit should be done which covers large number of higher education institutions in Indonesia on how they implement and take benefit of self evaluation especially the approach of internal audit process by risk assessment based audit.

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FOLLOW UP AND EVALUATION OF CHILDREN FUND OFFICE RESEARCH BANGKOK: RAJABHAT CHANDRAKASEM UNIVERSITY

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ABSTRACT

The purposes of this research were to study efficiency in funding management, as well as career potential and child development potential by funding, and satisfaction of Fund operation. Data collection was conducted by using questionnaire, focus group, interview and observation. The subjects comprised 158 committees and 3,027 members.

The finding revealed that:

1. The most effective was benefit of funding, Account system and back-payment. The income from the Fund was not enough. The internal process which was the most effective are committee's consideration of loaning, loaning consideration of service villages and the correctness completeness of back-payment evidence performance of committee's responsibilities correctness of accounting. The items rated at moderate level were collecting process, the ratio of committees and document filing system. The items resulted at low level of efficiency were as follows: money deposit to the account within 30 days and following up of service villages committee.

1.1 Career potential. Punctuality of the last installation and monthly loan payment were at the most level. Followed by the items at moderate level, they are better living of family supporting career and sufficiency of family income. The reduction of hometown-leaving for work remains stable.

1.2 Child development potential. Children were developed in intellectuality at moderate level follow by mentality and physical. As for education, development of learning equipment, uniform and stipend.

2. The most satisfied was satisfaction of C.C.F. Fund as a whole followed by satisfaction of committee's Fund management. The lowest level was the immediacy of money transferring.

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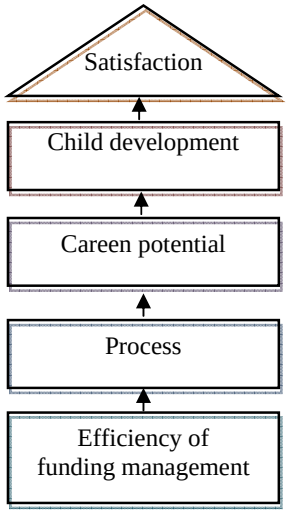
INTRODUCTION

CCF. (Christian Children Fund for Child Development) is The foundation support poor children in Thailand and support by princess Somdet Pra Thaeparatn Rachashuda. Began on 26 February 1994. The purpose of this fund were 1) inherit to support poor children that have no chance and live in far community 2) Education Extend 3) Health development 4) Improve quality of live more than 100,000 families. On 27 August 2003 foundation administration committee have developed administration system and wrote regulation that the members have participate in fun management . The new purpose are 1) Support short time 1 year loan for career development from production plan 2) Medium 2 years loan for long term plan. Property of loaning member were 1) Ever been CCF. Family or CCF. Committee or CCF. Children. 2) Age between 20-60 years old. 3) Live in

service office area 4) The member of save up group that have fund more than 50,000 baht, the fund committee and save up group, have fund's money administration plan and benefit using system, have committee's consideration of loaning by collecting process. Benefit from back payment income 12% in year 2006 are 20,111,418 baht use for child development projects 4% provinces committee administration 2% villages committee administration 2% CCF. fund 3% and reserve for bad debt 1%.

Key performance indicator to evaluate CCF. Office cover the efficiency and effectiveness by study efficiency of funding management, efficiency of internal process, progress of fun development, career development, child development and satisfaction of children fund office K. Sirichai (2004) said that efficiency is a capability of worth while saving and reducing expenses and effectiveness is to reach the purpose of CCF. Fund and satisfy by loaning member. The Objectives of this research were to examine efficiency in funding management Development Strategies Program. Career potential Child development potential by funding and examine satisfaction of the Fund operation

CONCEPTUAL FRAMEWORK



Picture 1 Theoretical Framework toward Efficiency of funding management

RESEARCH METHODS

1. Primary documentary research. The following documents were examined: C.C.F. regulations, village and provincial targets, indicators to be followed up and evaluated.
2. Purposive sampling was used to select 21 provinces and service villages which are 1) two of short-distance villages 2) two of long-distance villages 3) two of villages which return money on schedule and 4) two of villages which do not return money on schedule. For the Fund committees and loaning members, only the committees and members who appeared at the place and time of the appointment were selected. All the subjects were selected by the Fund office. 158 questionnaires out of 200

were returned by the Fund committees and 3,027 questionnaires out of 4,200 were returned by the members.

3. Two sets of questionnaires were used: 1) questionnaires asking the Fund committees about the Fund operation, internal process and progress of Fund development. 2) Questionnaires asking members about efficiency of Fund management, career potential, child development potential and satisfaction of the Fund operation.
4. For data collection, five research assistants in each province prepared by studying the questionnaires in advance. Then the assistant teams led by the researcher collected data by interviewing, observing and conducting focus groups.
5. Data analysis was done by using computer software program. The statistics used were percentage, mean, and standard deviation. Content analysis was used for data from the interviews and focus groups.

RESULTS

Efficiency of funding management

Financial indicators in management at the most level is that benefit of the Fund was utilized according to the regulations 92.4 % which is in line with fact that children get benefits from the Fund as in child development activities, 4 % based on a local forum, followed by accountable accounting system (74.7 %). Indicators at moderate level are business planning, punctuality of loan payment to the Fund, punctuality of payment to the office at 60.8 %, 58.9 % and 50.6 % respectively. Insufficiency of the Fund income is at 68.4 % which is in line with the interview of the Fund committee that only 2% was spent for management. The number of over 30 day overdue accounts is 3.2% and less then 30 day overdue accounts is 1.3 %. This is also in line with the interview of the Fund committees that only a few loaning accounts are less than 30 days overdue.

Table 1. Efficiency of funding management N = 158

Enough income form fund	**Number**	**%**
Not enough	108	68.4
Enough	29	18.4
Remain for other activity	21	13.2
Benefit using – Back payment	**Number**	**%**
Cannot	5	3.2
No welfare	7	4.4
According to regulation	146	92.4

Accountable Accounting system	Number	%
No	2	1.3
Yes (No system)	38	24.1
Correct system	118	74.7
Business planning	**Number**	**%**
No	9	5.7
Some	56	35.4
All plan	93	58.9
Punctuality of loan payment	**Number**	**%**
No	1	0.6
On time-not all	96	60.8
Altogether on time	61	38.6
Punctuality of payment to the office	**Number**	**%**
No	0	0
Yes (not all)	78	49.4
Yes (altogether)	80	52.6
Ratio of overdue accounts	**Number**	**%**
More than 7%	27	17.1
1 – 7%	36	22.8
Less than 1%	95	60.1

Efficiency of internal process

Indicators of internal process which is the most effective are loaning consideration of the committee (89.9 %), followed by loaning consideration of service villages (85.4 %) correctness and completeness of loan payment evidence (80.4%), performance of committee's responsibilities (75.3 %), correctness of accounting (70.3 %), collecting process (67.7 %), the ratio of female committee to male committees (60.8 %), and document filing system (58.9 %). Indicators at low level are money deposit within 30 days (46.2 %) and the following up of committees of service villages (44.3 %) It is in line with the members' satisfaction of the Fund management.

Table 2 Efficiency of internal process

N= 158

Performance of committee's responsibilities	Number	%
Not perform	5	3.2
Some perform	34	21.5
Perform	119	75.3
Ratio of female and male Committee 1: 3	**Number**	**%**
No	15	9.5
Yes	96	60.8
More Than 1:3	45	29.7

Loaning consideration of service villages Collecting Process	Number	%
No public meeting	12	7.6
Public meeting no consideration	11	7.0
Public meeting	135	85.4
Loaning consideration by province Committee	**Number**	**%**
No committee	2	1.3
Committee	14	8.9
Committee by step	142	89.9
Document system	**Number**	**%**
Not all document	5	3.2
All document not complete	60	38.0
Correct/Complete/all document	93	58.9
Collecting process	**Number**	**%**
No	30	19.0
Yes	21	13.3
Yes (loan payment in meeting)	107	67.7
Committee was done according to the regulations	**Number**	**%**
No	3	1.9
Yes (not all)	61	38.6
Yes (all)	94	59.5

Table 2 (Next)

N= 158

Performance of committee's responsibilities	Number	%
Loan payment Evidence	**Number**	**%**
No	31	19.6
Yes	0	0
Corrected document percept	127	80.4
Correctness accounting	**Number**	**%**
No	1	0.6
Yes	46	29.1
Correct & complete	111	70.3
Money deposit	**Number**	**%**
More than 7 days	28	17.7
In 4 - 7 days	57	36.1
In 3 days	73	46.2
Follow up of committees of service villages	**Number**	**%**
Not mere than 1/3	55	34.8
More than 1/2	33	20.9
More than 2/3	20	44.3

Introducing e of province committees	Number	%
Yes 2/3	24	15.2
Not more than 2/3	54	34.2
Every villages	80	50.6

Progress of Fund development

The development which is at the most level is passive participation of children, 79.7 %, inter-service villages networks, 74.7 % and Children welfare establishment, 72.2 %. The result is in line with the members' satisfaction of education funding for children. The indicators at the moderate level are social control devices, 57.0 %, money saving, 56.3 %, recognizing loaning process, 54.4 % and establishing of saving groups, 53.8 %. As for working partnership, the result is at low level of 48.1 %.

Table 3 Progress of fund development

N= 158

working partnership	Number	%
No	55	34.8
1 - 2 partners	76	48.1
More than 3 partners	27	17.1
Linkage between villages Network	**Number**	**%**
No	12	7.6
Some villages	28	17.7
All villages	118	74.7

Table 3 (Next)

N= 158

working partnership	Number	%
Money management and Career development learning from Loaning system	**Number**	**%**
No	3	4.4
Some	86	54.4
All	65	41.1
Social control devices	**Number**	**%**
No	20	12.7
Yes (no punishment)	90	57.0
Yes (with punishment)	48	30.4
Continuous saving	**Number**	**%**
No	20	12.7
Yes (not continuous)	49	31.0
Yes (continuous)	89	56.3
Saving groups	**Number**	**%**
No	10	6.3
Yes (not all village)	63	39.9
Yes (continuous)	85	53.8

Well fare for children	Number	%
No	1	0.6
Yes (fun or community)	43	27.2
Yes (fun and community)	114	72.2
Activity Participate by children	**Number**	**%**
No	6	3.8
Yes (command)	126	79.7
Yes (press for)	26	16.5

Career development

The development indicators at moderate level include career support, 68.2 %, sufficient family income, 54.3 % and better family living, 69.1 %. Punctuality of the last loan payment is at the most level which is 92.3 % followed by monthly payment 90.9 %. Reduction of temptations, reduction of debt and saving are at the low level of 50.5 %, 47.6 % and 47.3 %. Decreasing of hometown-leaving for work remains stable at 3.8 %. This is in line with satisfaction of the Fund and suggestions from open-ended questions that The C.C.F. Fund provides opportunities to loan for career, side-jobs and family expenses and career development presented in appendix A.

Table 4 Career development

N= 3,027

Support career development	Number	%
No	139	4.6
Yes	2,888	95.4
More income	181	6.3
Miss	2,707	93.7

Table 4 (Next)

N= 3,027

Support career development	Number	%
No	139	4.6
Yes	2,888	95.4
More income	181	6.3
Miss	2,707	93.7
More Income	**Number**	**%**
Not enough	1,040	34.4
Enough	1,643	54.2
Can Save	344	11.4
Monthly back-payment	**Number**	**%**
Non back payment	30	1.0
On time Some month	244	8.1
On time every month	2,753	90.9

Back payment less they 1 month	79	2.6
Back payment not more than 1 month	155	5.1
Back payment on-time	2,793	92.3
Family can Save or more wealthy	**Number**	**%**
No	568	18.8
Little	1,432	47.3
More	123	4.1
Miss	904	29.9
Decrease family debt	**Number**	**%**
No	612	20.2
Little decrease	1,442	47.6
Much decrease	210	6.9
Miss	763	25.3
Better living of family	**Number**	**%**
In the same	231	7.6
Little Better	2,092	69.1
Much better	704	23.3
Reduction of home town leaving for work	**Number**	**%**
In the same	1,085	35.8
Decrease	951	31.5
Not leaving	991	32.7
Reduction of vice	**Number**	**%**
Not decrease	212	7.0
Little decrease	1,287	42.5
Quit	1,528	50.5

Child development

Children are developed in intellectuality at 68.4 %, mentality, 65.9 %, and 64.2 % for physical development. As for education, development of learning equipment, uniform and stipend is 68.6 %, 59.9 %, and 54.4 % respectively. This is in line with child development activities presented in appendix A.

Table 5 Child development

N=3,02

Child development		Yes		No	
		Number	**Percent**	**Number**	**Percent**
1	Physical development	1,942	64.2	1,085	35.8
2	Intellectual development	2,068	68.4	958	31.6
3	Mentality development	1,996	65.9	1,031	34.1
4	Social development	1,613	53.3	1,414	46.7
5	Others	186	6.1	2,841	93.9
Education Development		**Yes**		**No**	
		Number	**Percent**	**Number**	**Percent**
1	Learning equipment	2,077	68.6	950	31.4
2	Uniform	1,813	59.9	1,214	40.1
3	More education opportunity	1,619	53.5	1,408	46.5
4	Stipend	1,648	54.4	1,379	45.6
5	Other	76	2.5	2,951	97.5

Satisfaction of Children Fund Office

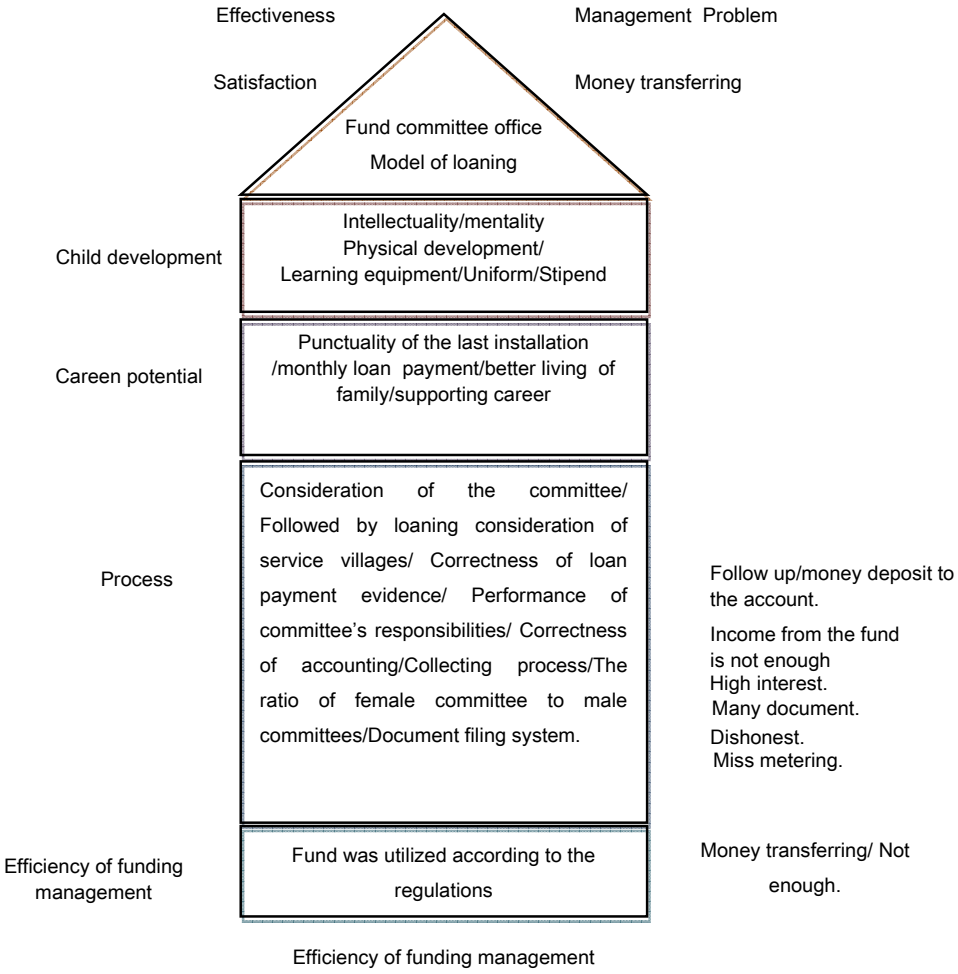
The result shows that the most satisfied is satisfaction of the C.C.F. Fund as a whole ($\bar{X}$ = 2.54) followed by satisfaction of committee's Fund management ($\bar{X}$ = 2.51) The satisfaction at the lowest level is the immediacy of money transfer ($\bar{X}$ = 2.05) The result is in line with the first five suggestions of members: 1) the amount of approved loan should be higher, 2) the terms of loan payment should be 1-3 year extended, 3) loan approval should be considered faster enough for the cultivating season, 4) The interest rate should be decreased and 5) document procedure should be less.

Table 6 Satisfaction of the C.C.F. Fund

Satisfaction of the C.C.F. Fund	$\bar{X}$	SD.	Level
1. Loaning model	2.35	0.608	medium
2. Amount of loan money	2.20	0.659	medium
3. Back payment time	2.27	0.713	medium
4. Fund management Committee	2.51	0.575	much
5. Loan money approve	2.18	0.699	medium
6. The immediacy of money transferring	2.05	0.748	medium
7. The C.C.F head office service	2.25	0.677	medium
8. The C.C.F. Fund	2.54	0.565	much

The result of qualitative data in the same of quantitative data were : The members have satisfy with CCF. office that has circulation money in family for career and education development The process that have to improve are: Increase amount of money, Decrease interest, Extend back payment time, Immediately approve and transfer money, Improve document system, Set the meeting and collecting process**.**

Picture 3



DISCUSSION

Based on the research result, some suggestions are proposed:

1. Raising consciousness of good governance in Fund management of committees at both village and province operation levels.
2. Encouraging committees and members' participation in setting rules, regulations and measurement for loaning process and payment.
3. Developing the process of loaning approval and prompt money transfer to loaners by the cultivating season. Each service village with punctuality of loan payment should be individually considered for loan approval. Approving process should be carefully done in accordance with banking system in the city and the rural area.
4. Increasing budget to facilitate the Fund management. Planning with committees can help recognizing the needs and contexts of service area.

5. Reducing document procedures and clarifying the committees and members' understanding about the correctness and completeness of loaning evidence. Co-operation officers should promptly handle local problems- lost documents, cheating, recruitment or replacement of committees.
6. Applying public relations strategies. The Fund office, provincial committees and service villages should pass on regulations and announcement clearly and accurately. Training and direct mail should be also done to disseminate messages.

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THE STUDENTS LIFE STYLE OF HIGHER EDUCATION: THE IMPLICATION FOR MANAGINGS STUDENTS ACTIVITIES AND SERVICE

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ABSTRACT

A lifestyle is a characteristic bundle of behaviors that makes sense to both others and oneself in a given time and place, including social relations, consumption, entertainment, and dress. For University, the study of lifestyle student is important for both developing student activity in campus and developing university service for the student. The objective of the research is explore the description of student lifestyle. This research was undertaken using convenience sampling, and the data collection was conducted by direct survey. The survey was conducted in STIE Perbanas Surabaya, on Management and Accounting education with 298 respondents. Statistical method used in this research are exploratory factor analysis and cluster analysis. The finding of this research shows that there are five underline factors of student lifestyle in STIE Perbanas Surabaya. The factors consist of optimistic, sport-lover, brand minded, family orientation, and pleasure activities. The other finding is there are four lifestyle groups of the students. The groups are family-dependent, enjoyment, sport lover, and optimistic group. Managerial implications, particularly for managing student activity and service, are also discussed in this paper.

Keywords : *Service Quality, Student Lifestyle, Managing Higher Education, University.*

INTRODUCTION

Attending university has been viewed as moratorium for young people to develop identification with social institutions such as work, marriage and parenthood (Sivan 2003). It implies that participation in various activities such as student union, sports teams, arts groups in university serve as a context for developing connections with people, selecting life partners and occupations. Through that activities, the students experiment with a lot of people, activities, and culture. In that process, the student can develop and concentrated on the study and be prepared for their careers.

Understanding of student lifestyle is needed for university to design and develop a student activities, services, and academic programs. Student activities can be conducted by extracurricular activities or student unions. Student services, such as administration services, canteen, sport facilities, are important for student to support their study. Academic programs in every department are the most important activities for the student, in order to develop their capabilities. Lifestyle will influence to the student attitudes and behaviors. Connecting the lifestyle and the three aspects above will increase university efficiency, for not only internal efficiency but also external efficiency.

Based on a review of previous relevant studies, it is expected that student lifestyle characteristic are useful explanatory variables to design student activities and services in university. Therefore, the following research questions were proposed.

1. What are factors underlying student lifestyles?
2. What are groups made up from the lifestyle factors?
3. What are characteristics of difference student groups in university?

THEORETICAL BACKGROUND

Lifestyle is one issue getting attention from marketing scholar and practitioner, particularly for service marketing such as banking, education, entertainment, and others. Research conducting for exploring the lifestyle has be done in many area. In education, the research exploring student life style in University can be found from same paper. Sivan (2003) examined the role of leisure in life on Hong Kong student. The samples of research were from tree categories of higher education institution, such as original university, ex-polytechnic, and ex-liberal art collage, in which the data collecting was from diaries and interviews, and analysis technique was using qualitative analysis. This research finding suggested a dynamic model of interaction between leisure and learning, in which the interactions was found to be significant to the development of the student as it helped them to made balance between their academic and social involvement. The experience of young people at Hong Kong University embraces different aspects, which are found among workers in relation to the work and leisure. Where as participation in leisure and social activities on campus was perceived as providing important contexts for attachment and for selecting life partners and future occupations.

Du and Kamakura (2006) has conducted lifestyle research on relationship of household life cycle and lifestyle in United States. Household life cycle has been widely used as a determinant of consumer behavior and bases for market segmentation. The authors identify empirically the household typical stage. The finding shows there are 13 life stage in US, from single/married no children to widowed empty nest. Its life stage was giving the authors to study the impact of the household life cycle on lifestyles through expenditure patterns. Todd and Lawson (2001) has proposed the use of lifestyle segmentation in attempt to understand how museum and art gallery visits fit in with the other aspects of the visitors life. By using conventional AIO-type questions, the researcher asked to New Zealand people. There are seven lifestyle cluster profile from the customer, include active 'family valued' people, conservatives quite lifers, educated liberals, accepting mid-lifers, success-driven extroverts, pragmatic strugglers and social strivers. The other finding is a significant relationship evident between lifestyle grouping and frequency of visits to museums and art gallery. As each of this lifestyle segment also demonstrates significantly different media characteristics. Advertising industry used lifestyle research for determining how advertise to customer. Yang (2004) identify potential lifestyle segment among internet user and examined the relationships between lifestyle segments and their attitudes towards internet advertising. Using sample of 700 internet users, the researcher identify three segment, including experience, traditionalists, and self-indulgent. The others finding of the research is the lifestyle clusters were found partly to predict internet a users' attitudes towards internet advertising. From the finding, its recommending to marketers to treat internet users as a heterogeneous group.

RESEARCH METHODOLOGY

Research Design

The research design defines as the blueprint for the collection, measurement, and analysis of data. Based on the perspective, this research is survey on perspective of how data collected, cross sectional research on perspective of time dimension, formal study on perspective of the degree to which the research question has been crystallized. Research instrumentations were developed on three stage, including literature study, examination, and implementation.

Population, Sample and Data

Population is the total collection of elements about which we wish to make same inferences (Cooper and Schundler, 2001). Sample is group of cases, respondents, comprising of part of target population, carefully selected to represent that population. There are several reasons for sampling in this research, including lower cost, greater accuracy of results, and time efficiency on data collection. Sampling technique on this study was using conventional sampling, non probabilistic sampling in which member of sample was chosen due to easy to reach (Crask et.al 1995) or easy to get (Craig and Douglas 2000). Population of this research was new students of STIE Perbanas Surabaya. Sample size of the research was amounted 298 respondents (40% of new students). Among them, 67.1 % of respondents were female, and while 32.9% respondents were male. Those were as the first son or daughter on the family accounted for 44 % of the sample, 34 % of them were the second. In term of where they came from, 51 % of participants were from Surabaya, 15 % from Sidoarjo, 8.3% percent from Gresik, and 25.7 % from the others. Those who have interested to bankers as the future occupation were amounted for 83 %, and while entrepreneurs were 6 %. This is reflection of new student of The University. The study was using primary data, in which data collected by researcher directly from research object or respondents. The method of data collection was using of questionnaire. Its representing lists of questions about one matter of research indicator. Every respondents were asked to answer the questions, based on their perception, through choosing one of the answer given in questionnaire.

Table 1.
Scale, Mean and Standard deviation

Scale	Mean	Std. Deviation
My hobbies made me involve with many people	3,7	0,9
I get money from my hobbies	3,3	1,1
I have special time to do my hobbies	3,6	0,9
I involved on social activities for helping others	3,8	0,8
I prefer get holiday with my family than friends	3,1	1,0
The place far from city is good place for holiday	4,0	1,1
For me, holiday is time for rest	3,4	1,1
I prefer go out of home for releasing a stress	4,0	0,9
The place for pleasure was chosen by friend usually	3,1	0,9
I prefer to be at home than go outside.	3,1	1,1

I went to café with friends	1,4	0,8
I prefer went to movie by myself	2,4	1,0
I prefer to be a members of group of older	3,1	1,0
Brand is more important for me, when buy the shoe	2,7	1,0
If I like to something, I m not care to how much the price	2,7	1,1
I have done sport exercise to get achievement	3,3	0,9
Sport news is interesting for me	3,4	1,0
In facing a problem, I want to get family help	3,9	0,9
I care to cleanness	4,2	0,7
For me, no for say " I can't "	4,0	0,8
I concern to my appearance	4,0	0,7
In party, easy for me to get new friends	3,7	0,8
I can be a friend for everyone	4,3	0,7
Parent opinions of boyfriend or girlfriend are not always the true	3,6	1,0
Now day, teens spent time more to pleasure	3,1	1,4

Instrument development

Lifestyle is life pattern of person representing on activities, interest and opinion (Kotler 2008). Scales measuring of lifestyle were adapted from Susianto (2002), consist of two major section incorporating lifestyle statement and respondent profile. The scales had 40 items measured on five-point Likert-type scale ranging from strong disagree (1) to strongly agree (5). The questionnaire was pre-tested among respondents in order to examine whether the questions were well understood by respondents in the survey. The sequence of question was determined with lifestyle statement at first, in order to get attention more. All of statement in the questionnaire used Indonesian language. In order to develop research instruments, it was conducted instrument assessment through validity and reliability examination. To estimate reliabilities, it used one estimated method or internal consistency by using alpha cronbach (Aswar 2001, Sutarso 2003). The reasons are including the method were suitability to cross-sectional data, applicable for multi scales (Breakwell et.al 1995; Cooper dan Schlinder 2001), and the coefficient is the most frequently used in marketing research (Cortina 1993; Paterson 1994). Alpha cronbach value for research in marketing and psychology study was in between of 0.75- 0.8. The research showed that alpha cronbach was on 0.6681, in which three items were deleted to develop the reliabilities.

Descriptive Analysis.

The first step of data analysis, the researcher conducted descriptive analysis of data on each indicators, to find out the holistic description of how perception of respondents to item. Table 1 shows the description of respondent's assessment on item, including scale mean and standard deviation.

The table 1 shows that there are scale having higher value, including "I can be a friend for everyone" with 4.4 of mean score and 0.7 of standard deviation, and " I care cleanness" with 4.3 of mean score and 0.7 standard deviation. This is show respondents

give more attention to that matter. In other hand, there is one scale having lowest value, which is "I went to café with friends" with 1.4 of mean score and 0.8 of standard deviation.

Table 2
Results of the Factor Analysis of Lifestyle variables

Factors	Items	Loading Factor
Optimistic	In party, easy for me to get new friends	0,68
	I can be a friend for everyone	0,61
	For me, no for say "I can't"	0,55
	I involved on social activities for helping others	0,54
	I care to cleanness	0,53
	I concern to my appearance	0,47
	My hobbies made me involve with many people	0,43
Sport Lover	Sport news is interesting for me	0,59
	I have done sport exercise to get achievement	0,57
	I have special time to do my hobbies	0,56
	I got money from my hobbies	0,54
	I prefer to be a members of group of older	0,49
Brand minded	Brand is more important for me, when buy the shoe	0,57
	If I like to something, I m not care to how much the price	0,56
	I prefer went to movie by myself	0,50
	I went to café with friends	0,44
Family Orientation	I prefer get holiday with my family than friends	0,62
	I prefer to be at home than go outside.	0,61
	For me, holiday is time for rest	0,49
	In facing a problem, I want to get family help	0,45
	The place far from city is good place for holiday	0,45
Pleasure Activities.	I prefer go out of home for releasing a stress	0,62
	Now day, teens spent time more to pleasure	0,47
	The place for pleasure was chosen by friend usually	0,46
	Parent opinions of boyfriend or girlfriend are not always the true	0,43

Factor Analysis
Data analyses were conducted by using of exploratory factor analysis and cluster analysis. Exploratory factor analysis were used to reducing data, so key factors of lifestyle can be found, and also can easier to understand. SPSS 11.5 was used for conducting exploratory factor analysis, by using principle component for extracted method, and varimax for rotation method. The result of the analysis representing lifestyle variables are outlined in Table 2.

In order to examined the potential lifestyle of students an exploratory factor analysis was conducted. First, a correlation matrix was computed and only those variables with high correlations with the others variables were included in the factor. In this step, 15 items were excluded and 25 items were entered into factor analysis. Eigenvalues and meaningfulness were uses as selection criteria for deciding how many factors were to be retained for later analysis. There were five factor resulted from the factor analysis, including optimistic, sport lover, brand minded, family orientation, and pleasure activities. *Optimistic* factor represented the student who easy to get friends, can be a friend for everyone, care to cleanness, appearance, social activities, and involve with many people. *Sport lover* factor consisted interesting to sports news, doing sport exercise to get achievement, had special time to do the hobbies, and prefer to be a member of older group. *Brand minded* factor was including those who brand is more important, no problem of however the price, went to movie by their self, and went to café with friends. *Family orientation* was the characteristics of lifestyle representing the person who prefer to family, to be at home, rest when holiday, want to get family help when facing problem, and prefer the place far from city as holiday place. And the last factor called *pleasure activities* was character of those who prefer go out of home for releasing a stress, having opinion that teens spends time more to pleasure, friends were dominant for choosing the pleasure place and parents opinion were interpreted as no strict.

Cluster Analysis.

After factor analysis was conducted on lifestyle variable, it was resulted factor scores. This scores were used as input data in cluster analysis. There were input data matrix consisted 298 x 5, in which 298 were representing the sum of respondents and five were the sum of variables to be analyzed. Distant measurement used in the analysis was squared Euclidian distance. The clusters resulted were representing group having a close of Euclidian distance. Closer the distance means higher the similarity of variables. A cluster analysis procedure was conducted based on five lifestyle factors. Two clustering methods were employed in order to develop reliability and validity. Hierarchies' procedure at first steps was conducted to find the appropriate sum of cluster. The method used was ward's method. In term of the sum cluster used in further analysis, researcher conducted based on degree of cluster spread. The second steps of cluster analysis were non-hierarchies procedure used to shape the result of cluster. In order to make interpretation the cluster resulted from analysis, it was determined the final mean cluster. Table 3 and Figure 1 outlined description of clusters consisting a final cluster center, sum of cluster and five factors of student lifestyle.

Table 3
Final Cluster Centers

	Cluster			
	1	2	3	4
Optimistic	,18778	-,65348	-,25482	,88547
Sport lover	,11779	-,34351	1,20818	-,75344
Brand orientation	,34457	,16370	-,48135	-,31930
Family orientation	,82335	,04799	-,60488	-,75405
Pleasure activities	-,58331	,77647	-,04797	-,20650

Figure 1
Characteristics of Clusters

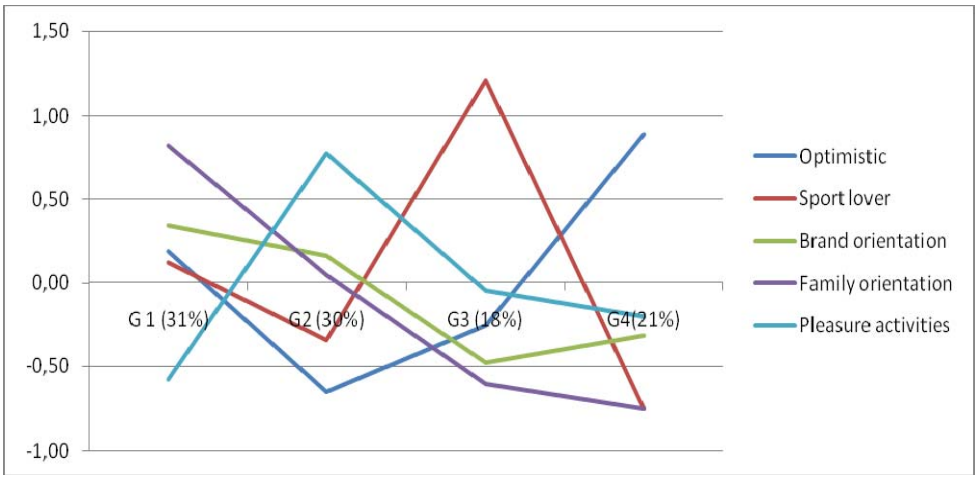

Table 1 shows four groups found from cluster analysis. The first group, have highest cluster center on family orientation (0.82335) but lowest on pleasure activities -0.58331, so that called as *family-dependent group*. The second group is having highest cluster center on pleasure activities, lowest on optimistic attitude (-0.65348), so that it's called *enjoyment group*. The third group, called *sport-lover group*, have highest cluster center on sport-lover (1.20818), but lower on family-orientation (0.60488). The last group is having highest cluster center on optimistic attitude (0.88547), but they has lowest on sport-lover (-0.75344) and family orientation (-0.75404), so that its called as *optimistic group*. The first two groups have highest on brand orientation and average on sport-lover. Family-dependent group is the biggest group, representing 31 % of the sample, followed by enjoyment group (30%), optimistic group (21 %) and sport-lover group (18%).

Profiles of the lifestyle groups can be seen from same aspects. From gender point of views, the male students are grouped most on enjoyment group (32.7 %), and least on family-dependent group (16.3%). The female student are grouped most on family-dependent group (38%) and least on sport-lover (14 %). Based on what occupation want to get after graduation, those who want to be a bankers are more on the family-dependent group (30.4%), and enjoyment group (31.2%). Those who want to be a outside bankers are most on optimistic group (33.3), and least on sport lover.

DISCUSSION

From statistic analysis, there consists of four student group who having difference characteristics. Family-dependent groups, the biggest group of the sample, are those who depend on their family on any aspects, and have lowest of pleasure activities among groups. They are the highest student in term of brand orientation degree. For them, the price is no problem as long as its good brand. As majority group, they will be dominant groups on university and influence on the student activities. The enjoyment group is the second biggest group in university. They are the most dominant on pleasure activities among groups, the most pessimistic group, and less sport lover. In term of brand orientation, they are quite considering brand when buy something. These groups also

have high orientation to the family. The backgrounds of them are from family who the parent having occupation on private company, civil servants and entrepreneurs. The students from Surabaya are dominant in this group. The sport-lover group, the least group of the sample, consists of the students who love to sport. They do exercise and interest to sport news. In other hand, this group is more independent and less considering the brands when buy product. The group is equal between mala and female student, in term of gender. The last group, called optimistic group, is ideal group from the spirit and independency perspective. They are the most optimistic facing the future and most independent. They are not depending on the family when solving problem. In term of sport, this group is least interest to sport among the sample.

IMPLICATION

There are any managerial implications from the research finding. *Firstly*, university needs to rely on student lifestyle characteristics in order to design student activities and services. As founded in the research, the most students are relying on their family. Although, it can be explained that they are new students, from high schools, and the majority of students are female, but this kind of student input need special treatment, so they will be independent when they finish a study. The programs to develop independency are needed for such students. The experience of university, that facing difficulty to find new alumnae who want to work in marketing job is validating this finding.

Secondly, for enjoyment group, the university needs to develop program that make them creative such as art activities or outbound program. Not only they are less concern to appearance, less having friends, and less interest to sport, but also they are considering brand when buy a product. *Thirdly*, sport- lover group, they have positive aspects such as more independent and least considering brand. The university needs to maintain their characteristic and develop to make them productive. Programs relating to sport are interest activity for them. Although most of them are not want to be entrepreneurs, but their potency can be used as start point of program. *Finally*, for the optimistic group, they need a challenge program to develop their capability and to boost self actualization. The program relating to marketing job is appropriate for their characteristics.

For further researches, the study recommends to relate lifestyle with secondary data, such as learning capabilities, academic achievement, economy and social aspects, and the reasons of choosing of university. Its important in order to exploring holistic aspect of student relating to lifestyle. Also, there need for department to explore student input more deeply, in order to design of how learning design appropriate for them.

CONCLUSION AND LIMITATIONS

In summary, five factors underlying of student lifestyle were identified, including optimistic, sport-lover, brand orientation, family orientation and pleasure activities. This study also found four groups of students based on the factors consist of family-dependent, enjoyment, sport-lover and optimistic group. Each of groups has different characteristics, particularly relating to gender, imagination of future occupation, and a district they came from. There are several implications that can be derived from the present finding. University needs to develop program that make students more independent, creative, productive and challenging. Suitability of academic and extracurricular program will be enhancing graduate quality and employability.

Finally, several limitation of the study should to be taken into consideration in evaluating the result obtained. A convenience sample of students was used in the study will effect on the degree of generalizability of the finding. Furthermore, research instrument of lifestyle used in the research is not special for students. It means the instrument was limited in order to exploring lifestyle aspect of students. It's needed to conducting exploratory research to find out student lifestyle statement.

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DETERMINING THE RELATIVE EFFICIENCY OF ACADEMIC DEPARTMENTS USING DATA ENVELOPMENT ANALYSIS

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ABSTRACT

Efficiency is one of the many performance measures that could be used to quantify the performance of an organization. It reflects how well a set of resources (inputs) is translated into a single product (output) or multi products through a production process. Such measures are necessary for higher education institutions for the following reasons: to ensure accountability for the public funding received, to ensure 'value for money' services, and to be used as a basis for fund allocation purposes. Data Envelopment Analysis (DEA), a non-parametric method, use linear programming to measure the relative efficiencies of organizational units, technically known as decision making units (DMUs). Being a nonparametric technique, DEA does not require a structural form for the production frontier function and able to handle multiple outputs quite easily. However, DEA is not free from weaknesses. Due to its nature, DEA model is found to be sensitive to a few factors including outliers. Technique such as Super Efficiency DEA is used as a sensitivity test to examine the robustness of efficiency results to the aforementioned factor. This paper presents the results of applying DEA to measure the relative efficiency of university departments at a public university based on four different sets of output measures and two fixed input measures. The use of different sets of output measures is to reflect the performance of academic departments in terms of four dimensions, namely, the enrollment efficiency, the graduate efficiency, the research efficiency and the total efficiency. The results show that efficiency scores vary based on the type of output. Among the four models, the total model produces the highest average efficiency. Meanwhile, among the other three individual models, the average efficiency in enrolment is found to be the highest in comparison to the average graduate efficiency and average research efficiency. The robustness of each DEA results is also tested using Super Efficiency DEA model.

Keywords*: efficiency, data envelopment analysis, Super Efficiency DEA*

INTRODUCTION

Higher education institutions (HEIs) play a very important role in a country's development. These institutions stimulate the country's economic growth by generating spill-over effects from teaching and academic research (Audretsch et. al., 2003 quoted by Warning, 2004). In higher education, students are equipped with various skills and knowledge, through teaching, to prepare them in becoming intellectual human capital. Meanwhile, research activities conducted in higher education generate new knowledge for technological advancement, which has been recognized as an essential requirement for a country's long term growth and competitiveness (Abbot and Doucouliagos, 2001).

Scenario in Malaysian Higher Education

Due to the key role of the HEIs in the country's development, Malaysian government has prioritized the development of HEIs in its policy. Efforts taken by the government include the expansion of higher education whereby the number of universities has increased from 25 universities in 2000 to 36 universities in 2007. This led to the rise in the number of student enrollment from 576,439 in 2002 to 748,797 in 2007. In terms of graduate production, 196,585 graduates were produced in 2002 but the number reduces to 169,879 in 2007 (http://www.mohe.edu.my/statistics/public_universities.htm, 2007). Meanwhile, the Malaysian government has allocated RM833 million under the 8th Malaysian Plan for the Research and Development (R&D) investment, paid to HEIs for research ventures under a special program called the Intensified Research Priority Areas (IRPA). In all, a total of RM18.4 billion has been allocated to the Higher Education Ministry under the Ninth Malaysia Plan compared to RM13.2 billion under the previous development plan. The increase in allocation reflects the government's commitment for the higher education sector, which is crucial in developing the well being of the country (Bernama.com, March 06, 2008).

Problem Statement

In making higher education institutions more accountable in receiving public money, the performance of these institutions need to be assessed (Johnes, 1996). One way of ensuring that the money spent is worthwhile in this sector, is to calculate and to publish the performance measures of HEIs. To date, partial measures of performance or performance indicators are generally used to make inference about organization efficiency in Malaysian HEIs. These performance indicators cover both inputs and outputs of higher education and may include information such as staff/student ratio, student satisfaction and graduate employment rate. A range of these performance indicators is designed for use both within the individual institution and for making comparisons between institutions. However, performance indicators are somewhat insufficient, vague and sometimes are in conflict with one another in reflecting the HEI's performance (Johnes, 1996). Such measures are useful, easily interpretable but suffer two shortcomings: (1) they do not provide a comprehensive view of the organization efficiency and (2) different indicators produce conflicting messages. Financial ratios are also used to indicate the performance of higher education but these indicators are of limited value because HEIs are non profit organizations (Carrington et al, 2005). There is a need for greater clarity in terms of ways to measure the performance of higher education.

A single measure that summarizes all the performance indicators is recommended to be more useful. Efficiency is one of the measures that could be used to represent the performance of an organization. Specifically, efficiency measures simply reflect how well a set of resources are being translated into a single product or multi products through a production process. Quantification of efficiency measure is specifically useful in three ways (Kalirajan et.al., 1999). First, it can benchmark the performance of each organization in comparison to other organizations. Second, if there is any indication of inefficiency among the organizations, further analysis can be undertaken to identify the cause factors. Third, the measures of efficiencies will be useful to the decision makers to benchmark the performance of educational institutions and to design/develop policies and programs for operation improvement.

Many methods are available to measure efficiency in HEIs. The efficiency measurement methods range from the parametric types to the linear programming methods (Worthington, 2001). Charnes et al. (1978) offers a non parametric frontier approach in efficiency measurement, namely Data Envelopment Analysis (DEA). In contrast to the individualistic and the problematic performance indicators, DEA generates an aggregate measure of university performance, in the form of efficiency scores. Several studies (Beasley, 1990, 1995; Sarafoglou and Haynes, 1996; Colbert et al., 2000; Moreno and Tadepalli, 2002 and Kao and Hung, 2006) have used DEA to measure efficiency at the level of university department. Due to its nature, a DEA model is found to be sensitive to a few factors including outliers. Some studies use sensitivity analysis such as the Super efficiency DEA model (Banker and Chang, 2006) to test the robustness of DEA results. In this study, Super Efficiency DEA are used to examine the robustness of efficiency results to the aforementioned factors

Objectives of Research

The main objective of this research is to assess the efficiency of academic departments at a public university in Malaysia using DEA models. Specific objectives include:

1. To fit and compare DEA models based on different output specifications
2. To apply Super Efficiency DEA as part of the sensitivity analysis on the robustness of the DEA models

This research results are valuable to the university in terms of providing a monitoring mechanism for performance efficiency, setting performance target and resource allocation. The remainder of the paper is organized as follows: Section 2 discusses the methodology and presents the data, Section 3 discusses the results and finally, Section 4 summarizes the findings and presents the conclusions.

METHODOLOGY

Data Envelopment Analysis

The DEA methodology was initiated by Charnes et al. (1978) who built on the frontier concept pioneered by Farell (1957). A DEA model basically identifies, among all DMUs the ones that determine an envelopment surface or efficient frontier. DEA models are also grouped into two, depending on the type of proportional movement towards the efficient frontier: input oriented models and output oriented models. The input-oriented model is to minimize inputs with given outputs, whereas the output-oriented model is to maximize outputs with given inputs.

Mathematical Development of the DEA

In a process with a single input and a single output, the efficiency of a DMU is usually measured as the ratio between the input and the output as follows:

$$\text{Efficiency} = \frac{output}{input} \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Generally, an education production process involves several inputs and outputs. Suppose a set of *n* DMUs where each DMU_j (j = 1, ….., n) uses *m* inputs $X_{ij} = (X_{1j}, X_{2j}, \ldots, X_{mj})$ and produces *s* outputs $Y_{ij} = (Y_{1j}, Y_{2j}, \ldots\ldots, Y_{sj})$, the efficiency for any DMU can be defined as follows:

$$\text{Efficiency} = h_k = \frac{total\ weighted\ outputs}{total\ weighted\ inputs} = \frac{\sum_{r=1}^{s} u_r y_{rk}}{\sum_{i=1}^{m} v_i x_{ik}} \qquad \ldots\ldots\ldots\ldots\ldots\ldots (2)$$

The problem with the above definition is in the choice of weights. The DEA solves this problem by introducing a particular weighting system for every DMU. Charnes *et al*. (1978) proposed that the maximum efficiency value for a DMU_k can be calculated by solving the following linear program based on the input -oriented CCR:

$$h_k = \underset{u_r, v_i}{Max} \frac{\sum_{r=1}^{s} u_r y_{rk}}{\sum_{i=1}^{m} v_i x_{ik}}$$

subject to

$$\frac{\sum_{r=1}^{s} u_r y_{rj}}{\sum_{i=1}^{m} v_i x_{ij}} \leq 0 \qquad \text{for } j = 1,2,3,\ldots,k,..,n.$$

$$u_r \geq 0 \qquad \text{for } r = 1,\ldots\ldots..,s,$$

$$v_i \geq 0 \qquad \text{for } i = 1,\ldots\ldots..,m \ \ldots\ldots\ldots (3)$$

DATA

The data used in this study covers 17 university departments from a public university in Malaysia for the period of 2005. These 17 university departments are considered as the decision making units (DMUs) of this study as they have identical input and output structures. Table 1 summarizes the list of the inputs and the outputs used in this study. The output variables are the number of full-time equivalent (FTE) student enrollment, the number of full-time equivalent (FTE) graduates and the amount of research grants. Meanwhile the input variables are the amount of emolument and the total amount of other expenditure. These input and output variables represent the production process of a university. These data is provided by the university's strategic planning department.

RESULTS

Descriptive Statistics

Table 1 summarizes the descriptive statistics of the output and input variables used in this analysis. The table shows that the first output i.e. the number of full-time equivalent (FTE) student enrollment ranges from 671 students to 4332 students, with a mean of 2034.840 and a standard deviation of 1129.846. A median value of 1633.130 indicates that fifty percent of the 17 departments have at least 1633 students enrolled in any semester. The second output i.e. the number of FTE graduates varies between 179 to 2100 with an average of 807.103, a median of 719.750 and a standard deviation of 491.079. As for the third output i.e. the amount of research grant, the values range between RM1000 to approximately RM0.483 million. However, its median value of RM0.065 million is much smaller than the mean value of RM0.152 million which indicates most of the 17 departments have received small amount of research grants. The standard deviation of RM0.150 million indicates that there is a large data variation. Meanwhile, the first input used in this study i.e. the amount of the emolument paid to the staff, varies between RM2.334 million and RM19.469 million with a mean of RM8224 million. The median is RM6.186 million with a standard deviation of RM6.186 million. As for the second input, the total of other expenditure has an average value of RM2.114 million with median equals RM1.952 million. It varies between RM0.851 million to RM4.936 million with a standard deviation of RM1.034 million.

Table 1. Descriptive summaries of inputs and outputs, 2005

Variables	Mean	Median	Min	Max	Std. Dev
1. No. of FTE student enrollment (y_1)	2034.840	1633.130	671	4332	1129.846
2. No. of FTE graduates (y_2)	807.103	719.750	179	2100	491.079
3. Amount of research grants (y_3)	0.152	0.065	0.001	0.483	0.150
4. Total Emolument (x_1)	8.224	6.186	2.334	19.469	5.511
5. Total Other Expenditure (x_2)	2.114	1.952	0.815	4.936	1.034

Selecting variables for the DEA models

In principle, all inputs and outputs relevant to the function of the units should be included (Thanassoulis et al., 1987). Two guiding principles are used in selecting the appropriate outputs and inputs for each DEA model. The first criterion is that the number of inputs plus the number of outputs must be at least equal the number of DMUs divided by 3 (Leitner et al., 2005). In this study, there is 17 DMUs. Therefore if the number of inputs is fixed to be two, then the most number of outputs that could be included in the DEA model is three. In the second criterion, the inputs must be positively correlated with the outputs (i.e. mono-tonicity) and no high correlation must exist between the inputs for each model (i.e. multi-collinearity). High correlation occurs when correlation coefficient is greater than 0.80. Table 2 shows that all the specified inputs are positively correlated

with the output variables but not highly correlated with one another. These findings allow the use of the inputs and the outputs in all DEA models as all of them satisfy the monotonicity assumption and have no multi-co linearity problem.

Table 2. Correlation between inputs and outputs for four DEA models

	Y_1	Y_2	Y_3	X_1	X_2
Y_1	1				
Y_2	0.691	1			
Y_3	0.608	0.574	1		
X_1	0.870	0.738	0.638	1	
X_2	0.529	0.245	0.444	0.627	1

Model specification

The input oriented of CRS models are fitted to the above data. An input orientation is chosen because a university has a greater control over input quantities relative to output quantities. Four DEA models are developed with fixed inputs, namely the total emolument and the total other expenditure and variation of outputs. Each of the three DEA models has one different output (DEA1, DEA2 and DEA3) while the fourth model (DEA4) uses all the outputs that have been included in the first three DEA model. The first model, DEA1 examines the enrolment efficiency by comparing the output against the total emolument and the total of other expenditure. DEA2 measures the graduate efficiency by comparing the number of FTE graduates with the number of FTE graduates and the total of other expenditure. The third model, DEA3, is to examine the research efficiency by comparing the amount of research grants with two inputs, the total of other expenditure and the amount of research grants. The last model, DEA4, is to measure the overall efficiency of the university departments by comparing the combination of three outputs to the two fixed inputs.

Efficiency scores from the four DEA models

Table 3 shows the descriptive summaries of the efficiency scores obtained from the four DEA models under the assumption of CRS. Between the four models, model DEA4 (which use three outputs) has the highest mean efficiency score compared to the other three DEA models with only one output. This is expected as an increase in the number of input and output variables used, results in the increase in the efficiency scores. Sexton (1986; quoted in Colbert et al. (2000)) explained that "the DMUs tend to place higher weights on the outputs that they produce most". Due to this, the departments which are more efficient on the number of the student enrollment will place higher weights on that output while the departments that are more efficient in producing other outputs will place higher weights on those outputs. As a result, more departments will be relatively efficient when more outputs are included in the same model. As shown in Table 3, for the other three individual efficiency models, the average efficiency for the enrolment model is the highest, followed by the average efficiency from the graduate model. The least average

efficiency among the individual efficiency model is from the research efficiency. These results are consistent with the findings from Ahn and Seiford (1993) where their DEA models produced higher efficiency scores when enrollment related outputs were used compared to using other outputs. They explained that the inputs used in their model (i.e., the amount of expenditure) reflect the amount of funding provided by the government. As the government funding formula directly incorporate the enrolment related output rather than the degree related or the research related outputs, the universities (i.e., the DMUs used in their study) tend to direct more resources to enrolment related output. These explained why the universities are more efficient in terms of the number of enrollment compared to graduate production and research accomplishment.

Table 3. Summary of the efficiency scores for the DEA models

Statistics	DEA1	DEA2	DEA3	DEA4
Mean	0.717	0.576	0.492	0.851
Median	0.722	0.576	0.373	0.875
Min	0.437	0.229	0.065	0.509
Max	1.000	1.000	1.000	1.000
Std. dev	0.173	0.231	0.345	0.152
No. of efficient departments	2	2	3	6

Sensitivity Analysis: Outliers Detection

Sensitivity analysis is used to ascertain the robustness of DEA model (Charnes, et al., 1986). Using sensitivity analysis, some idea of the robustness of the DEA results with respect to certain methodological problems will be indicated. Outliers can have a profound impact on DEA results. An extended technique to DEA model, namely, Super efficiency DEA is used to detect outliers in the model where any DMU with an efficiency score of more than two is considered as outlier (Andersen and Petersen, 1993). All efficiency scores are below 2, indicating that there are no outliers detected in all models. Overall, based on this test, all DEA models are robust to outliers.

CONCLUSION

DEA, a non parametric method based on linear programming is used to measure the relative efficiency of 17 university departments. Inputs and outputs are identified in the formation of DEA models by the use of correlation analysis. Four DEA models are developed based on different combinations of output variables. Each of these models measure four different dimensions of efficiency performance, namely, the enrolment efficiency, the research efficiency, the graduate efficiency and the overall efficiency. Sensitivity analysis involving outliers was conducted to test the robustness of the DEA results. Lastly, all the four types of efficiency models were compared. The results reveal that among the four efficiency models, the total model produces the highest average efficiency. Among the other three individual models, the average efficiency in enrolment

is the highest in comparison to the average graduate efficiency and average research efficiency. This indicates that the academic departments perform better in terms of enrolment compared with producing graduates and research accomplishment. These findings may be useful to the university management in setting the university's policy and for determining the formula for funding allocations. Exclusive use of the enrolment related variables in the university funding formula may have negative impacts on the performance of the university departments.

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DEVELOPMENT OF QUALITY ASSURANCE IN PRIVATE HIGHER LEARNING EDUCATION IN INDONESIA

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ABSTRACT

Based on government regulations about quality assurance system, every Higher Learning Education institution (HLEI) must have quality assurance division. Even though this regulation established 2003, but the progress of development was under the expectation. The diversity HLEI ability's, especially private university made them have different capability for building Quality Assurance (QA) division. The objectives of the research are to explore the existence of QA division in private higher learning education in Indonesia, especially in East Java, the constraints caused the low progress of the development, and the implementation of QA. Research involves 96 HLEIs as sample. Research result revealed that the progress of QA implementation run slowly, Only 51% of the private HLEs have QA division. The main problem cased them unable to develop this division is human resource constraints and financing limitation. Generally, they have highly motivated to develop QA division because of internal driven, they believe that it make them can gain competitive advantage. To strengthen QA implementation many HLEIs design quality manual, procedure and work instruction based on QA best practice from the government. Based on the result, the Private HLE Coordinator will push and facilitate them to develop and customize their program based on their achievement in QA development.

Keywords*: QA, internal driven, implementation*

INTRODUCTION

In Higher Education long term strategy, Indonesia government establish that there are three pillars as the foundation of education transformation. These pillars are increasing educational relevancy and competitiveness, strengthening educational accessibility, improving good governance and public image of education management. Recently, how to enhance educational relevancy become crucial issue among others.

One of the program to enhance the relevance is developing quality system assurance in educational processes. Since 2003, Based on UU (regulation) No. 20, and Government Regulation No. 19, Indonesia Government establish Educational national standard. In that regulation every higher learning institution must have quality assurance system and give authority for developing. These autonomy and flexibility to develop it become opportdivisiony for every HLEIs to develop this system according their stakeholder needs.

Like in other country, responding to concerning the accountability to the public and stakeholder expectation, some of HLEIs in Indonesia emphasizes interface effectiveness in terms of education quality and stakeholder's satisfaction, competitiveness, with most efforts objectives for ensuring quality, accountability to the internal and external stake holder (Goertz and Duffy, 2001, and Cheng, 2003). Government, especially Higher Learning Education Directorate general set many program for stimulating HLEI to

develop QA system. Government executed many program like doing socialization, providing QA best practices book as guideline for developing QA system, doing many kinds training program related it (internal academic quality audit training), and providing assistance program for gaining world class university (Dharoko, 2007).

Like in other country, responding to concerning the accountability to the public and stakeholder expectation, some of HLEI in Indonesia emphasizes interface effectiveness in terms of education quality and stakeholder's satisfaction, competitiveness, with most efforts objectives for ensuring quality, accountability to the internal and external stake holder (Guertz and Duffy, 2001, Cheng, 2003). Government, especially Higher Learning Education Directorate general set many program for stimulating HLEI to develop QA system. Government executed many program like doing socialization, providing QA best practices book as guideline for developing QA system, doing many kinds training program related it (internal academic quality audit training), and providing assistance program for gaining world class university (Dharoko (2007).

Although many program have been done, but only a few HLEI developed QA system and established special division for handling QA in educational processes. Private Coordinator Region VII East Java which subordinate 299 private HLEI (2008) concern to facilitate them to develop QA system. After have been done many socialization programs and training activities related, it's necessary to evaluate the effectiveness of its program and many problem related with its goal. This research aimed is to explore and evaluate further about the development of QA system in private HLEI, the barrier and constraints for adopting QA system, to know further about factors that can stimulate HLEIs to establish QA division in their organizations, and evaluate the availability standard and the implementation of them for managing education system based on the benchmark.

THEORETICAL REVIEW

Quality and Quality Assurance (QA) in HLE Indonesia

The needs of quality and quality assurance (QA) in education become important in 1990 when many journals of research publish it. Beside it, stakeholder (students, parents, users, government, and other parties) demanded HLEIs provide the best service to them. HLEIs should satisfy external and internal customer. Quality starts by establishing stakeholders' needs (Frreman, 1994). Internal customers such as staff insides asked management to fulfill what they want as employees and got services like their expectation. External customers, such as students as primary, parents and society as secondary, and governments and users as the tertiary expected HLE produce graduates with high quality and superior value service in resarch and commdivisiony services.

Based on the stipulation by Directorate General of Higher Education of Indonesia (2003:9-10), educational institution is considered having quality when they are able: 1) to formulate and realize their vision through their missions (deductive aspect), 2) to meet the stakeholders' needs (inductive aspect), in the form of societal needs, industrial needs, and professional needs. Consequently, quality assurance for educational institution is a must.

In education context, concept about quality also still debatable. But, generally there are seven models of quality education (Cheng and Tam, 1997). Three of them which popular in HLE in Indonesia are:

1) Goal and Specification Model
This model often used in the assessment of education quality of individual institutions. It assumes that internal activities in education like leadership, communication, participation, coordination, adaptability planning, decision making and also teaching methods are often used as indicator of HLE quality.
2) The Satisfaction Model
This model viewed that the satisfaction of strategic stakeholder an educational institution is very important to its survival (Cheng, 1990), The quality of HLE education should be determined by the extent which the performance of an educational can satisfy their powerful stakeholder. Stakeholder in HLE are teachers, management board, students, parents, alumni and staff. Quality in this context is not objective, because depending on stakeholder expectation.
3) Organizational learning model
This model assumed that education quality is not static, but a dynamic process. So, continuous improvement is very important to provide service quality from time to time. Indicator of HLE quality, namely: awareness of commdivisiony, internal process, development planning etc.

From different in perspective, Maxwell (Storr and Hurst, 2001), explained that that quality can be seen from 6 dimension, that is: effectiveness, acceptance, efficiency, and ability can be accessed. In many countries the indicator of quality usually measured by from relevancy and equity.

In Indonesia that interface concept about quality is growing, QA system begins developing in HLE institution, especially in private HLE institution. HLE institutions are recognized as HLE with high quality if they implemented QA in management processes. Government expect that value of quality become part of culture and QA as part of the system management. The government also established regulation that every educational institutions have QA division for assuring the quality.

Benefit of QA System

The objective of quality assurance system is to maintain and to improve continuously HLE institution. Beside it, QA can keep and facilitate to upgrade higher education based on continuous improvement. In that process QA is internally driven by universities, so they can utilize them to realize their vision and mission, and also fulfill requirement of stakeholders expectation by conducting larning teaching process, research and commdivisiony services.
By establishing QA division and developing QA system, private HLE institution will get many benefits, namely: a) to facility in monitoring and controlling quality, b) to do improvement, c) to give guarantee to stakeholders, and fulfill the standard, d) to achieve competitive advantage in national and international competition, e) to make the student transfer more simple and easier, to get graduates recognition, to ensure that every process will run well.

The Dimensions Quality

According the guideline of QA for HLE institution, here are 13 main dimensions of quality:
a. Curriculum of study program
b. Human resource (lecturers and supporting staff)
c. Student and their activity
d. Learning-teaching processes

e. Infrastructure and facilities
f. Academic atmosphere
g. Financing
h. Researches and publications
i. Commdivisiony services
j. University good governance
k. Management of organization
l. Information system
m. Foreign and domestic cooperation

In implementation commitment, open minds for changing , mental attitude for concerning with quality and organization support are very important for guarantee the progress (Welsh and Dey, 2002).

RESEARCH METHODOLOGY

Research Design

This research design is a descriptive research in nature because the objective is to describe a certain phenomenon (i.e. perception of top management of private HLE institution) (malhotra, 2006). Besides that, when viewed from the natures of method of collecting data this research is survey research and ex post facto (Cooper and Schindler, 2003). It is a survey for the main data gathered by means of questionnaires. Thus, the top management of private HLE institutions are given questionnaires for expressing their evaluation and perception. It is in fact an ex post facto, in the sense that the objective of this research is to describe the phenomena in management with cross sectional way in nature.

Variables and instruments

This research focused on variables :

a. QA division
b. The barrier factors that obstacle for developing QA system
c. Standard and implementation of standard in QA system

For measuring the implementation of QA system and perception the top management of private HLE institutions in developing QA, researcher use questionnaire instrument with scale (Likert with 5 alternatives answers) and essay (open) questions.

To examine the validity and reliability instruments, the content validity is used (Malhotra, 2006). In this respect, face validity testing also examined in previous process design of instrument. The validity of the instrument for all item more that 0,65. Some experts who concern with quality give their opinion about the scale and questionare in questionnaire. For examining the consistency of the item of instrument, test-retest approach is used. It's conducted for ensure that instruments has high internal consistency, so that they are able to provide relatively consistent results. Reliability testing was conducted a weak after the first testing was done. The result of testing on 30 subjects shows the correlation of 0.813.

Population and Samples

The population in this research is private HLE institution and as respondent are the top management of private HLE institution. Actually 250 questionnaires distributes to 250 top management of private HLE institution, but unfortunately only 116 questioner returned. 20 of them can not be processed because uncompleted answer. So, only 96 questionnaire can be analyzed.

ANALYSIS

For analyzing, descriptive statistic is used for describe result, beside qualitative analysis.

RESULTS AND DISCUSSIONS

Description of private HLE Institution

There are many kinds of HLE institution that have been researched. 24% of HLEIs are classified in polytechnic and Non Degree form, 43.8% are school, 26% are Universities, 24% Academics and only 3.2% of HLE institutions categorized in Institute. 3,1 % of them are not stated their kind. Based from size of the students, the size can be variation. Most of HLE institution (58%) have students under 1000 and 20.8% of them have 1000 to 3000 students. Only 5 private HLE institutions have 3000 to 5000 student, and only 6 % of them have students above 5000, others HLE institutions can't be identified.

Quality Assurance Division in Private HLEI

Although quality assurance system division in HLEI is a must according to government rule, but only e few of them have QA system. The result found that there are 51% of private HLEI didn't have QA division. It showed that above half from private HLEIS in didn't have QA division. The same result are also founded in QA rector discussion forum. Most of the Discussion participants don't know about the guidance from government about best practice of QA in HLE. This book actually have been socialized by Private HLE Coordinator and Directorate general Higher Learning Education by Internet. It means that private HLEI leaders don't have the understanding enough and the importance of QA division and QA system.

There are 44 private HLEI (46%) have an official organization that handle QA system. 46% among them have implemented many standard and processes. Based from the discussion process there is variation gap about standard, and the procedure. The independence and authority of private HLE also are variation among them. In general, top management give much authority to QA division. Around 3.1% of private HLEI didn't fill in the questioner.

Why the didn't develop QA Division?

There are many possible reason why private HLEIs don't establish QA division. The main reason is because they don't have human resource. 44.90% of them told that because of unavailability sufficient resources and the second reason are the incapability of human resources. The other factors are they don't have sufficient money. 16.33% indicate of private HLE institution declared because of that reason. By developing and establishing QA division forced them to add more spend for hiring the personnel. Based on this reason, private HLEI's leaders discourage to develop QA division. They assumed that QA function can be handled by the head of academic affair and it embedded with other job related.

Even thouh many private HLEI got many constraint in developing process, but the growing of QA division growth a year to year.

Supporting factors that stimulate HLE develop QA division

The strong desire to build QA division is because the leader of private HLE institution that wants to fulfill their external and internal. They believe that by establishing QA division, they can increase their quality continuously. It is very good condition, actually because there are strong internal that driven quality to be the

important. In this situation strong commitment from private HLEI leader will arise. Other reason is because of their willingness to get self recognition.

The implementation of Quality standard

There are 12 quality standards in implementation that have been studied in this research:
1) curriculum of study program, 2) human resources, 3) students and their activity, 4) learning teaching, 5) infrastructure and facility, 6) academic atmosphere, 7) financing 8) researches and publications, 9) community services, 10) good governance, 11) management of institution, 12) information system, and 13) domestic and global cooperation.

In that case, result found that top management evaluated that performance of QA system in practice is variation, from enough , good, and very good. This result is subjective because it based on HLEI leader perception about the practical standard. This result is presented in Table 1.

Table 1 Implementation of Quality Standard

NO.	**The items of Q A standar**	Availability of standard	Implementation		
		Available	Not available	Mean	Performance
1.	Curriculum of Study Program	82	18	3,7590	Good
2	Human Resources (Lecturer and supporting staff)	83	17	3,5060	Good
3	Student and their activity	81	19	3,4940	Very good
4	Learning teaching process	83	17	3,7262	Good
5	Infrastructure and facility	76	25	3,4756	Good
6	Academic atmosphere	75	25	3,5443	Good
7	Financing	73	27	3.3415	Enough
8	Researches and publications	59	41	2,7632	Enough
9	Commdivisiony services	68	32	3,1728	Enough
10	Good governance	69	31	3,2667	Enough
11	Management of institution	77	23	3,6125	Good
12	Information system	70	30	3,4342	Good
13	Domestic and global cooperation	47	53	2,7121	Enough

There are five standards that evaluated in category enough good in implementation, namely: financing standard, researches and publications standard, commdivisiony services, good governance and domestic and global cooperation. Objective evaluation actually is necessary to be done, at least compared with normative benchmark.

The implementation of student and their activity standard is evaluated in very good category. They evaluated that their university have strategic planning for character building their student and involve their students to participate in many activities that permit them to get soft skill. In recruitment process they also set standard for recruitment, even though in implementation they adjust the standard requirement of the new student according with market condition.

The implementation and standard about curriculum area, human resources, learning teaching process, infrastructure and facility , academic atmosphere, organization management and information are in good condition. Why? Because some of the universities which have QA division usually are healthy and wealthy university.

This research also revealed that the main reason why they didn't established QA division are because of insufficient of funding. They propose the government give competition grants for developing QA system. The other reason is because they think that the function of QA can be embedded with the other function related. It's give more benefits for them because they can reduce cost. Private HLE institution which have QA division also give suggestion for HLE Directorate to adapt their strategy for developing QA fit the condition of institution. The diversity of performance of HLE is not permit government to treat them with the same way. So, it's better if private HLEI Coordinator makes map HLE clustering in developing QA system and design systematically QA development planning in the long run. Even though QA system is the autonomy and internally driven, but good intervention is still needed to push them in order better and better from time to time.

SUMMARY AND RECOMMENDATION

Summary

a. From 96 private HLE institutions, 44 of them (45,8%) don't have QA division, and 49 of them (51%) have QA division. Only 3 of them didn't answer the existence of QA division.
b. There is a good progress in developing of QA system in private HLE institution in private HLE region VI. It's indicated by increasing of private HLE institutions that have QA division.
c. The main reasons that cause make private HLE institutions don't have QA divisions are incapability of human resources for handling it insufficient of financing.
d. Factors that motivate private HLEI institutions to build QA division are because they believe by this division they can enhance their quality continuously.
e. Standard that evaluated good is student and their activity standard, curriculum of study program, human resources, learning teaching process, infrastructure and facilities, academic atmosphere, management of organization, and information system.

RECOMMENDATIONS

Based on the research process and result, it's recommended for Private HLE Coordinator and Government, especially HLE directorate general to:

a. Design systematically QA development stage guidance and socialize this program for all private HLE by using many tools and media communication.
b. Be the facilitator during developing process.
c. Provide many training and it's customized with HLE institution conditions to support private HLE in developing process.
d. Facilitate in Socialization system, especially in Practical Book in PM HLEI to HLEIS Kopertis Region VII.
a. Facilitate the private HLE management to do sharing of information and make commdivisiony to force among them selves for developing QA division and QA system.

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GRADUATE DESTINATION SURVEY IN AN AUSTRALIAN UNIVERSITY OF TECHNOLOGY

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ABSTRACT

The graduate destination survey has gained prominence within the Australian higher education system of late due to the very useful key outcomes indicators provided by the survey and the increasing use of some of these performance measures in institutional and supra-institutional decision-making. Regarding the latter, it is noted that the Federal Australian Government allocates around AUD$109 million per annum to universities under its Learning and Teaching Performance Funds on inter alia the basis of a couple of the key performance indicators derived from the Graduate Destination Survey, namely, graduate progression to full-time employment and graduate progression to full-time studies. This survey, however, provides data on other important outcomes such as the graduate salaries and various demographic variables that can be subject to institutional research. Accordingly, the present study considers the graduate survey results for an Australian University of Technology from the perspective of the three major post-graduation outcomes (employment, full-time studies and graduate salaries) and various demographic and related variables. The study, inter alia suggests that the University does add economic value to the graduates with Masters Coursework program completers in full-time employment earning fifty percent more in terms of salary than Bachelor graduates and doctorates earning around 11% more than those completing Masters Coursework programs. The planning and policy implications of the findings of the institutional research are also examined.

INTRODUCTION

The Australian graduate destinations survey is administered on an annual basis by Australian universities to their graduates. The survey captures information on the employment and further study outcomes of recent graduates. The survey is administered under the auspices of the Federal Government and with the agreement of the Australian Vice-Chancellors' Committee and is regarded by some observers as an innovative national approach to the evaluation of higher education in the country (Harris and James, Undated). These authors also observe that the outcomes of the graduate survey do have implications for resource allocation within the Australian higher education sector, in particular, during 2005 data inter alia from the Graduate Destinations Survey were used for the first time as performance indicators for a strategic national learning and teaching performance fund administered by the then federal Department of Education, Science and Training.

An important dimension of higher education institutional research is the conduct of student surveys to support University planning, quality and indeed important decisions made within the institution. Due to its relative ease, many institutional surveys focus on students currently enrolled in the University. Since such students are currently enrolled, the institution has easy access to them and is aware of their up-to-date contact details,

including residential addresses, email and telephone numbers. Although these "captive audience" surveys are important in developing policies and plans, one needs to extend the boundaries to capture student viewpoints at other points in the student life cycle.

It is contended that institutions need to devote more time and resources to study student outcomes beyond the course completion stage. There are a number of reasons for institutional researchers to pay greater attention to graduate and post-program completion studies. These include increasing focus on outcomes of higher education than simply input and process measures; increased accountability to stakeholders in terms of producing graduates; and more importantly shift in funding models from focusing on crude measures such as student load to emerging emphasis on performance based funding of higher education. Regarding the latter, the Australian Government allocates over $100 million on the basis of outcomes performance measures for its learning and teaching performance funding of universities, including those related to positive outcome for graduates.

The present study, accordingly, focuses on a survey of University graduates within an Australian technological university, four months after the program completion to explore the following broad issues:

- Factors that influence the graduate salary outcomes, particularly in relation to demographic variables such as gender, program level, country of permanent residence, attendance mode and socio-economic status.
- As per above but in relation to a couple of positive graduate outcomes, including graduate employment and progression to further studies.
- Potential links between graduate salary and positive graduate outcomes on the one hand and student performance in their final year of studies in terms of Graduate Point Average (GPA) are also explored in the study.

LITERATURE REVIEW

Australia is by no means the only country interested in the destination of its recent graduates. Weir (1999) observes that a similar survey has been implemented in the New Zealand University and Polytechnic sectors over a number of years. The main purpose of this survey is to identify the graduates who have gained employment, in which industrial sector and their remuneration level. This author suggests that the Government as the major provider of funding to higher education is looking for outputs that are measurable and where graduates have succeeded in finding a position after completing their program, thus creating a perception that the funding dollar was well spent from the public purse.

Institutional research based on student and graduate surveys are seen as playing a crucial role in terms of quality assurance and improvement activities within higher education. Coates (2006) suggests that such surveys have been regarded as being valid, reliable and efficient means of furnishing information about many key areas of institutional and educational leadership, management and practice. Further it is observed by this author that feedback from such stakeholders can be used, among other things, to monitor pedagogical quality, and place the university study in broader careers and employment context. The case study institution, being a technological university, particularly needs to emphasise the latter aspects due to its greater vocational orientation. The present study, by focusing on graduate employment and related issues is expected to contribute to a better understanding of this particular dimension of institutional research.

One of the issues that are addressed in this study is whether socio-economic status makes any difference to graduate salaries and employability. The authors are not aware of any similar study within the Australasian region, covering this particular aspect, however, a case study in Eastern Europe was undertaken by a couple of institutional researchers (Blasko & Robert, undated). They found that the greatest wage-premium for high status families accrued to men around 4-5 years following graduation. Further they found that such patterns of status inheritance were gender-dependent, with women being more influenced by their social background at earlier phases of their careers. Given that the Australian graduate survey is undertaken three months after course completion, if the European finding holds for the study region, then the research hypothesis would be that women from high socio-economic status will achieve a greater mean salary than women from the low or middle socio-economic groups. This hypothesis will be examined in the current study.

The ABC News (2007) reported that the starting salaries of Australian university graduates had increased by the smallest amount for several years, based on the 2006 Australian Graduate Survey. In particular, it noted that these graduates were earning around 2 per cent more than the previous year's graduates, whilst usually there is an increase of about 4 per cent. They suggest that this may be due to the supply and demand balance of graduates, with greater output of graduates and less competition between employers for graduates in general.

Relative decline in graduate salary is no doubt an important issue, but graduate unemployment is undoubtedly of greater concern to both the students completing their program and the higher education institutions. Gamage (2007) indicates that graduate unemployment is a continuing problem within Sri Lanka, leading to protest by recent graduates on the streets of the capital, Colombo. It is noted that this is particularly pronounced within humanities and social sciences courses than programs in engineering, medicine and science subjects within that country. Clearly it is important for higher education institutions to monitor graduate employability and, where challenges exist, to develop strategies that will assist future graduates to traverse the difficulties.

Rahmani (2008) provides an international dimension to graduate surveys by comparing Australian and international students' employment and related outcomes. For instance, he found that a greater percentage of Australian graduates (57%) were in full-time employment than international students (41%). However, a greater proportion of international students (18%) were in further studies than was the case with Australian students (10%). Further, this study reported that 12 months after course completion, only 5% of international and 1% of Australian respondents reported being unemployed and actively seeking a job. The present study will also examine this international aspect of graduate employability.

METHODOLOGY

GDS is conducted annually at the end of April. Questionnaires are sent by post to all graduate, who are also offered the option to respond on-line through internet. Follow-up surveys are sent to non-respondents' term and home address with domestic graduates who have not responded being follow up by telephone. Although this is a costly process both the coordinating authority (GCA) and the Australian Government require a minimum response rate of 50%. In order to achieve this relatively high return rate, multiple survey approaches need to be adopted at the institutional level.

The sample for Graduate Destination Survey is all higher education undergraduate & postgraduate students who completed their program in the previous year, but with a reference date of April 30th (approximately four months after their completion of their qualifications). The graduates drawn from domestics and international onshore locations (excludes international offshore graduates) are considered in the study since it is the GCA policy (GCA, 2008) to exclude the offshore students. In recent times, the university has surveyed up to almost 7,000 graduates each year.

Response rate from international graduates is significantly lower than that for domestic graduates. Approximately more than half (around 61.9%) of all graduates responded to GDS within the case study university. This rate is slightly higher than the average across Australia (56.8%).

Survey data has been collected annually and specifically mined for the paper. In addition to collecting basic demographic and program information from each graduate, the GDS also collects the information in sections headed as follows:

- What you were doing on 30 April
- Main paid work
- Further study

Socio-Economic status (SES) from Australian Bureau Statistics consists of a list of post-code indexes ranking the SES (High or Low) according to geographic areas across Australia based on information collected in census such as low income and low education as markers of socio economic standing of the population.

Grade Point Average (GPA) is a numerical calculation based on mean GPA taken from student management systems with following formula:

$$GPA = \frac{\text{The sum of grades}}{\text{Number of courses}}$$

The formula provides an overall view of student performance and leading indicator of student achievement as required by teaching and learning institutions. These two data elements (Socio-Economic Status & GPA) were then mapped again with AGS data to study the pattern and relationship with other variables such as graduand salary using specialised statistical software.

Dependent variables have been defined as graduate performance measured by further studies, employability, salary earned after graduation and academic GPA; whereas independent variables were categorized into demographics factors such as age, gender, and socio economic status.

FINDINGS OF THE STUDY

Graduate Salary

The average graduate from the University was earning around AUD$27,900 four months after completing their program in 2007. However, clearly those working full-time ($42,500) earned a greater salary than those working part-time ($16,500). Level of academic program appears to be an important determinant of average full-time graduate salary with the bachelor's degree ($36380) earning less than graduate diploma students ($47540, $t=5.3$, $p<0.001$), masters by coursework ($54800, $t=11.9$, $p<0.001$), masters by

research ($59040, t=4.0, p<0.001) and doctorate by research ($60980, t=8.6, p<0.001). Clearly the credentials are adding economic value to the students completing programs with the greatest salary differential being between bachelors and graduate diplomas (+31%) and tapering off at higher levels; between graduate diploma and masters by coursework the average salary increase is 15%, 8% between masters by coursework and research and only 3% difference between masters by research and doctorate by research.

The average graduate salaries were also segmented by socio-economic status (SES) of the student. It was found that the students drawn from the high socio-economic status in full-time employment ($47728) earn around 9% higher salary than those drawn from the low SES group ($43639, t=1.89) and the difference in mean salary between the two groups was almost statistically significant at the 95% level. The medium SES ($45322) sustained an average full-time salary in between the low and high SES groups with the High SES having a 5% edge on the medium group but the difference was not statistically significant (t=1.41, p>0.05). A similar finding emerges when one considers salaries at the program level, although none of the differences in mean salaries were found to be statistically significant. For instance, a Bachelor's degree graduate from the high SES ($40304) earned a 3% higher mean full-time employment salary than those drawn from the low SES ($38948, t=0.73, p>0.05)with the medium SES falling somewhere in between ($39325). Thus there is some evidence to indicate that the well-heeled in terms of social standing, as graduates, are attracting higher salary outcomes than students emanating from the lower socio-economic groups.

Gender appears to be yet another important variable in terms of full-time average graduate salaries with male students ($46667) earning nearly 20% more than their female counterparts ($39013, t=5.6, p<0.001) with the difference in mean values being highly statistically significant. When cross-tabulated by socio-economic status, the comparison of mean salary by gender yields some interesting results. In particular, female graduates from the high SES working full-time ($43944) achieve 20% greater salary than those drawn from the low SES ($36743, t=2.69, p<0.01) with the mean salary difference being highly significant. This finding appears to be consistent with the previously mentioned European study (Blasko, Z. & Robert.P, undated). Although male graduates drawn from the high SES ($52452) draw 4% higher full-time salary than their low SES counterparts from the same gender ($50669, t=0.52, p>0.05) the mean difference was not statistically significant.

Graduate Employability

The Australian Government regards the proportion of graduates in full-time employment as a positive outcome of higher education in the country. Indeed it is a great waste to produce graduates for the unemployment queues. Accordingly, the factors that affect graduate employability were considered by cross-tabulating the graduate paid work status against a number of key variables captured by the Australian Graduate Survey. Statistically significant results are noted below.

Cross-tabulation of employment status against the level of academic program yielded a statistically significant result (Chi-square=4130, p<0.001). The highest full-time graduate employment rates are noted for Doctorate level course completers (63.1%), followed by Masters by Coursework (60.6%), Graduate Diplomates (58.3%) and undergraduate students (55.6%). Again it appears that the academic qualifications are indeed adding value to the graduates given the fact that the higher the qualification the greater the full-time employability of graduates.

University attendance mode is also a significant factor in terms of full-time graduate employability (Chi-square=4081, p<0.001). External studies or distance education students (68.8%) scored the greatest percentage of course completers in full-time work, followed by mixed mode students (those taking subjects via both internal and distance education modes-65.1%) and internal or on-campus students (54.8%). This is not particularly surprising since many of the external or distance education students tend to study part-time and prior to their graduation may already be either in full-time or part-time employment.

Gender also makes a significant difference to graduate employment patterns (Chi-square=4086, p<0.001). In particular, a greater percentage of male students (58.5%) are in full-time employment than female students (55.1%). Conversely, a greater percentage of female students (23.8%) are in part-time work in comparison to their male counterparts after graduation (16.6%). It may be that female graduates have greater burdens of child-rearing responsibilities and hence tend to select the part-time employment option as a matter of necessity.

Student disability is another determinant of graduate employability (Chi-square=4053, p<0.001). In particular, students who suffer disability (52.9%) are less likely to be in full-time employment than their able-bodied counterparts (56.7%). Conversely, graduate unemployment is more marked in disable students (25.5%) in comparison to their colleagues (17%).

Both the country of birth (Ch-square=4236, p<0.001) of graduates and their citizenship (Chi-square=4353, p<0.001) appear to impact on graduate employment prospects. In particular, graduates born in Australia (62.4%) were more likely to find full-time employment than those born overseas (47.8%). Similarly, Australian citizens (61.2%) sustained a greater probability to be in full-time paid work than their international counterparts (34.3%).

Further Graduate Studies

Graduates proceeding to further studies are also regarded by the Australian Government to achieve a positive outcome status in terms of performance measures. Accordingly, it is another variable considered in this study.

Graduate employability tends to vary significantly according to whether they proceed to further studies (Chi-square=5268, p<0.001). More specifically, graduates who do not proceed to further studies tend to achieve greater full-time employment rates (68.3%), than those either in part-time studies (61.4%) or indeed students proceeding to further full-time studies (8.7%). Conversely, graduates proceeding to further full-time studies are more likely to be in part-time employment (29.3%) than those selecting part-time studies (20.1%) or their counterparts who are not proceeding to further tertiary studies (17.6%). Clearly it is an issue of availability for employment and time-constraints on those undertaking further studies.

The program level makes a significant difference to whether the graduate will proceed to further full-time studies (Chi-square=4278, p<0.001). Of all program levels it was found that the Bachelor Honours level graduates (37.3%) exhibit the greatest propensity to engage in further full-time studies. This is not surprising since in the Australian system it is the honours degree that generally serves as the “passport” to higher education research programs, particularly the Doctor of Philosophy (PhD) qualification. Concerning the latter, it is not surprising that once the student has achieved the pinnacle of academic qualifications, namely, the terminal research degree of PhD,

they are least likely to proceed to further full-time studies; indeed only around 4.8% do so. The other levels of academic qualifications tend to fall somewhere in between in terms of participation in further full-time studies with Bachelor degree graduates leading that charge (21.3%), followed by Master degree by research (18.9%), Master degree by coursework (11.8%) and post-graduate diploma (5.6%).

Student attendance type also is a statistically significant variable in terms of whether the student will pursue post-graduation full-time studies (Chi-square=4188, $p<0.001$). Indeed students who have completed one qualification on the basis of full-time studies (21.5%) are two and half times more likely to proceed to further full-time studies than those who have completed their program on the basis of part-time studies (8.3%). Attendance mode also makes a significant difference to whether graduates proceed to further full-time studies (Chi-square=4089, $p<0.001$). More specifically, students attending on-campus classes (internal studies-18.7%) are nearly five times as likely to proceed to further full-time studies as their distance education colleagues (3.8%). Similarly, those students who completed their qualifications via a mixture on internal and distance education studies (mixed mode-15.7%) are over four times more likely to commence subsequent full-time studies than their distance education counterparts.

Gender also appears to make a difference in respect to whether graduates proceed to further full-time studies (Chi-square=4056, $p<0.001$). In particular, female graduates (16.2%) are less likely to pursue full-time studies in comparison to male students (19.6%).

Whether the student was born in Australia also makes a difference in terms of them pursuing post-graduate studies (Chi-square=4117, $p<0.001$). More specifically, a greater percentage of students born overseas (23.9%) undertake further full-time studies than is the case with Australian born students (14.6%). Even a more pronounced difference was found, in this regard, when one compares the progression to further studies according to whether the student is an Australian Citizen or Permanent Resident on the one hand and whether they are International students on the other (Chi-square=4346, $p<0.001$). Indeed the International students (40.7%) were almost three times more likely to undertake full-time studies following their graduation from the initial qualification than was the situation in respect to Australian students (13.9%).

This finding may be related to the Australian Government Permanent Resident visa requirements of international students whereby certain post-graduate studies will earn greater points towards the achievement of Permanent Resident status by international students.

Student Performance and Graduate Outcomes

As previously stated, the study did collect and compare the Grade Point Average (GPA) for various categories of graduates in order to ascertain whether their performance in the final year of the program varies significantly in terms of the graduate outcomes and the various demographic variables collected as part of the study.

The level of program completed appears to be a significant variable in terms of the GPA metric. Honours students (3.4) sustained a 25% greater mean GPA than those undertaking a pass degree (2.72, $t=8.9$, $p<0.001$). This is not really surprising given that the honours students are carefully selected from the undergraduate pool, based on academic performance in the bachelor programs within the Australian context. Graduate Diploma graduates (Mean GPA=2.88) also outperform bachelor program completers

(2.72, t=4.0, p<0.001) but with a smaller margin of around 6%. Interestingly, the Bachelor graduates (2.72) sustained a 4% edge in terms of mean GPA in comparison to Master by Coursework students (2.61, t=3.31, p<0.001). Finally the Honours students experienced a statistically superior performance in comparison to postgraduate coursework students drawn from both Graduate Diploma and coursework Masters Programs.

Student load and mode of study appear to also be important in determining student performance in the final year of the program. For instance full-time students (2.66) outperform their part-time (2.51) colleagues by 6% and the mean difference in GPA is statistically significant (t=4.78, p<0.001). Similarly, internal students (2.67) outperform their external counterparts (2) and the massive mean GPA difference of 34% was statistically significant (t=6.91, p<0.001). Students who study via a mixture of internal and distance education mode (Mixed mode =2.5) perform somewhere in between the results obtained by internal and external students.

Student funding source also tends to impact on the graduates performance in their final year of studying. In Australia the domestic undergraduate students, in the main, have access to an income contingent loan from the Federal Government (Higher Education Contribution Scheme-HECS); HECS can be deferred or paid upfront. Other Australian or International students would be full fee paying. HECS deferred students (2.75) sustained a superior performance in comparison to both local (2.56, t=5.20, p<0.001) and international fee paying students (2.48, t= 8.35, p<0.001). However, HECS upfront students (2.91) performed better than graduates who had been funded through the HECS deferred scheme (2.75, t=4.40, p<0.001).

Other study findings in relation to the graduates' academic performance in the final year of their program include:

- Female graduates (2.65) performed better than males with a 3% margin that is statistically significant (2.58, t=2.43, p<0.05).
- Australian born students average grade (2.72) was 10% greater than that experienced by overseas born students (2.47, t=8.63, p<0.001).
- Similarly Australian students (2.65) performed better than their international colleagues (2.45, t=5.30, p<0.001).
- Students in part-time employment following their graduation (2.69) had performed better than those securing full-time jobs after completing their program (2.61, t=2.20, p<0.05).
- There was a small but significant negative correlation (r=-0.046, p<0.01) between academic performance in final year of program and graduate salaries.

CONCLUSION

One of the key findings of this study is that academic qualifications appear to add economic value to students with doctorate students earning nearly 68% greater salaries than graduates completing bachelor degrees. As one progresses from bachelor to graduate diploma, masters by coursework, masters by research and doctorate level qualifications, the salary of the course completers increases. However, a large part of this increase (around 46%) occurs between the bachelor and graduate diploma academic levels with the "law of diminishing return" being experienced higher up in the chain; indeed the salary difference between masters by research and doctorate graduates was a mere 3%. Clearly factors apart from qualifications would also impact on the graduate salaries, including, for example,

the years of prior vocational experience. Accordingly it is recommended that further and more in-depth research be undertaken in the future to consider all the key determinants of graduate salaries.

The study also raises an equity issue in relation to graduate salaries. In particular, it suggests that course completers drawn from the lower socio-economic group and women tend to suffer in terms of the commencing graduate salaries. Is it the case that the "rich get richer" and women are exposed to systemic disadvantage in terms of attracting equal employment conditions to men? Clearly more equity related investigation is required to resolve this matter and, if necessary, government action may be required to dismantle any discriminatory practices in this regard within the workplace.

In addition to salaries, the other important "positive" graduate outcome is the capacity of graduates to find a job. Again the level of academic qualifications appears to add economic value to students by increasing their employment rates. This is a potential "selling point" for universities, particularly in their drive to recruit greater numbers of post-graduate students. Graduate employability study also raises certain equity issues. It appears that particular sub-populations including women, disabled students and certain minority groups (those born in overseas countries) may be disadvantaged since they sustain lower graduate employment rates. Further studies are required in these areas and if evidence can be gathered of any actual disadvantage then perhaps further legislative action may need to be taken by the Government to erase any cases of real discrimination in the workplace.

The study also yielded some interesting findings in terms of graduate academic performance in their final year of studies. For instance there is some evidence to indicate that students who hold government funded places (those subject to the Australian HECS scheme) performed better than the local and international fee paying students. Is it a case of the "rich and thick" students or are there some systemic problems that need to be addressed in relation to such students? For instance, it may be that some of the international students suffer significant language difficulties in terms of their study outcomes. Further studies are required to resolve such issues and, subject to the detailed findings, perhaps strategies could be developed to assist the students in the future, for example by enhancing their written and verbal communication skills.

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ASSESSING DIFFICULTIES OF CONDUCTING EDUCATIONAL TECHNOLOGY RESEARCH BY GRADUATE STUDENTS: A POINT OF DEPARTURE FOR BUILDING INSTITUTIONAL INSTRUCTIONAL RESEARCH CAPACITY

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ABSTRACT

Research is an important component of any graduate level education program. At the Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia, all graduate students in the Masters in Instructional Multimedia program are required to undertake a research project in the area of instructional / educational technology and multimedia in order to fulfil their master's degree graduation requirement. Graduate level research education and experience is a springboard for continued interest and positive involvement along their research career path. Realising this, the centre has included a core course in the program entitled QIM 511: Research Methods and Issues in Instructional Multimedia. It is hoped that this course will provide students with motivation, knowledge and skills for conducting good educational technology research. This paper reports the results of an assessment that has been carried out on graduate students' level of difficulty in conducting educational technology research. The result of the assessment is used by the centre to improve its research instruction and hence graduate students' research capacity building.

INTRODUCTION

Acquisition of research knowledge and skills is very important for students of Higher Education. Although students learn and are required to do research-based academic exercises in most undergraduate programs, this is more so at the graduate level programs. In almost all graduate programs, be it research mode, course work mode or in mixed mode, graduate students are required to submit some form of scholarly conducted research work. The Centre for Instructional Technology and Multimedia (CITM) at Universiti Sains Malaysia (USM) in Penang, Malaysia, offers a Master of Instructional Multimedia (MIM) degree for aspiring candidates. The MIM program has two main goals. The first goal is to produce graduates who are well informed and proficient in the field of instructional multimedia and multimedia system; and the second goal is to produce skilled manpower who can maximise the potentials of multimedia technology in the fields of education, training, corporate communication and management of resources (CITM, 2008).

The students in the MIM program are required to take three types of courses, namely Core Courses, Elective Courses, and a Practicum Course. To complete the program, students must accumulate a minimum of 42 credit units that consist of six Core Courses (24 units), a minimum of three Elective Courses (12 units), and a Practicum Course (6 units). For this practicum course of 6 credit units, students are required to plan, propose and conduct an educational technology research work. To help students understand the procedures of doing research and acquire research knowledge and skills, a new core course has been offered to the students recently. The title of this course is QIM 511: Research Methods and Issues in Instructional Multimedia. The purpose of this paper is to report the result of an assessment carried out during the instruction of this course, on graduate students' level of difficulty in conducting educational technology research.

RESEARCH IN EDUCATION AND EDUCATIONAL TECHNOLOGY

Research in the field of education including educational technology is very complex that requires acquisition of wide range of systematic knowledge and skills in order to produce quality research work. The methodological considerations and issues related to data and statistical analysis can be overwhelming for beginning researchers and graduate students. The research methods that can be used in educational research ranges widely. Gay, Mills & Airasian (2006) listed a number of quantitative research methods in education. This includes descriptive research, correlation research, causal-comparative research, experimental research, and single-subject experimental research. Within each types of this quantitative research there are many variations too. Within the qualitative research tradition too, there are many common qualitative research approaches. This include case study, ethnography, ethology, ethnomethodology, grounded theory, phenomenology, symbolic interaction and historical research (Glesne & Peshkin, 1992; Gay, Mills & Airasian, 2006).

Research in the field of educational technology too involves a variety of research methodologies. To study the complexity and multiplicity of research methodologies used in educational technology research, Randolph (2008) conducted a meta-review of 905 educational articles which are from eight reviews over a period of 30 years. The forums that were covered in the previous reviews were *AV Communication Review* (AVCR), *Educational Communication and Technology Journal* (ECTJ), *Journal of Instructional Development* (JID), *Journal of Computer-Based Instruction* (JCBI), *Educational Technology Research and Development* (ETR&D), *American Journal of Distance Education* (AJDE), *Distance Education* (DE), *Journal of Distance Education* (JDE), and the *Proceedings of the International Conference on Advanced Learning Technologies* (ICALT). Based on these reviews, Randolph (2008) provided the composition of Educational Technology Methodology Metacategories as follows:

Table 1: The Composition of Educational Technology Methodology Metacategories.

Qualitative	Quantitative	Mixed methods	Others
Critical theory; Explanatory descriptive; Case study	Experimental; Quasi-Experimental; exploratory; descriptive; correlational; causal-comparative; classification; descriptions; survey research; empirical research; evaluation;	Mixed methods; triangulations; mixed.	Literature reviews; description with no data; theory, position paper; professional.

Source: Randolph (2008).

Realising the complexities of research methods in educational technology many educational technology related departments in Higher Education has offered courses related to research methods. The Centre for Instructional Technology and Multimedia at Universiti Sains Malaysia is in line with this development as well.

QIM 511: Research Methods and Issues in Instructional Multimedia

This course at the Centre for Instructional Technology and Multimedia at Universiti Sains Malaysia aims to provide knowledge, skills, experience and practice in research related to instructional technology specifically in the area of instructional multimedia. This course related to research methodology is very important to be offered according to specific field of study or specialization. Thus, in this course research methods and issues related to the field of instructional multimedia is discussed in detail. By the end of this course, students will be able to evaluate research reports, plan and then present a research proposal in the field of instructional multimedia / instructional technology / educational technology by using the appropriate research method and procedures.

Table 2: Course Outline of QIM 511: Research Methods and Issues in Instructional Multimedia.

WEEK	TOPIC
1	Introduction to course. Research in Instructional Multimedia / Instructional Technology / Educational Technology.
2	Issues of Research in Instructional technology / Instructional Multimedia / Educational Technology. Framework / Parts of Research
3	Writing Research Proposal
4	Writing Research Proposal
5	Issues and Development of Research Using Computers and Internet.

6	Literature Review for Research
7	Evaluation of Research: Research Field, Issues and Methodology.
8	Basic Quantitative Research Methods in Instructional Multimedia / Instructional Technology / Educational technology.
9	Qualitative Research Methods in Instructional Multimedia / Instructional Technology / Educational technology.
10	Basic Statistics in Educational Research.
11	Use of SPSS for Quantitative Data Analysis. .
12	Presentation of Research Proposal
13	Presentation of Research Proposal
14	Presentation of Research Proposal

STATEMENT OF PROBLEM

Outcomes of educational research findings can significantly contribute to both theory and practice in a particular field. Whether or not we seek out research findings, we are constantly exposed to research findings in professional publications and, increasingly, in the media (Gay, Mills & Airasian, 2006). As graduate students, they are not only consumers of research findings but they have to be trained to become research producers who will contribute to knowledge creation. Research courses in a graduate program are a fruitful source of future researchers. Many graduate students as beginning researchers are intrigued by the research process to pursue further education and careers in their respective fields. There are also others who feel overwhelmed and intimidated by the procedures and requirements of conducting educational research. For graduate students, a career in research opens the door to a variety of employment opportunities in universities, research centres, business and industry (Gay, Mills & Airasian, 2006). Indeed, it is graduate students who mostly pursue their goals to be university lecturers and professors and undertakes research activities as one of their major job requirement.

At the Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia, students who followed the Research Course QIM 511: Research Methods and Issues in Instructional Multimedia during the Semester 2 of the Academic Year 2007/2008, had their fair share of perception, difficulties and intimidations as beginning researchers. As such, this paper is based on the study intended to assess the level of difficulty faced by graduate students in conducting educational research work.

RESEARCH QUESTIONS

This paper is based on two main research questions:

1. What are the degree of difficulty in planning and conducting educational research in the five areas of Introduction, Literature Review, Methodology, Findings and Conclusions?
2. What are the feelings, main concerns, help needed, and problems faced by graduate students when starting their research plan?

SIGNIFICANCE OF THE STUDY

This is a beginning and a pilot study to determine problems and predicaments faced by graduate students as beginning researchers. The result of this study can be used to improve the instructional practices of teaching research methodology courses for graduate students. Research is a very comprehensive area comprising of many aspects of knowledge and skills. The way we teach students will determine the motivation of students to stay engaged and continue being involved in research-based activities. By understanding the degree of difficulty planning and conducting educational research by graduate students in various aspects and dimensions of doing research, we as instructors can pay more attention and emphasize on topics that students need more help.

This study will also help us to understand students' feelings, their main concerns, their needs and problems they face when starting a research plan. This study also proposes a need assessment instrument to assess students' degree of difficulty in planning and conducting educational research. Overall, this study will help instructors who are involved in teaching research methodology and research supervisors to better facilitate the students in future research work. All the improvements in instruction of research methodology courses actually will lead to capacity building of institutional instructional research.

By encouraging graduate students to engage and excel in educational research work, there will be more likelihood of them continuing higher education to the level of doctorate work. They will be more positive towards research work. There will even be more likelihood of them joining the universities to work as lecturers. As lecturers they will be required to be productive and continuously involved in research work and hence lead to quality institutional research.

RESEARCH METHOD AND DATA ANALYSIS

This is a mixed method research utilising both a quantitative and qualitative data collection method. 20 Graduate students following the course on Research Methods and Issues in Instructional Multimedia took part in this study. Towards the end of this course each of the students is required to fill in a survey form on the degree of difficulty planning and conducting educational research (Appendix 1). A likert scale of 1 to 5 where 1 is very difficult to 5 of not difficult at all is used by the students to check the respective items on the survey form.

The data collected from the survey form are analyzed quantitatively using simple descriptive statistics of frequency, mean and percentages. The data analyzed are used to answer the first research question presented in this paper. The degree of difficulty in planning and conducting educational research in five main areas of Introduction, Literature Review, Methodology, Findings and Conclusions will be provided using appropriate tables.

An interview was also conducted with five of the students. Four main questions were asked: (1) How do you feel when starting a research plan? (2) What are your main concerns when starting a research plan? (3) In what areas and ways do you need help when starting a research plan? (4) What are the problems that you face when starting a research plan? The answers provided by students are recorded and transcribed. The data obtained from the interview questions were used to answer the second research question presented in this paper. The responses of the students will be presented verbatim in their own very words.

FINDINGS:

An analysis of the degree of difficulty in conducting educational research as perceived by the graduate students in the five main areas consists of; (1) Introduction; (2) Literature Review; (3) Methodology; (4) Findings; and (5) Conclusion is shown in Tables 3, 4, 5, 6 and 7. In the area of Introduction, students generally find the aspect of determining research area and topic to be most difficult (2.35) and the aspect of defining variables and concepts in operational terms as of average difficulty. In general students find the area of Introduction as of average difficulty (2.91).

Table 3: Degree of Difficulty in Introduction

	No.	Aspects of Educational Research	1	%	2	%	3	%	4	%	5	%	Mean
INTRODUCTION	1	Research area and topic	7	35	6	30	2	10	3	15	2	10	**2.35**
	2	Background of study	0	0	4	20	10	50	4	20	2	10	**3.20**
	3	Research problem	3	15	3	15	6	30	7	35	1	5	3.00
	4	Research variables and the relationship between them.	2	10	3	15	5	25	10	50	0	0	3.15
	5	Conceptual framework	2	10	7	35	6	30	5	25	0	0	2.70
	6	Theoretical framework	3	15	7	35	6	30	3	15	1	5	2.60
	7	Research objectives	2	10	5	25	7	35	6	30	0	0	2.85
	8	Research questions and / Research hypothesis	1	5	4	20	7	35	8	40	0	0	3.10
	9	Significance of study	1	5	4	20	9	45	6	30	0	0	3.00
	10	Defining variables and concepts in operational terms	1	5	3	15	9	45	6	30	1	5	3.15
	Total		22		46		67		58		7		
	Mean												**2.91**

1: Very Difficult 2: Difficult 3: Average Difficulty 4: Not Difficult 5: Not Difficult At All

Table 4: Degree of Difficulty in Literature Review

	No.	Aspects of Educational Research	1	%	2	%	3	%	4	%	5	%	Mean
LITERATURE REVIEW	1	Finding resources for literature review	7	35	2	10	5	25	4	20	2	10	2.60
	2	Finding major issues and debates about the topic	6	30	5	25	5	25	3	15	1	5	2.40
	3	Finding key theories, concepts and ideas.	5	25	7	35	5	25	3	15	0	0	**2.30**
	4	Structuring and organizing the knowledge related to research topic	2	10	9	45	7	35	2	10	0	0	2.45
	5	Main questions, problems and research findings that has already been addressed	0	0	6	30	12	60	1	5	1	5	2.85
	6	Summarizing and interpreting literature and its implication for the problem investigated	1	5	8	40	6	30	5	25	0	0	2.75
	7	Citing references completely and accurately	0	0	6	30	6	30	7	35	1	5	**3.15**
		Total	21		43		46		25		5		
	Mean	**2.64**											

1: Very Difficult 2: Difficult 3: Average Difficulty 4: Not Difficult 5: Not Difficult At All

In the area of conducting Literature Review, finding key theories, concepts and ideas seems to be most difficult (2.30) whereas citing references is of average difficulty (3.15). In general, students find conducting literature review for research as of average difficulty (Table 4)

As for research methodology, identifying appropriate statistical tests and their assumptions was perceived most difficult (2.45) and describing the size and characteristics of the sample and population as not difficult (3.6). In general methodology aspect is of average difficulty (table 5).

In the area of determining research findings, interpreting and presenting statistical finding, and presenting and describing data using tables and graphs was both seen as of average difficulty (Table 6). Finally, students find the area of drawing conclusion to be mainly of average difficulty (Table 7).

Table 5: Degree of Difficulty in Methodology

	No.	Aspects of Educational Research	1	%	2	%	3	%	4	%	5	%	Mean
METHODOLOGY	1	Describing the size and characteristics of the sample and population studied	0	0	2	10	5	25	12	60	1	5	**3.60**
	2	Methods of selecting sample and population	1	5	5	25	3	15	10	50	1	5	3.25
	3	Searching, selecting or developing appropriate instruments for study.	5	25	6	30	3	15	6	30	0	0	2.50
	4	Ensuring validity and reliability of research instruments	4	20	6	30	6	30	4	20	0	0	2.50
	5	Identifying research method and design	3	15	6	30	6	30	5	25	0	0	2.65
	6	Ensuring data collection methods and strategies	7	35	2	10	5	25	5	25	1	5	2.55
	7	Determining types of measurement scales	4	20	6	30	3	15	6	30	1	5	2.70
	8	Identifying appropriate statistical tests and their assumptions	4	20	8	40	4	20	3	15	1	5	**2.45**
		Total	28		41		35		51		5		
	Mean												**2.78**

1: Very Difficult 2: Difficult 3: Average Difficulty 4: Not Difficult 5: Not Difficult At All

Table 6: Degree of Difficulty in Findings

	No.	Aspects of Educational Research	1	%	2	%	3	%	4	%	5	%	Mean
FINDINGS	1	Organizing the findings	0	0	5	25	13	65	2	10	0	0	2.85
	2	Presenting / Reporting the findings	3	15	1	5	10	50	6	30	0	0	2.95
	3	Appropriate interpretation and presentation of statistical findings	2	10	7	35	8	40	3	15	0	0	**2.60**
	4	Presentation and description of data using tables and graphs	2	10	1	5	12	60	5	25	0	0	**3.00**
	5	Summarizing the findings.	1	5	4	20	12	60	3	15	0	0	2.85
		Total	8		18		55		19		0		
	Mean												**2.85**

1: Very Difficult 2: Difficult 3: Average Difficulty 4: Not Difficult 5: Not Difficult At All

The overall average of the five main areas of conducting research namely Introduction (2.91), Literature Review (2.64), Methodology (2.78), Findings (2.85) and Conclusion (2.93) is **2.82.** All the averages seem to be close to the average of three which the students generally perceive conducting research is of average difficulty. Arranging these five areas of doing research from least difficult to most difficult would be as follows: Conclusion (2.93), Introduction (2.91), Findings (2.85), Methodology (2.78) and Literature Review (2.64).

Table 7: Degree of Difficulty in Conclusion.

	No.	Aspects of Educational Research	1	%	2	%	3	%	4	%	5	%	Mean
CONCLUSION	1	Discussing results in terms of original research questions and hypothesis	0	0	7	35	9	45	3	15	1	5	2.90
	2	Discussing results in terms of its agreement or disagreement with previous literature.	1	5	5	25	9	45	4	20	1	5	2.95
	3	Discussing theoretical and practical implications.	2	10	6	30	10	50	1	5	1	5	**2.65**
	4	Describing implications of the study	1	5	3	15	14	70	1	5	1	5	2.90
	5	Recommendations for future research.	1	5	1	5	15	75	3	15	1	5	**3.25**
		Total	5		22		57		12		5		
	Mean												**2.93**

1: Very Difficult 2: Difficult 3: Average Difficulty 4: Not Difficult 5: Not Difficult At All

Table 8: Students Responses to Interview Questions.

Q1	**How do you feel when starting a research plan?**
1.	I feel very confused. I do not know how to start a research plan. After the first class, I have thought of doing on computer-based learning. This is a difficult task in my thought.
2.	I feel excited but at the same time scared. I always think and question myself whether the field that i choose is correct or not.
3.	Actually I am very interested to do a research. But to get the ideas and to understand 'how to do research' it make my mind more complicated and sometimes I get stuck, for example to write the literature reviews and so on.
4.	I feel lost and do not know from where and how to start. Really difficult to know what is my field of interest. I have interest in many fields.
5.	I feel excited but get easily confused. I get one topic which I am interested in, then when another topic arises, I feel low and confused.
Q2	**What are your main concerns when starting a research plan?**
1.	I am concerned about how to continue my master's research to PhD level, but I don't exactly know what I am supposed to do with a very limited time, and have to complete one whole research.
2.	My concern is finalising a topic and whether I have ability in writing a complete research.
3.	I am concerned about whether to choose quantitative or qualitative research.
4.	I am not sure which area to do research in.
5.	My concerns are how to write literature reviews, writing in a sequence, and how to make examiners and evaluators interested to read my thesis.
Q3	**In what areas and ways do you need help when starting a research plan?**
1.	What research method to choose for my research.
2.	I need assistance on how to connect the issues mentioned in the topic to produce a proper research.
3.	How to choose articles from journals wisely.
4.	How to use the appropriate theoretical framework for the research.
5.	How to find suitable research articles.
Q4	**What are the problems that you face when starting a research plan?**
1.	Writing out research questions and hypothesis.
2.	I have difficulty in understanding the research reading materials.
3.	Finding the research instrument to be used.
4.	I do not know what is the appropriate literature review or theoretical framework to use.
5.	I can't find the right word or terms to describe the issues and topic of research that I want to carry out.

Table 8, provides students responses to the four questions directed at them. The answers provided in the table is self explanatory on their feelings, main concerns, help needed and the problems that they face when starting their research plan.

CONCLUSION:

The two main findings reported in this paper show that graduate students as beginning researchers generally face two main problem scenarios. Firstly, in all the five main areas of conducting educational technology research namely in introduction, literature review, methodology, findings, and conclusion, the degree of difficulty faced is between *difficult* and *average difficulty*. This is confirmed by the grand mean of all the aspects of research in the five named areas as equal to **2.8** which is in the region of ***difficult*** (2) to ***average difficulty*** **(3)**. In fact, it is much closer to ***average difficulty***. Secondly, data from students' interviews show that they do experience a number of problems and concerns when beginning to do educational technology research.

The findings from this study will be taken into consideration in improving the teaching-learning aspects of research related courses for graduate students. In particular, the course content and instructional emphasis of QIM 511: Research Methods and Issues

in Instructional Technology offered at the Centre for Instructional Technology and Multimedia will be improved based on the findings of this study. Similar studies will be continued in the near future as to continuously improve not only research-based courses but to ensure graduate students as beginning researchers acquire knowledge, skills, and motivation to do research. It is graduate students who will one day be faculty members at institutions of higher education. Therefore, by ensuring graduate students are equipped with research knowledge and skills; we are actually empowering them to become accomplished researchers. This is also a departure for building institutional instructional research capacity.

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A STUDY OF LECTURERS PERCEPTIONS TOWARDS RESEARCH

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ABSTRACT

Teaching and research are two main requirements in the job descriptions of university lecturers. Other requirements in the job descriptions include organising seminars/conferences, presenting papers at national and international levels, publishing papers/articles in refereed journals, publishing books and other scholarly activities. Through research one could acquire knowledge and disseminate to students as well as peers which finally contribute to building competitive advantage to the university concerned. The current study reports findings from a survey which examined the perceptions of university lecturers towards research.

The findings indicate that research is essential to professional development motivated by getting promotion and salary increment. They also shed some light on the main barrier for not doing research among university lecturers - poor statistical and econometric skills. Implications and suggestions for future research are also provided.

Keywords: *Teaching, Research, Perception, Professional Development*

INTRODUCTION

The role and contribution of academic staffs in higher learning institutions in the research activities grew tremendously. This can be seen with the increase in the number of conferences and seminars being held worldwide. For example in Inomics (conferences and seminars in quantitative economics) for 2007, there are 311 conferences worldwide (www.inomics.com). Conferences about business and related fields have 134 conferences call around the globe (www.conferencealerts.com/bus). Malaysia, every faculty in every university is holding seminars and conferences. The increase in the number of journals and internet publications inviting more research work findings to be published. Universities are now competing to be classified as research universities and are ranked based on the research and funds attracted from various sources.

In the Ninth Malaysia Plan, 2006-2010, the government is also fully committed to produce more researchers, scientists and engineers (RSE) and target 50 RSEs for every 10,000 members of the labour force by 2010 (Ninth Malaysia Plan). To achieve "first class mentality" definitely needs various efforts from everybody in the society. One of those would be the academic staffs. Further, every university would like to be World Class University and compete to be ranked as one. What is World Class University? To quote Azmi Sharom (2006, page 1) on the qualities of a World Class University:

"Academic staffs that are recognized worldwide as authorities in their fields. This is achieved through the publication of research findings in international forums; be they internationally subscribed refereed journals, books published by reputable publishers and international conferences"

In fact, academic staffs in higher learning institutions have always been encourage integrating teaching and research, presentation, publishing and other scholarly activities as part of their role.

According to Oshagbemi (1997) job satisfaction among university teachers in UK are based on research, teaching, administration and management, pay, promotion, co-workers' behaviour, head of department's behaviour and facilities available in their institutions. Fien (2002) emphasised the importance of research for advancing sustainability in higher education.

What is research and teaching? Are they interrelated? According to Brown (2005)

"Research and teaching form a continuum of academic activity. The extreme points are clear enough – research is an activity which is concerned primarily with knowledge acquisition on the part of the researcher, and secondarily with knowledge dissemination to academic peers and students, and teaching is an activity which is primarily concerned with knowledge dissemination on the part of the lecturer and with knowledge acquisition on the part of the student. These activities merge in the centre of the continuum, where, for instance, the supervision of a postgraduate student could be defined as both teaching (because of knowledge dissemination aspects) and research (because of its knowledge acquisition aspects)."[393]

From his statements we understand that both teaching and research are essential to university lecturers as a continuing learning process. Whether research influences effective teaching or not has yet to be justified. Bearing in mind of the importance of research in the university, any research activities will be considered essential.

Indeed, one of the major challenges faced by academic staff in higher learning institutions is the ability to teach and do research. According to Murrey *et. al*. (1994), faculty in American business schools are aware of and sensitive to the need of research and publications. In fact, they were evaluated for promotion, tenure and pay increases based on teaching, service and research and publications. Generally promotion is based on certain merit outlined by the relevant universities. For example Monash University's criteria for promotion to senior lecturer include list of research outputs; Research funding; Assessment of competitive grants; Research supervision of higher degree by research (HDR) and honours students; Other significant research achievements; and Summary of teaching evaluations (Monash University). Thus research activities are given high priority in terms of promotion among academic staffs.

Establishment of a new University as a result of upgrading from a college offers a great challenge to its academic staff especially the previous college was perceived as a teaching institution rather than a research or teaching and research institution. It is not surprising that academic staffs during those times were promoted based solely on seniority.

What are the reasons behind this situation? To enable us to understand this scenario we first have to examine the perceptions of academic staffs towards research. The next step is to provide recommendations to the relevant unit (Research Management Centre, for example,) as to how to change the scenario; from a teaching institution to a teaching and research university.

Although much work has been done to explore the perceptions and attitudes toward research (for example, Sterner, 1999, Tang and Chamberlain, 1997) less emphasis

is seen on the specific nature of the problem. McKinnon (2003), however, focused on the perceptions and attitudes toward teaching and faculty development. This motivates us to undertake this study.

The main purpose of this study is to examine the perceptions of academic staff towards research. In addition, the study will also identify the incentives/motivations that encourage them to do research and to identify barriers to their involvement in research activities.

This paper is structured as follows; the next part will discuss the literature review and followed by data and methodology. Section 3 is the research findings and finally Section 4 concludes.

LITERATURE REVIEW

Research in attitudes towards research have extensively done in the western universities particularly in the United States (see for example, Sterner, 1999, Tang and Chamberlain, 1997, Murrey *et. al*. 1994). In Malaysia, research into this area is still lacking. If there was, Bowman and Anthonysamy (2006) examine Malaysian and American Students' perceptions on research ethics. Our study therefore is a modest attempt to examine the perceptions of academic staff towards research.

Murrey, *et. al*. (1994) explored the Risk and Insurance faculty attitudes toward research and publishing in 36 universities in the states. 132 respondents were involved in the study where 48 percent were professors, 21 percent assistant professors 21 percent associate professors, 6 percent instructors and 4 percent making up others. The study found that majority of the respondents were actively involved in research and publishing. Only 18 percent of the respondents had no refereed journal articles published during the last five years and only 12 percent had not presented research papers at professional meetings during that time period. The study also found that 91 percent of the faculty members believed that they were expected to publish in order to advance in their career. Of the most important reasons for doing research was to make a scholarly contribution to the body of knowledge.

Jenkins (1995) argued that there should be a reappraisal of the impact of RAF (Research Assessment Exercise), on UK higher education as it prioritizes research at the expense of teaching. Rowley (1996) on the other hand, explores strategies which can be adopted to support the development of a research ethos in a teaching institution. To enable academic staff to work under a tighter resource climate, Rowley (1996, page 7) suggests the following strategies:

- writing textbooks, publishable action learning materials and other publishable learning materials;
- generating publications based on students major undergraduate or postgraduate projects;
- encouraging research students to publish their research as part of their experience;
- experimenting with and evaluating different teaching and learning approaches; and
- integrating data collection or elements of data analysis for a more major project into students learning assessment activities.

In another study by Tang and Chamberlain (1997) found that faculty members believed research interfered with their teaching, and that they should be required to do either teaching or research but not both. Oshagbemi (1997) investigated job satisfaction

characteristics among UK academic staff. He concluded that teaching and research functions cannot occur in isolation without the appropriate environment to carry them out. Therefore, this requires good administration and management.

According to Sterner (1999), at large research institutions, teaching loads are generally lower and academic staffs must engage in research and other scholarly activities to receive tenure and promotion. Her research work focused on attitudes of the faculty members toward involvement in grant-related activities; she found that members placed high priority on teaching than research. They also believed that engaging in research was essential to their professional development. Some of the barriers faced by faculty members were heavy teaching and advising loads as well as too many administrative assignments. Sterner (1999) concludes:

"Data collected from interviews and writing comments reveal that faculty feels a great frustration and even some hostility in regard to the relative value placed on teaching and research in tenure and promotion decisions." [7]

A case study by Thomas and Harris (2000) concluded that staff not only develops skills and knowledge as a result of engaging in research but also gain intrinsic rewards and enthusiasm. They argued that encouraging and enabling research among academic staff not only enhances job satisfaction but also improve the educational experience of their students. In a study by MacKinnon (2003) on Administrators and Dean Perceptions toward Faculty Development in Academic Pharmacy in United States, found few involved in research and most agreed that research findings were useful in their management of patients. The study found that top motivating factors for pursuing faculty development programs were to improve teaching, research skills, and quality of work.

Bensimon *et. al.*, (2004) examined an alternative methodology for conducting research to bring about institutional change. They classified research into the traditional model and the practitioner-as-researcher model. In the traditional model, the individual controls the production of knowledge whereas the practitioner-researcher model stakeholders produce knowledge within a local context in order to identify problems and take actions to remedy the problems.

Brown (2005) viewed the literature on the relationship between teaching and research and suggested the following;

- there is a link between research and teaching (though the strength of the link is problematic;
- the link is not only a matter of intellectual or disciplinary import, but is complicated by political and vested interests;
- the two extremes of research and teaching can be bridged by scholarship or learning, or both together;
- it is unnecessary and counter-productive to demand of academics that they should be simultaneously good researchers and good teachers;
- this requirement is unlikely to be realized in practiced; and
- there is no obligation whatever for academics to overtly link their own personal research to their teaching in order to be considered good teachers.

DATA AND METHODOLOGY

The data was collected during the transitional period of upgrading one college into a full public university. A total of two hundred self-administered questionnaires were distributed to members of the academic staff through individual departments/schools.

Respondents were asked to hand in the completed questionnaire to the general office of each department. As expected, the response was very poor. We had to remind the staff through email and telephone calls. Finally fifty seven useable questionnaires were returned, yielding a response rate of about 29 percent.

The items on perceptions towards research were adopted from the work of Sterner (1999) and Tang and Chamberlain (1997). However, the original items were modified to suit with the current study. There are three sections; Section One was related to the staffs' demographic data. This part relates to demographic profiles of respondents. Information asked include highest degree earned, normal hours of teaching load, years of full-time teaching and questions related to research background for example, grant application, number of publication, and number of conferences attended. Section Two examined their perceptions towards research. This part comprises four main sections as follows;

- Research Orientation
- Motivation
- Mission of the University
- Barriers

The final section is an open ended question requiring the respondents to answer freely on their comments and suggestions.

Statistical Package of Social Science (SPSS) will be used to analyse the data. Frequency distribution will be used to describe the sample and Cronbach's alpha will be established to determine the reliability of the statements used in the perceptions towards research. The mean and standard deviations of the perceptions towards research will also be computed. Finally, paired sample *t*-test will be used to examine whether there are any significant mean differences between groups (researchers and non-researcher) under study.

RESULTS

Respondents

This section provides information relating to the demographic profiles of respondents. The questions asked include school, gender, age, status, position, rank, highest degree earned, year of completion of highest degree, highest degree earned from university, normal hours of teaching load per week, and years of full-time teaching. The results are presented in Table 1 below.

Of the respondents who answered the survey, 54 percent were women and 46 percent were men. Almost half of the respondents were in the age group of 30-39 with 68 percent were full time staff. Majority of the respondents possessed Masters Degree, 5.3 percent with PhDs and the remainder 19 percent possessed first degree. 78.9 percent had their qualifications from overseas and 21 percent from local universities. The semester teaching load is relatively low (68 percent under 14 hours per week). Finally, it is interesting to note that half of the respondents have worked for more than 10 years.

Table 1: **Demographic**

	Male	**Female**			
Gender	45.6	54.4			
	Under 30	**30-39**	**40-49**	**> 50**	
Age	12.3	49.1	22.8	15.8	
	Full-time	**Contract/ Temporary**			
Status	68.4	31.6			
	Lecturer	**Lecturer/ Head**	**Others**		
Position	82.5	14.0	3.5		
	Bachelor	**Master**	**PhD**	**Others**	
Highest Degree Earned	19.3	70.2	5.3	5.3	
	Before 1970	**1980-1989**	**1990 -1999**	**Since 2000**	
Year of Completion of Higher Degree	3.5	14.0	38.6	43.9	
	Local	**Overseas**			
Highest Degree Earned from	78.9	21.1			
	5-9	**10-14**	**15-19**	**20 and >**	
Normal Hours of Teaching Load (per week)	22.8	45.6	28.1	1.8	
	1-4	**5-9**	**10-14**	**15-19**	**>20**
Years of full-time teaching	17.5	31.6	15.8	8.8	26.3

Note: Figures are in percentages

Our results in Table 2 show the research background of the respondents. The majority of the respondents (68 percent) had never applied for research grant. [1] Of the 32 percent who applied for research grant, 25 percent had successfully obtained the grant. Surprisingly, nearly 60 percent of the respondents did not submit any proposal for research grant even though 56 percent did discuss their research proposal with their colleagues. 89.5 percent of the respondents had however, attended research methodologies course either in the past and present. Our findings also reveal that 77 percent had never acted as a principal researcher and 70 percent had never recruited members into the research project.

As far as conferences are concerned, 17.5 percent of the respondents had submitted research papers and were accepted at international conferences at least one and 15.8 percent were accepted at national conferences. At least, 12 percent of the respondents had presented at international conferences and 21 percent at national conferences. In terms of publications, 8.8 percent had published their work in the journals, 22.9 percent in the conference proceedings and 10.5 percent had published their work in the form of books or monographs.

[1] The institution allocated RM340,000 in 2006 and only 21 percent was used.

Finally, in terms of attending in conferences as participants, 70 percent of the respondents had never attended international conferences. This is perhaps because of the policy of the university where one is allowed to attend international conferences as presenters not as participants. 26.3 percent of academic staffs had never attended national conferences. This clearly shows that participations in national conferences are still considered unsatisfactory even though the management fully sponsored those who presented papers at national levels. Academic staffs should attend conferences to enable them to have networks with others and engage in future research collaboration.

Table 2: Research Background

	Yes	No		
Have you applied for research grant	31.6	68.4		
	Yes	No		
Have you been awarded a grant?	24.6	75.4		
	University	Others	None	
Submitted a proposal for funding from	36.8	3.5	59.6	
	Yes	No		
Did you discuss your proposal with your colleagues?	56.1	43.9		
	Never	In the past only	Currently only	Both in the past and currently
Attended research methodologies course	8.8	47.4	12.3	29.8
	Never	In the past only	Currently only	Both in the past and currently
Acted as a principal researcher	77.2	10.5	8.8	3.5
	Never	In the past only	Currently only	Both in the past and currently
Recruited members into research project	70.2	8.8	12.3	8.8
	> 5	1 to 5	None	
No. of research accepted for				
International conferences	3.5	14.0	82.5	
National conferences	1.8	14.0	84.2	
Others	0.0	7.0	93.0	
	> 5	1 to 5	None	
No. of publication in:				
Journals	1.8	10.5	87.7	
Proceedings	1.8	19.3	78.9	
Others	0.0	12.3	87.7	
	> 5	1 to 5	None	
No. of presentation at:				
International conferences	0.0	8.8	91.2	
National conferences	1.8	21.1	77.2	
Others	0.0	10.5	89.5	
	> 5	1 to 5	None	
No. of conferences attended:				
International conferences	1.8	28.1	70.2	
National conferences	8.8	64.9	26.3	
Others	3.5	49.1	47.4	

Note: Figures are in percentages

Perceptions towards Research

An examination on the lecturers' perceptions towards research was made using a set of questionnaires adopted from the work of Sterner (1999) and Tang and Chamberlain (1997). A five-point scale (1 = strongly disagree; 2 = disagree; 3 = uncertain; 4 = agree; and 5 = strongly disagree) was used. The 32 items are categorized under four components; research orientation; motivation; mission of the university and barriers. The internal consistency reliability of the perceptions towards research was determined to be 0.80 using Cronbach's alpha for each of the 32 items used. Thus, the internal consistency reliability of the measures used in this study is considered good (Sekaran, 2000).

Each of the components will be discussed separately.

Research Orientation

The respondents were asked to express the extent of their agreement with a set of statements that may explain their research orientation. A summary of their answers are given in Table 3.

According to Table 3, 96.5 percent of the lecturers agreed or strongly agreed that research is essential to professional development while 94.7 percent agreed or strongly agreed that both involvements in research enhances quality of teaching and viewed their role in higher institutions as an integration of both teaching and research. This is followed by 93 percent agreed or strongly agreed that university management encouraged efforts of doing research. A total of 85.9 percent of the respondents mentioned

Table 3: Research Orientation

	Item	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Rank
1	Lecturers view themselves primarily as researchers	0.0	19.3	17.5	28.1	35.1	9
2	Lecturers view their role in higher institutions as an integration of both teaching and research	0.0	1.8	3.5	49.1	45.6	3
3	Lecturers view their role in higher institutions as an integration of both teaching and research	0.0	7.0	7.0	29.8	56.1	5
4	Lecturers view themselves primarily as lecturers	3.5	28.1	3.5	49.1	15.8	8
5	Research is essential to professional development	0.0	0.0	1.8	31.6	64.9	1
6	University environment provide appropriate balance between teaching and research	5.3	15.8	10.5	40.4	28.1	6
7	Involvement in research enhances quality of teaching	1.8	3.5	0.0	42.1	52.6	2
8	University should recruit and retain only those lecturers who exhibit strength in both teaching and research	1.8	15.8	15.8	40.4	26.3	7
9	University management encouraged efforts of doing research	0.0	1.8	5.3	43.9	49.1	4
10	Adequate resources available at UDM	17.5	26.3	26.3	24.6	5..3	10

Note: Rank is based on the total percentage of agree and strongly agree

the role in higher institutions as an integration of both teaching and research followed by 68.5 percent who mentioned that university environment provide appropriate balance between teaching and research. 66.7 percent agreed or strongly agreed that university should recruit and retain only those who exhibit strength in both teaching and research while 64.0 percent who mentioned that they viewed themselves primarily as lecturers. Only 63.2 percent mentioned that they viewed themselves primarily as researchers. Interestingly, 43.8 percent of the respondents agreed or strongly disagreed that adequate resources are available at the university while 26.3 percent mentioned that were uncertain about it.

Motivation

The respondents were asked to express their opinions regarding motivational factors that influence them of doing research. The findings are reported in Table 4. A vast majority of respondents (80.7 percent) mentioned that they were motivated if they get promoted or salary increases. Furthermore, 78.9 percent of the academic staffs agreed or strongly agreed that rewards are the most effective means of influencing academic performance while 75.5 percent agreed or strongly agreed that the reward structure influences them to devote time and effort to research. 56.1 percent of the lecturers mentioned that if they are not promoted, they would spend less time to research activity.

Factors like gain respect from others (17.6 percent), must be productive researchers or lose their jobs (22.8 percent), colleague opinion is more important than rewards from the university (24.6 percent) and obtain a better job elsewhere (31.6 percent) did not appear to influence their motivations in doing research.

Table 4: Motivation

	Item	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Rank
1	Rewards are the most effective means of influencing academic performance	0.0	15.8	5.3	45.6	33.3	2
2	Lecturers must be productive researchers or lose their jobs	12.3	47.4	17.5	12.3	10.5	7
3	If they are not promoted, they would devote less time to research activity	7.0	21.1	12.3	36.8	19.3	4
4	The reward structure influences lecturers to devote their time and effort to research	1.8	15.8	7.0	50.9	24.6	3
5	Colleague opinion is more important than rewards from the university	3.5	24.6	47.4	22.8	1.8	6
6	Gain respect from others	7.0	15.8	59.6	15.8	1.8	8
7	Get promoted/salary increases	3.5	7.0	7.0	57.9	22.8	7
8	Obtain a better job elsewhere	7.0	24.6	35.1	28.1	3.5	5

Note: Rank is based on the total percentage of agree and strongly agree

Mission of the University

In this study we also explore the perceptions of academic staffs towards research in terms of mission of the university. A summary of their agreement is presented in Table 5. A vast majority of respondents strongly agreed or agreed that research and teaching are mutually supportive activities and that research activity is essential to the mission of the university. This finding contradicts to the findings of Tang and Chamberlain (1997) who found that faculty members were less inclined to agree with the mission of the university that both teaching and research are essential parts of their job.

Table 5: Mission of the University

	Item	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Rank
1	Research activity is essential to the mission of my university	1.8	1.8	0.0	52.6	42.1	2
2	Research and teaching are mutually supportive activities	0.0	1.8	0.0	50.9	47.4	1

Note: *MV – missing value

Barriers

The results regarding perceived barriers are presented in the following table, Table 6. Surprisingly, the main barrier to lecturers' involvement in research is poor statistical/econometric techniques (75.4 percent). This is followed by heavy teaching load (73.7 percent), and poor writing skill (70.2 percent). Survey results also indicate that 66.7 percent of the respondents mentioned too much work and bother while 61.4 percent mentioned little assistance in preparing proposals. A total of 59.7 percent of lecturers mentioned poor rewards followed by 57.9 percent who mentioned too many committee/administrative assignments while 52.7 percent of the respondents mentioned heavy mentoring loads. Sterner (1999) reported that the top three barriers were related to time; heavy teaching, heavy advising loads, and too many committee assignments.

Reasons like poor funding sources (47.4 percent); poor support from the university management (43.9 percent); poor support from colleagues (42.1 percent); and teaching interferes with research (40.4 percent) did not appear to be major barriers in their involvement in research.

The results clearly show that lecturers need assistance in statistical techniques, writing skills, preparing proposals, some forms of rewards and allocation of appropriate time for them to do research.

Table 6: Barriers

	Item	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Rank
1	Teaching interferes with research	15.8	31.6	12.3	38.6	1.8	12
2	Heavy teaching load	1.8	10.5	12.3	52.6	21.1	2
3	Heavy mentoring load	1.8	21.1	22.8	43.9	8.8	8
4	Too many committee/ administrative assignments	1.8	17.5	21.1	38.6	19.3	7
5	Poor funding sources	5.3	21.1	24.6	35.1	12.3	9
6	Poor rewards	3.5	12.3	22.8	50.9	8.8	6
7	Little assistance in preparing proposals	0.0	22.8	12.3	50.9	10.5	5

8	Poor writing skill	5.3	14.0	7.0	63.2	7.0	3
9	Poor statistical/econometric techniques	1.8	15.8	5.3	57.9	17.5	1
10	Poor support from the university management	8.8	28.1	17.5	38.6	5.3	10
11	Poor support from colleagues	0.0	31.6	24.6	36.8	5.3	11
12	Too much work and bother	0.0	14.0	17.5	47.4	19.3	4

Note: *MV – missing value

LIMITATIONS OF STUDY

In any empirical study like ours, there are certain limitations present and need to be addressed. Our survey was possibly unrepresentative. The response rate of 29 percent response is considered poor but due to the nature of this study, we get some indication of the present problem faced by the university. A second limitation is the sampling frames used in the study. It may not be appropriate to assume that the study reflects the perceptions of all the academic staff. However, we believe that the responses in our study may be similar if more people took part in the survey.

CONCLUSIONS AND RECOMMENDATIONS

The study examines the perceptions of lecturers towards research. The findings clearly show that involvement in research activities among academic staffs in previous college was still unsatisfactory. It is without doubt that many of the academic staffs place little emphasis on research activities as these did not promise any rewards in terms of promotion or salary increase. This had been going for the past twenty five years. If promotion is purely based on seniority, the attitudes of the academic staffs will not change.

The study also reveal that the main motivations for lecturers to do research are getting promoted or salary increases, rewards are the most effective means of influencing academic performance and that the reward structure influences them to devote time and effort to research. On the other hand, more than half of the respondents perceived that if they are not promoted, they would spend less time to research activity. This implies some sort of intimidation or threat from the academic staffs which we believe that is unethical and unacceptable.

An examination of the barriers uncovers various issues. The main barriers to lecturers' involvement in research are poor statistical/econometric techniques, heavy teaching load, and poor writing skill. Apart from that, the findings reveal that issues relating to time and burden for example, too much work and bother, too many committee/administrative assignments, and heavy mentoring loads. Looking for excuses especially on heavy teaching load as one of the main barrier, still there are group of people who get involved in research activities regardless of the barriers mentioned. We agree to what was mentioned by Murrey *et. al.* (1994) that the most important reason for doing research was to make a scholarly contribution to the body of knowledge.

Surprisingly, many academic staffs need assistance in preparing proposals. The relevant unit has however, plan various activities relating to preparing and writing proposals. Academic staffs should take this opportunity to attend the workshop and submit proposals for research grant.

The results above provide concrete justification for the implementation of the following programs.

- Restructuring reward system. Emphasis on research as an evaluation for tenure, promotion and pay increase decisions. Perhaps, a good example would be the guidelines on promotion issued for example by Monash University.
- Appreciation and acknowledgement from the top management. This would encourage lecturers to conduct research
- Conduct workshop for research and meet the requirement for two groups of lecturers; non-researchers and researchers. For example, for non-researcher they need workshop on research methodology whereas researchers require workshop on writing skills to enable them to send their research work to refereed journals, nationally and internationally or writing a book. We are aware that the Research and Innovation Unit have planned the events for research workshop far in advance.
- The Unit involve in research should re-evaluate the types of workshop that meet the requirements of the academic staffs.

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STUDY ON ACADEMIC AND SOCIAL ADAPTATIONS OF STUDENTS FROM EAST INDONESIA

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ABSTRACT

This study analyzed the academic and social adaptations of students from East Indonesia who are studying in Java and their impacts on the students' academic performance. Knowing how the students from East Java are striving for the success of their study in Higher Education (HE) is very important because of the two rationales:1) Indonesia consists of varied cultures emanating from the different islands; 2) number of students coming from East Java to study in Java has been increasing, so, it is very crucial to know how they have been making adaptations for the success in their university studies.

The research instrument to collect the data on social and academic adaptation used Likert scale while on academic performance the ratio scale was applied. The questionnaires were distributed to students who are from East Java studying at STIE Perbanas Surabaya. The data were analyzed using SPSS 11.5 version.

With average GPA of 2.9 , the academic adaptation mostly done were: obtaining a good grade was important; studying at the college was useful; studying at the college leads to a job or career. The social adaptation expressed greatest satisfaction in terms of finding it useful to get to know other students or staff at the institution; their wish to get acquainted with other students; and the congruence of on-campus student life to their expectation. This suggests that the college needs to strategically address policies on a developing conducive campus atmosphere for any ethnic group attending the institution.

Keywords: *Academic Adaptation, Social Adaptation, Academic Performance.*

BACKGROUND

Students coming from provinces out of Java who come in Java to study in college are strongly encouraged by Indonesian government in order equality program in education quaility all over Indonesian provinces is successfully achieved. Despite the good schools in East Indonesian provinces, East Indonesian students coming to Java tend to have more worries than those from Java, or perhaps Sumatra. Most East Indonesian school are considered to need more improvement in quality than in Java or Sumatra (west Indonesia), moreover, those coming from far away place are normally thinking about how to adapt with the local values which can be campus values or community values. Succesfull adaptation is an execellent orientation for a succesfull further performance especially the academic performance (Ward & Kennedy, 1999: 659-677). Students with good skills for adapations are considered being able to undergo easy life and in turn will be of successfull. Otherwise, those finding difficult adaptation tend to have problems that

can be getting more complicated during their stay in Java and of course may affect to their academic performance (Berno & Ward, 2000)

As an organization where students from East Indonesian provinces are studying, Higher Educaion (HE) institutions must be considering about the portrait of their success and background. Being succefful or not in students' orientation is not only the responsibility of individual student but also the campus'. University should investigate the matter and create an environement and atmosphere in which those students are succesfully able to nteract with other students especiall students from Java or Sumatra. Usually, college gives a very sistematic orientation for their new students but unfortunately, the orientation is more on academic one and on who they will be interacting with, not how they will be interacting. Formal program might have been showing that colleges have successfully socialized valuable efforts to welcome the new students. But the conflict is not between the new students with the senior ones nor with the lecturers or staff, rather the problem strongly is lying among the new students (those at the same batch).

STIE Perbanas Surabaya, the banking and business college getting about 50 students from East Indonesia provinces understands that it must be going deeper to the condition that is experienced by the students from East Indonesia. The number of students coming from East Indonesia is getting bigger. They come from Bali, Nusa Tenggara, Kalimantan, Sulawesi, Maluku, Papua, even from Timor Leste which is already a different nation. Some students seem to enjoy the campus life and get good performance, but some trying for good performance , and even a few students are still struggling for a succesful adaptation. The last situation looks the worst but, as long as the students still have expectation and see ways of achieving better, that is good. But if the students accept their poor sitution and they just wait to graduate with minimum level of performance, that what all do not want to happen. Government wants them to achieve bettter and back to their provinces and, in turn, will develop their own province.

Referring to the phenomena, it is very important to examine how the students' academic and asocial adaptations correlate with other aspects relating to college process so the implications can help improve the aspects minimizing gaps and maximizing performance of the students.

PROBLEM STATEMENT

How is the relationship of academic and social adaptations with the related aspects concerning to the students of STIE Perbanas Surabaya who come from East Indonesia provinces ?

OBJECTIVE OF THE RESEARCH

The objective of the reserach is to get the picture of the relationship of academic and social adaptations' relationship with other aspects concerning to the students of STIE Perbanas Surabaya who come from East Indonesian provinces.

THEORETICAL FRAMEWORK

a. Social Adaptation

Social aspects refer to the aspects of individual related to other people. In campus, students' relationship is with other students, lecturers, and college staff. The interaction can be in formal and informal situation but mostly informal relationship takes more time than the informal ones, since the latter refers mostly to the academic

activities. Overall, the interactions may be in dealing with bureaucracy, with unsatisfactory service, making friends, talking about oneself and ones' experience, understanding and accepting cultural differences, dealing with someone who is unpleasant, and dealing with being accepted by other peer (Zea et all, 1995).

Referring to the same reference, factors that influence the success of social adaptations are as follows:

Expectations and Experiences

Students' expectations are significantly more positive than their subsequent experiences. Usually they expect more, but in fact it is lower.

Contact

Students coming from different city engage in contact with a wide range people with much adaptation in contact and this is considered the most important aspect to be aware of.

Perceptions

What students believe before they start to interact with the local people, process, and concession.

Social Support

Social support is known to assist people to cope with difficulties and challenges, and in this regard the situation for students is no different from others who are dealing with significant life changes. Making and having friends for their support, strongly give emotional social support and better psychological and socio-cultural adaptations.

Personality

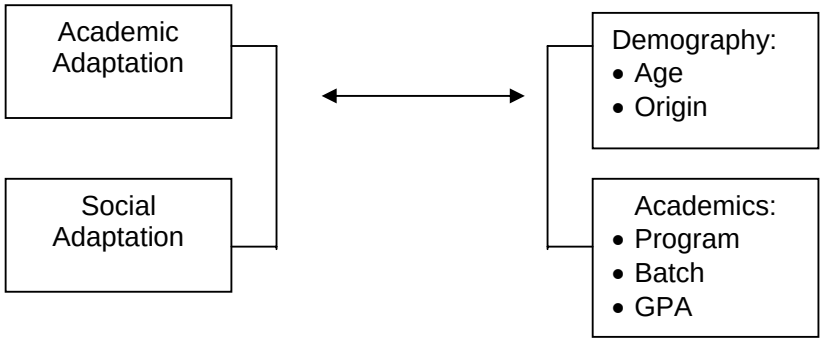
Personality traits exert influence on how one adapts to life in a new culture, and there is some evidence that successful adaptation can be predicted by traits measured before students depart for study. Openness is related to better socio-cultural adaptation, while closeness is linked to more psychological and socio-cultural problems.

b. Academic Adaptation

Academic adaptation nature is similar to those of social one, rather it is limited to the area of academic activities putting the students to passive or active agent. Passive agent is when they learn, think, study, listen, while active agent is when they actively take the role such as when they are speaking, presenting, expressing their ideas, etc.

Specifically, according to Berno (2000) the academic aspect that students may refer on their academic process of adaptation are in making oral presentations, doing all the assignment, expressing opinions to lecturers, memorizing and mastering relevant material, getting necessary feedback from lecturers, identifying what the lecturer thinks is important, taking successful tests and exams, understanding what is expected of them, writing assignments, thinking critically, taking notes during lectures, managing academic workload.

c. Framework



RESEARCH METHOD

1. Sampling & Data Collecting Methods

Since this research is an institutional research with which the questionnaires were distributed to all students coming from East Indonesia provinces. The technique in gathering the respondents was by involving in the routine gathering for students coming from outside Java held by the Student Affairs Unit giving seminar on cross-cultural understanding. There were 77 students were from outside Java and 60 students out of it were from East Indonesia provinces. Anyhow, the students from East Indonesia provinces coming and filling in the questionnaire were 51 students.

2. Statistics Analysis

The data was analyzed using descriptive statistics in term of finding the level of the students' academic and social adaptations. While Crosstab was used to find the chi-square value to examine whether there was a relationship between the academic and social adaptations with other aspects concerning to the students' demography (gender, provinces as their origins) as well as things referring to their study such as the program (S1 or D3) they took, GPA, as well as their batch (Ghozali, 2006: 15-24).

RESEARCH RESULT

Student Demography

Forty percent of responding students were male and this is very close to the total population where approximately 37 % from the East Indonesia region are male students. The average age of respondents was 20.6 years and again this is very close to what one would expect in the surveyed students whose ages are between 18-23 years; which again provided a degree of confidence in the sample. The average GPA of respondents was 2.9 showing a lower academic achievement than the average GPA of the total population of students at STIE Perbanas which is 3.21**.**

Academic Adaptation

Following the demographic questions, students were requested to indicate their degree of agreement to a number of statements concerning their adaptation to the academic environment facing them using a five-point Likert Scale (1=strongly disagree, 5=strongly agree). Table 1 summarizes the mean agreement with the eleven statements used in the

scale; regarding the latter, the Cronbach Alpha was 0.84, indicating an acceptable degree of reliability of the scale used. The following observations are made from the data contained in this table:

a. On the whole, the students tended to agree with all the eleven statements regarding their academic adaptation at the institution. This is indeed an encouraging finding from the study.
b. Nevertheless the top areas of student academic adaptation concerning their perception included the importance of obtaining a good degree grade; they found that the study was useful to them; and that what they were currently studying was expected to lead to a job or career for them.
c. But the three areas of least satisfaction by the students included their capacity to participate in class activities; ability to obtain good marks in examinations; and the ability to take effective class notes.

Table 1: Mean Agreement with Academic Adaptation Statements

Statement	Mean Agreement	Standard Deviation
Enjoy Studies	3.98	0.68
Subjects are interesting	3.92	0.72
Study is useful	**4.28**	0.64
Study will lead to job	**4.26**	0.66
Getting good grade is important	**4.56**	0.81
Course exercise skills enjoyed	4.04	0.73
Opportunities to ask questions in class	4.10	0.65
Can participate in class activities	3.50	0.71
Take effective class notes	3.58	0.84
Learning as much as required	4.18	0.60
Getting good marks in exams	3.56	0.73

The responses to the above eleven academic issues were cross-tabulated against the demographic variables yielding the following results:

a. Interestingly gender was not found to produce any statistically significant results with respect to responses regarding the students' academic aspects.
b. Similarly the program of students did not return any statistically significant results in regard to the academic dimensions considered in this study.
c. But the student's region of origin appears to be important in certain aspects of the academic environment. For instance, students from region 6 (62%) were less likely to agree that their subject was interesting to study than those drawn from regions 4 (82%), region 5 (89%) and region 7 (100%, Chi-square=44.0, $p<0.05$).

Social Adaptation

The academic adaptation issues were followed in the questionnaire by items related to the social adaptation dimensions in terms of the higher education studies. Again the previously mentioned five-point Likert scale was used in the study to explore the social aspects. The Cronbach Alpha for the scale used was found to be 0.85, thus providing a degree of confidence in the reliability of the questionnaire used.

Table 2 below summarizes the results of the study of student social adaptation in terms of their mean agreement. It permits the following observations:

a. Again in all 18 social adaptive factors, the mean values indicate that the students tended to be satisfied with their response to this environment in a favorable manner. This again augurs well for the institution, suggesting a reasonable degree of social adjustment to their environment by the students.
b. However, students expressed greatest satisfaction in terms of finding it useful to get to know other students or staff at the institution; their wish to get acquainted with other students; and the congruence of on-campus student life to their expectations.
c. Nevertheless the students least satisfaction is noted with respect to their capacity to make friends with other students; having personal interactions with institutional staff; and ability to ask the staff questions.

Table 2: Mean agreement with social adaptation statements

No	Statement	Mean Agreement	Standard Deviation
1	Feel comfortable being student at institution	3.84	0.82
2	Enjoy being part of institution	3.70	0.68
3	Wish to know other students	**4.26**	0.69
4	Getting to know students/staff is useful	**4.38**	0.64
5	On-campus student life matches my preference	**4.26**	0.69
6	My kind of chat goes down well	3.74	0.60
7	Know how to make friends with students	3.34	0.77
8	Know how to talk to students	3.88	0.63
9	Enjoy social activities proposed by others	3.96	0.60
10	Feel comfortable around the campus	3.98	0.71
11	Made as many friends as I want to on campus	3.92	0.53
12	Get the kinds of conversations I like	3.84	0.62
13	Had personal interactions with staff	3.38	0.67
14	Know many students on campus	3.90	0.68
15	Able to ask staff questions	3.62	0.57
16	Fit well with other students	4.02	0.69
17	Can collaborate in group work	3.78	0.74
18	Have no problem in making friends with different provinces.	4.18	0.60

The responses to the above eighteen items were cross-tabulated against demographic variables yielding the following statistically significant results:

- Gender was found to be a significant variable regarding the student's perceived capacity to make friends with other students on campus. In particular, while only 35% of male students felt that they could make on campus friends, the corresponding percentage for females was higher (53%, Chi-square=10.7, $p<0.05$).
- Program was also found to be an important variable with respect to the above mentioned social issue. In particular, program 2 students (63%) appear to be better equipped to make friends than those enrolled in program 1 (46%, chi-square=26.5, $p<0.01$).

- Student's origin in terms of their home region was also found to be important in regards to certain social dimensions. For instance students from region 6 (50%) found being part of the institution less enjoyable than those drawn from region 4 (82%), region 5 (89%) or indeed region 7 (100%, Chi-square=59.6, $p<0.05$). A similar result is noted with regard to student capability to talk to other students with again region 6 (50%) trailing those from other regions, including region 4 (73%), region 5 (89%) and region 7 (100%, Chi-square=48.2, $p<0.05$). Ditto for feeling comfortable around the campus with region 6 (62%) being the least comfortable, followed by region 5 (78%), region 4 (82%) and region 7 (100%, Chi-square=48.2, $p<0.05$). In the case of getting the sort of conversations one prefers on campus, region 4 (64%) appears to be trailing region 6 (75%), region 5 (89%) and region 7 (100%, Chi-square=45.3, $p<0.05$). Finally, the ability to make friends from different provinces encounters the least confidence from region 6 (75%), followed by region 4 (91%), region 5 (100%) and region 7 (100%, Chi-square=32.0, $p<0.05$).

IMPLICATIONS

a Despite students are aware of that getting good degree grade is important and useful for a better career, but they are not sure about they capacity in class activities and in getting good marks. Some students conveyed that the books they used in their provinces were several years older than those used in Java. Other facts were that schools in Java gives better facilities and the teaching approach is more supporting students to be independent. These gaps might put the students from East Indonesia do not feel confident. So, they need specific orientation to calm down their psychological state and show that all students from varied provinces will start from a very beginning.

b. Students from east Indonesia feel they are not really easy to make friends and have talks with staff. To help their problems, cross-cultural understanding refreshment set for students coming from outside Java is well needed to equipped students with social adaptation. Students union activities involving all students is excellent means of mingling students, besides putting signage such banner at campus stating that appreciation to each other of different races shows a human honor.

c. Special attention might be taken to region no. 6 namely Maluku that often gets the least level for social adaptation. This should lead to further institutional effort to research.

CONCLUSION

Academically, students from East Indonesia needs help in raising their confidence so they are sure that they have capacity to keep up with local students. Socially, East Indonesia students especially from Maluku need help in making friends. Institutionally, programs conducted by student unions involving all students is effective to encourage the student interact to each other. Reguler forum on cross cultural understanding for new students is needed in order they can infer the cultural differences and think positively about the differences.

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APPENDIX 1
QUESTIONNAIRE USED IN THE SURVEY
(The questionnaire was translated into Indonesian to cope the respondents)

RESPONDENT IDENTITY

Gender ☐ Male ☐ Female
Age :……
Program ☐ S1 Management
☐ S1 Accounting
☐ Diploma management
☐ Diploma Accounting
Batch :…….
Status ☐ Married ☐ Not married
Origin

☐ Bali ☐ Sulawesi Selatan

☐ Lombok ☐ Sulawesi Tengah

☐ Nusa Tenggara Barat ☐ Sulawesi Tenggara

☐ Nusa Tenggara Timur ☐ Sulawesi Utara

☐ Papua ☐ Sulawesi Barat

☐ Maluku ☐ Timor Leste

☐ Gorontalo

Address in Surabaya:

☐Own a house/ with relative
☐Boarding house for students of the same province
☐General boarding house lain

GPA :

Fill in the scale by giving cross mark (X)

1 : strongly not agree 2 : not agree 3 : neutral 4 : agree. 5 : strongly agree.

ACADEMIC ADAPTATION

		1	2	3	4	5
1	I like studying at STIE Perbanas Surabaya.					
2	The subjects are interesting.					
3	I learn something beneficial .					
4	I learn thing that is useful in my future job.					
5	Getting good mark is very important to me.					
6	I lke class activities such problem solving, presentation etc.					
7	Being active in class is very important for me.					
8	I am one of the active students in class.					
9	I can take notes well in class.					
10	I get much knowledge here.					
11	I get good mark in examination.					

ADAPTASI SOSIAL KAMPUS

		1	2	3	4	5
1	I feel good studying at STIE Perbanas Surabaya .					
2	I am actively involved in campus activities.					
3	I hope I can make more friends here.					
4	Get to know other students is very important .					
5	Get to know lecturers is very important.					
6	Campus life /interaction pattern among students is suitable for me.					
7	My communication style is not far different from students and lecturers here.					
8	I know how to make friend.					
9	I know how to communicate with other students.					
10	I feel comfortable to be in this campus.					
11	I enjoy the activities offered by other students.					
12	I can communicate well at campus.					
13	I have a good relationship with lecturers.					
14	I know many lecturers here.					
15	I feel free in answering the lecturer's question.					
16	I have no problem with other students in class.					
17	I feel easy to work in a team with other friends.					
18	I don't find difficulties in interacting with other students.					

A PRELIMINARY COMPARISON OF TEACHER EDUCATION PROGRAM IN MALAYSIA TO UNESCO ICT COMPETENCY STANDARDS FOR TEACHERS: A CASE STUDY

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ABSTRACT

Educational Technology is an area that educators should be familiar and comfortable with especially in the utilization of instructional models and the deployment of proper instructional strategies to learners of all ages. The initial exposure and training in educational technology will determine the method of beginning teachers in integrating technology into their teaching-learning activities. Any university that offers a bachelor's degree in education offers at least a course in the foundations of educational technology. In turn, Information and Communication Technology (ICT), an important area of educational technology should not be ignored in any pre-service teacher education program to ensure human capacity development that emphasizes the growth of a technology literate population. Therefore, this paper reports a small part of a larger ongoing research on the standards of ICT training curriculum and strategies for pre service teachers throughout Malaysia. Specifically the curriculum and strategies used in three local universities will be compared to UNESCO's ICT competency standards for teachers. The result of the study will disclose to what extent the components of training curriculum adhere to the standards and the development of the field.

Keyword: *Instructional Technology, Information Communication and Technology, Pre-service Teacher Education Program*

INTRODUCTION

Information Communication and Technology (ICT) in schools has gained prominence over the past decade. This can be seen globally as changes in the trends in using and integrating various available media technology moves from educational radio to educational TV and to computer-based instruction. Now the incorporation of ICT in the classroom is deemed crucial and one is expected to determine, search, use, and evaluate information effectively.

The Malaysian Ministry of Education (MOE) has spent approximately MYR1.8 billion over the span of twenty years for projects like Computers in Education, Computer Literacy, and Smart Schools that involved the restructuring of the school technology infrastructure while providing appropriate equipment including computers, software, courseware, and also training. In fact, a report by the Education Technology Division of MOE stated that their expenditure for the management of activities including educational technology management, smart

school and state education resource center totaled MYR174.9 million in year 2005 (Annual Report, 2005).

Presently, teachers are encouraged to utilize teaching courseware that the Malaysian government has provided as an alternative tool and an option to the traditional talk and chalk delivery method. However, studies show that the courseware is not fully integrated or utilized (Mona Masood & Nor Azilah Ngah, 2003; Mona Masood & Nor Azilah Ngah, 2007; & Nor Azilah Ngah & Mona Masood, 2004). What could be the problem? Are the pre-service (prospective) teachers prepared enough to incorporate ICT in the classroom? Does the curriculum used to teach pre service teachers sufficient and meet the ICT competency standards? Before we partake in answering all these questions, we need to study whether the pre-service teachers have all the mechanism needed to prepare them in integrating skills and knowledge especially in the area of ICT. More importantly, is the curriculum pertaining to Educational Technology sufficient and adhere to some known standards used throughout the world. Thus, this paper aims to disclose the extent of training curriculum and strategies used at higher learning institutions and compare that to UNESCO's ICT competency standards.

At Arizona State University, the College of Education implemented a field-based model for new undergraduate teacher education experiences whereby three key components of the model was designed to provide pre-service teachers with required skills and experiences to fully integrate technology into future classrooms (Brush, Igoe, Brinkerhoff, Glazewski, Ku, & Smith, 2002). The components consist of i) providing pre-service teachers with field-based, situation-specific technology training, ii) providing ongoing, field-based support to pre-service teachers throughout their student teaching experiences, and iii) providing the College of Education faculty and field-based mentor teachers with training, guidance, and just-in-time assistance.

Being equipped to use technology and knowing how that technology can support student learning have become integral skills in every teacher's professional repertoire. This is because traditional educational practices no longer afford pre-service (prospective) teachers with all the essential skills for teaching students to survive economically in today's workplace. With proper equipment available, teachers are expected to utilize these media technology in their teaching. However, teaching with technology requires knowledge in the area of educational technology. Thus, pre-service teachers should at least have a foundation of what this entails. The definition of Educational Technology as adopted by the Association of Educational Communications and Technology (AECT) refers to "the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning" (Seels & Richey, 1994). This definition has been predominantly used by educators globally.

Exposure to the foundation of educational technology and consequently, ICT, a sub discipline, will have been introduced at any university or institutions of higher learning that caters for a Bachelor degree in education. However, these places may train their pre-service (prospective) teachers in various ways. This initial training on ICT—that is found in any educational technology foundation class—will determine the habits of beginning teachers in integrating ICT in their teaching and learning activities at schools. In addition, strategies and curriculum may differ from one institution of higher learning to the next. Thus, the relevance of

the curriculum provided by these institutions of higher learning with respect to the development of ICT in education should be scrutinized.

To meet demands of the ever evolving society needs and the accelerated growth of technology, educational technology courses should be restructured or at least updated. This is vital since as educators, we need to prepare our pre-service teachers so that they are better apt at integrating technology into their teaching and automatically feel at ease in teaching with technology since it has been ingrained in them from the beginning of their training.

PURPOSE OF THE PROJECT

The tangible purpose of the overall project is to map out the ICT training program especially for pre-service teachers in Malaysia public universities and to compare it to the requirements of the Malaysian Ministry of Education's ICT policy for schools and several other international standards. Therefore, the intent of this paper is to report a small part of a larger ongoing research under Universiti Sains Malaysia's short term grant on the standards of ICT training curriculum and strategies for pre-service teachers throughout Malaysia. Specifically, the curriculum and strategies used at three local universities will be compared to the UNESCO ICT Competency Standards for Teachers (ICT-CST). In addition, an analysis of the scope of training curriculum in which the program adhere to the standards and the development of the field will be scrutinized.

PRELIMINARY RESEARCH QUESTIONS

This includes:

a. To what extent is the ICT training program for pre-service teachers conducted at the Malaysia universities is comparable to UNESCO ICT-CST?
b. Is there a knowledge and skills gap between pre-service teacher training programs conducted at the Malaysia universities with the UNESCO ICT-CST?
c. What is the training strategies used to train pre-service teachers in the field of ICT in education at these universities?

METHODOLOGY

This study considers various document analysis and reviews that include:

a. An in-depth review of pertinent literature on the development of ICT in education.
b. Review of documents related to the development of ICT training program and strategies for pre-service teachers.
c. Review of documents related to UNESCO ICT-CST for pre-service teacher education program.
d. Document analysis of ICT based course curricula and course outlines for pre service teachers from faculties of education at the three public universities.

At the same time, interview sessions were also conducted with course coordinators for the ICT based courses.

UNESCO ICT Competency Standards for Teachers

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has developed a set of standards within the project "ICT Competency Standards for Teachers"
(ICT-CST) that provides guidelines for all teachers that will train them to play a central role in producing technology competent students. Further, the UNESCO ICT-CST project aims to improve teachers' preparation combining ICT skills with innovations in pedagogy, curriculum and school organization.

UNESCO based their ICT-CST framework on three factors that lead to growth based on increased human capacity: capital deepening (the ability of the workforce to use equipment that is more productive than earlier versions), higher quality labor (a more knowledgeable workforce that is able to add value to economic output), and technological innovation—the ability of the workforce to create, distribute, share and use of new knowledge" (UNESCO ICT-CST Policy Framework, 2008). The curriculum framework for the ICT-CST was created by crossing three approaches to education reform based on human capacity development (technology literacy, knowledge deepening, and knowledge creation) with the six components of the educational system (policy, curriculum, pedagogy, ICT, organization, and teacher training) (see Table 1).

Although the ICT-CST aim is to look at all the cross integration of the framework it is not the purpose of this paper to inspect all cells. However, only the ICT component with respect to Technology Literacy, Knowledge Deepening and Knowledge Creation Approaches is examined (see Table 2).

Table 1.
UNESCO ICT Competency Standards for Teachers

Policy and Vision	Technology Literacy	Knowledge Deepening	Knowledge Creation
Curriculum And Assessment	*Basic Knowledge*	*Knowledge Application*	*21st Century Skills*
Pedagogy	*Integrate Technology*	*Complex Problem Solving*	*Self Management*
ICT	*Basic Tools*	*Complex Tools*	*Pervasive Tools*
Organization and Management	*Standard Classroom*	*Collaborative Groups*	*Learning Organizations*
Teacher Training	*Digital Literacy*	*Manage And Guide*	*Teacher As Model Learners*

Table 2.
ICT Component of UNESCO ICT-CST

ICT COMPONENT			
	Technology Literacy Approach	**Knowledge Deepening Approach**	**Knowledge Creation Approach**
Curricular Goals	*Basic Tools*. The technologies involved in this approach include the use of computers along with productivity software; drill and practice, tutorial, and web content; and the use of networks for management purposes.	*Complex Tools*. To understand key concepts, students employ open-ended technology tools that are specific to their subject area—such as visualizations in science, data analysis tools in mathematics, role play simulations in social studies.	*Pervasive Technology*. A variety of networked devices, digital resources, and electronic environments are used to create and support this community in its production of knowledge and anytime, anywhere collaborative learning.
Teacher Skills	Teachers must know basic hardware and software operations, as well as productivity applications software, a web browser, communications software, presentation software, and management applications.	Teachers must be aware of a variety of subject specific tools and applications and able to flexibly use these in a variety of problem-based and project based situations. Teachers should be able to use network resources to help students collaborate, access information, and communicate with external experts to analyze and solve their selected problems. Teachers should also be able to use ICT to create and monitor individual and group student project plans.	Teachers must be able to design ICT-based Knowledge communities and use ICT to support the development of students' knowledge creation skills and their continuous, reflective learning.

Source taken from: UNESCO ICT-CST Module (2008).

Educational Technology Core Courses

Although Malaysia currently has a total of twenty public universities, only eight universities were identified offering a Bachelor degree in Education including: USM, UPM, UKM, UMS, UNIMAS, UTM, UPSI, and UUM. Data were gathered for all these universities but for this paper, only three institutions randomly chosen, USM, UPM, and UMS were analyzed (a sample size deemed appropriate, 38% of the population).

From the document analysis, all three institutions have similar objectives at providing ample experience in understanding, learning, applying, and integrating educational technology into their pre-service teaching practices respectively.

At all three universities, it is hoped that their individual education program sufficiently prepares the pre-service teachers to incorporate and integrate appropriate technology during their practical teaching so that each prospective teacher goes through authentic training experiences in real classrooms before embarking into the real world.

Case 1: USM

Course Description

In the pre-service education program provided by the School of Educational Studies at USM, one required course entitled *Instructional Technology Practices*, a three credit hours course, has to be taken by all undergraduate students who are pursuing a Bachelor degree in education (not considering their major nor minor areas). This course aims to demonstrate to all pre-service teachers the overall concept of instructional technology evolution, domains, instructional design models, visual communication

principles, and the latest instructional technology namely computer in education and e-learning, multimedia, Internet, web-based instruction, and distance education.

At the practical or tutorial level, pre-service teachers were exposed to skills in computer applications such as product development using various packages in Microsoft Office for desktop publishing, creating databases, spreadsheets, and an e-portfolio. Through employing concepts and principles, students will be able to produce a multimedia presentation project, evaluate instructional materials, organize work samples in a portfolio, and handle media technology equipments.

The course is assessed according to a final examination (40%) and course work (60%). The course work include submitting various tasks: a multimedia presentation using PowerPoint, desktop publishing, a database, a spreadsheet, web evaluation, an e-portfolio, and handling of OHP.

Other Supporting Courses

Besides taking the mandatory instructional technology course, the program caters to other pertinent requirements to prepare pre-service teachers in undertaking their future as a full fledge teacher. Other pedagogical courses expose and require students to integrate technology in their assignments. At the end of their program, pre-service teachers have to complete their practical training at secondary schools and one component is the use and integration of technology in their teaching.

Case 2: UMS

Course Description

The School of Education and Social Development provides two compulsory courses for their pre-service teachers: i) *Technology and Educational Resource Centre*, ii) *Computer and Multimedia in Education*. Both are three credit hour courses.

The *Technology and educational resource centre* course was conceived to introduce pre-service teachers the meaning of technology as a whole and its role in media, graphic, low cost material, transparencies, audio and video. In addition, the process of technology is put forth to sharpen pre-service teachers skills in using technology in their work including ICT, e-learning, telecommunication as well as the role of the resource centre together with current technologies.

Topics include the basic concept and definition of educational technology, mediums in education, low cost material and overhead transparencies in education, photography in education, audio in education, video in education, ICT in education, school resource centre, teacher's activity centre, teacher education division, and school digital resource centre.

The *Technology and educational resource centre* course is assessed according to individual examination (40%), project (40%), and report and presentation (20%). Students project include setting up and improving the schools' resource centre using appropriate media. Most times these pre-service teachers need to consult with the State Technology Education Division and the respective schools before they proceed with their resource centre project.

The *Computer and Multimedia in Education* course introduces students with the concept, theory, and multimedia components that is suitable to be incorporated in multimedia teaching and learning. The pre-service teachers are exposed to the function of multimedia computer hardware, basic typography, computer graphic software, animation processes, video clipping, audio recording for multimedia production, screen and

interface design, and authoring method and principle. Also, issues covered in the course include multimedia web-based material distribution, storage problems and security. Pre-service teachers met once a week for approximately three hours during the semester: 2 hours of lecture format and an hour of tutorial at the computer laboratory. They are expected to produce a multimedia courseware at the end of the course.

The *Computer and Multimedia in Education* course is assessed according to a final examination (30%), individual written assignment (10%), courseware project (30%), test (10%), and tutorial portfolio (20%).

Case 3: UPM

Course Description

The Educational Technology Unit at the Faculty of Education offers one compulsory course entitled *Educational Technology*, a three credit hour course, for their pre-service teachers. The Educational Technology course discusses the concept, theory, practices and development in educational technology; preparation and the utilization of educational media; selecting and evaluation educational media, and current issues in educational technology.

The course is conducted using student-centered learning approach that covers various activities including concept explanation, group discussion, presentation in class, group work, practical and group presentation. Weekly topics during lecture consist of Educational technology, instructional design, instructional message design, instructional media, planning and preparation of instructional media, instructional media integration, ICT in education, computer-based learning package, display materials, and transparency and overhead projectors.

During the practical session, pre-service teachers are trained in photography, computer-based instructional packages, integration of instructional media, display material, and transparency development and the techniques of using transparencies and the OHP.

The course is assessed through course work (70%)—a quiz, instructional media integration, and presentation during lecture time—and an end of semester examination (30%)

Table 3.
UNESCO ICT-CST (ICT Component) in Comparison to University A and B

***UNESCO ICT-CST* (2008)**	**Case 1**	**Case 2**	**Case 3**	**Standards Met**
Technology Literacy Approach Teachers must know basic hardware and software operations, as well as productivity applications software, a web browser, communications software, presentation software, and management applications.	• Embedded in tutorial sessions of core course. Pre-service teachers' skills and knowledge are demonstrated in their products that range from desktop publishing, developing web page, PowerPoint presentation (that include embedding video clips and	• Embedded in tutorial sessions of core course • Pre-service teachers are taught and graded on their skills in computer graphic, animation processes, video clipping, audio recording production, screen and interface design, and authoring method	• Embedded in practical session of the core course • Emphasis is given on digital photographic techniques and the integration of appropriate instructional media. Pre-service teachers are guided to prepare and develop learning materials like posters and	Yes

	audio), designing a database, completing selected tasks using spreadsheets.	and principles.	charts besides presentation software such as PowerPoint complete with audio visual elements.	
Knowledge Deepening Approach Teachers must be aware of a variety of subject specific tools and applications and able to flexibly use these in a variety of problem-based and project based situations. Teachers should be able to use network resources to help students collaborate, access information, and communicate with external experts to analyze and solve their selected problems. Teachers should also be able to use ICT to create and monitor individual and group student project plans.	• Pre-service teachers have to apply instructional design model (like ADDIE) to plan and design their lesson taking into consideration the available resources and diverse needs of learners. • They learn to locate digital resources in order to problem solve and plan their lesson and presentation.	• Pre-service teachers have the opportunity to do hands-on work especially during their library/resource centre project. They begin with the selection of a design model and plan according to students need and available resources. • They also learn how to locate technology resources.	• They are required to apply the ADDIE model in creating their own instructional projects. • The preparation of lesson plans is emphasized.	Yes
Knowledge Creation Approach Teachers must be able to design ICT-based knowledge communities and use ICT to support the development of students' knowledge creation skills and their continuous, reflective learning.	• Each mini project has to be designed and developed that includes a lesson plan. Thus these pre-service teachers had to select appropriate strategies to maximize student learning.	• Since these pre-service teachers are required to produce a courseware at the end of the semester, curriculum plans with proper strategies had to be integrated throughout the course.	• One topic on ICT is included in the course but the application is found elsewhere in other courses. Student knowledge creation skills and reflective learning is integrated in parts of the course.	Yes

FINDINGS

Extent of ICT training program for pre-service teachers at the Malaysian universities comparable to UNESCO ICT-CST

Table 3 shows a snapshot of the ICT component/approaches of *UNESCO ICT-CST* and a brief description of parts of the course content of the three local universities; namely, USM, UMS, and UPM that meet the standards proposed. The extent of ICT training for pre-service teachers in both cases ranges from basic to intermediate knowledge and skills. Hands-on project are varied at both universities emphasizing on different aspects. The ICT training program at USM offers one mandatory course for all pre-service teachers pursuing a Bachelor degree in education (excluding Bachelor of Education—TESOL and Interactive Multimedia students). The program considers an overall approach that includes the theoretical aspects of educational technology and

emphasizes intermediate skills on Microsoft Office application software. The major projects include a PowerPoint presentation (designed for a two period lesson) and a website.

UPM also made one compulsory course for their Bachelor degree in Education in educational technology. However, the ICT component is embedded in other courses with respect to individual students' major. Pre-service teachers are required to produce teaching-learning materials (including posters and charts) aside stressing on group and individual presentation of lecture or project assignments. They still emphasize the design and importance of transparencies since many primary and secondary schools are still using OHPs.

In contrast, UMS has two mandatory courses for their pre-service teacher pursuing a generic Bachelor degree in education program. The courses are designed so that pre-service teachers establish contacts and a strong rapport with the state education resource centre. Their pre-service teachers are also required to develop a courseware that requires them to learn skills in various aspects of multimedia development. However, this university separates out the theoretical component which is emphasized in one course, *Technology and educational resource centre*, from the more computer focused course, *Computer and Multimedia in Education* course.

Knowledge skills gap between pre-service teacher training programs at Malaysian universities with the UNESCO ICT-CST

Skills obtained during pre-service teacher training program at all three universities are seen to be in line with the *UNESCO ICT-CST*. However, there is a lack in applying part of the second component of "Teachers should be able to use network resources to help students collaborate, access information, and communicate with external experts to analyze and solve their selected problems." Pre-service teachers are trained to seek resources to collaborate, and access information but "communication with external experts" is still at its minimum. Since the curriculum at all universities requires rigorous pre-service teacher participation, they personally experience the use of ICT to create and plan projects for group tasks and assignments. Thus, these teachers should be able to transfer what they have experienced personally to their own future students. In reference to the ICT-CST, all three approaches within the ICT component are met with varying degrees of emphasis and skills.

Training strategies used to train pre-service teachers in the field of ICT in education

At the three universities, strategies used are lecture-based, hands-on, and practical applications. Particularly at UPM, pre-service teachers (in groups) are required to present weekly topics during the lecture session. This gives each group the opportunity to delve deeply into specific topics in the area of educational technology. At USM, pre-service teachers (in groups, also) need to present briefly the PowerPoint material they prepared with appropriate teaching strategies, similar to micro teaching.

CONCLUSION

All three approaches within the ICT component of the UNESCO ICT-CST are met with varying degrees of intensity. Establishing early habits could make them feel more confident in their ability to conduct classes especially teaching with technology during their practical teaching and eventually the embedded skills may transfer easily and smoothly in the actual situation.

The three universities use different approaches in delivering the significance and what entails educational technology (and in consequence, ICT). Nevertheless, the main ICT components of the UNESCO ICT-CST are met.

It is imperative that faculty / lecturers guide pre-service teachers to teach with technology in the actual classroom and to provide them with skills that will enhance their technology abilities. It is no longer sufficient for pre-service teachers to obtain skills and knowledge but the practical aspect has to be integrated so that these teachers will feel comfortable using technology and the act will eventually become automatic. Although the knowledge skills gap do not seem to exist within the three cases, other factors should be considered so that the courses offered can be further strengthened.

At the same time faculty members need to use up-to-date technology so as to attract and motivate students in using technology. The field-based model advocated by Brush *et al.* (2002) may be worth considering so that personal experience by pre-service teachers in applying their knowledge and skills at an earlier stage before their practical teaching can be practiced. It is also very important that other higher institutions around the world be conscious with evolving technology by revising their curriculum often (at least 3-5 years) to meet societal needs and expectation to move towards a higher quality of human capital.

Since this is a preliminary finding, a matrix can be sketched to look at further similarities and differences in the final analysis of the whole project. This project can also stretch out to other curriculum by comparing their own curriculum to existing standards or match it up to world standards.

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STUDENTS' PERCEPTION ON COMPUTER BASED LEARNING (CBL)

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ABSTRACT

The use of internet has created opportunities to expand learning experience beyond the traditional classroom. Chang and Fisher (2003) developed a new instrument called a Web-Based Learning Environment instrument to assess students' perception of online learning.

STIE Perbanas Surabaya has accepted Grand Program from Indonesian Government to enhance graduate employment program for students. The Enhancing Information Technology Awareness is program to enhance graduate employment program for students at STIE Perbanas Surabaya. This study explores how students perceived their computer supported computer-based learning (CBL) environment and examines the difference of perceived their computer supported computer-based learning (CBL) environment based on characteristics of students.

The survey has been conducted to 647 students of Accounting and Management Programs. The result of this study shows there are no differences among characteristics of students on access, interaction, response, and result. The other finding of this result shows that preferences students at STIE Perbanas in the online environment rather than learning in the traditional classroom.

Keywords: *Computer Based Learning (CBL), Information Technology, Web-Based Learning*

INTRODUCTION

Digital technology has become a common tool within our lives including in education sector where teachers have yet to embed them within their daily teaching practices (Cuban, 2001). Teachers' beliefs refer to internal construct that help teachers interpret experience and that guide specific teaching practice. Teacher beliefs are shaped by many factors such as the influences of discipline subculture, the quality of pre service experience in the classroom, and the opportunity for reflection on the pre service experience. According to Miller (2003), teachers' beliefs about technology are comprised of three related, but independent, components: pedagogical beliefs about teaching and learning, self efficacy beliefs about technology use and beliefs about the perceived value of computers for student learning.

Computer Based Learning (CBL) represents one of the most highly developed computer assisted approaches in education. In introducing CBL, a teacher is required to make major changes and even transform his/her way of teaching. Exercises are no longer tied to the singular space and time frame in which they were confined and content often provided orally has to be pre-formalized (in writing, audio, video, etc). A separation of roles between lesson designers, tutors, and various experts means that the course design shifts both from handcrafting to mass production, and from individual to group.

CBL is essentially any form of education that is facilitated by the internet and its technologies. Thus, it encompasses the use of the World Wide Web to support instruction and to deliver course content. CBL represents one form of technology mediated learning,

which is defined as "an environment in which the learner's interaction with the learning materials, peers, and/or instructor is mediated through advanced information technologies".

The use of internet has created opportunities to expand learning experience beyond the traditional classroom. Chang and Fisher (2003) developed a new instrument called a Web-Based Learning Environment instrument to assess students' perception on online learning. Computer-based training (CBT) and computer-based instruction (CBI) are proven methodologies used for computer-based learning (CBL) in industry and academia. Cooperative learning, an instructional strategy that has its foundation in elementary education, has also been proven effective in higher education and its taking a stronghold in industry – especially with the increase importance of teamwork. Partnering cooperative learning and computer based learning has definite benefits as well as possible negative consequences.

This study explores how students perceived their computer supported classroom environment and examines the difference of perceived their preference of computer supported classroom environment based on characteristic of student.

LITERATUR REVIEW

Previous Research

Developing a better understanding of the role of technology in facilitating learning has been identified as an important research objective for the field of Management Information System (MIS) (Alavi & Leidner, 2001; Piccoli, Ahmad & Ives, 2001). The other field of learning environment has undergone remarkable growth in the last 30 years. Past researches (Fraser 1998a, 1998b; Goh & Khine, 2002; Khine & Fisher, 2003; Trinidad, et al, 2001) show that learning environment information has proven valuable for a variety of research purposes in many countries.

Park and Ertmer (2007) examined the impact of Problem Based Learning (PBL) on pre service teachers' beliefs regarding technology use and on their intended teaching practice. The participant of Park and Ertmer research included 48 pre-service teacher enrolled in a one credit educational technology course. Results showed that beliefs regarding technology use did not change significantly. However, participants significantly shifted their intended teaching practices from teacher-directed to student-centered learning.

Mills, Lawless and Pratt (2006) examined the knowledge gained by students within cooperative group interacting with computer-based instruction compared to students working alone. Mills, Lawless and Pratt (2006) find no statistically significant differences between group score and individual learner. Differences between the groups and individual learner would have indicated the presence of confounding variable in the study. A finding of no significant difference, however, indicates an overall effectiveness of the CBI to increase student achievement for both group and individual CBI learners. The other findings of their study are that there are statistically differences in achievement scores between the group member controlling the mouse and observing group members provides evidence that the additional responsibility of a learner to navigate through the computer-based program and attend to the needs of others in the group may place this learner cognitive burden on the learner. The conclusion of their research regarding

cognitive overload associated with navigating and learning from a hypertext document.

Fuller, Vician and Brown (2006) examined the role of technology in instruction and corporate training for over three decades. In particular, their research provides evidence that computer anxiety, group oral communication apprehension, and prior experience with email technology explain 68% of the variance in email anxiety. Email anxiety and computer experience explain 22% of the variance in email use, and email use and age explain 11% of the variance in learning. Thus, the result demonstrated the anxiety plays a significant role in influencing use of email. Further, the results indicate that email use has a positive impact on course learning, suggesting that individuals who avoid email use are at a disadvantage with regard to learning opportunities in an e-learning environment.

Brown, Fuller and Vician (2004) integrated the literature on computer anxiety and communication apprehension to determine their joint impact upon individual attitudes toward using and use of computer mediated communication. They introduced the application-specific computer mediated communication anxiety, defined as an individual's level of fear or apprehension associated with actual or anticipated use of information technology to communicate with others. The result shows that the factors contributing to Computer Mediated Communication Anxiety include computer anxiety, oral communication apprehension, and Computer Mediated Communication familiarity. The results further show that Computer Mediated Communication anxiety mediates the relationship between oral communication apprehension and computer anxiety and the dependent variables. Contrary to expectations, written communication apprehension was not a significant determinant of Computer Mediated Communication anxiety. Computer Mediated Communication anxiety explains 34% of the variance in attitude toward using Computer Mediated Communication technology and Computer Mediated Communication anxiety and familiarity explain 14% of the variance in usage of Computer Mediated Communication technology.

Wong et al (2006) validate the actual and preferred of the Web-based learning environment for use among secondary school students in Singapore. The result showed that each Web-based learning environment scale displayed satisfactory internal consistency and discriminant validity. The other findings showed that teachers' perceptions were generally similar to or more positive than their students' on most of the Web-based learning environment dimensions. Wong et al (2006) indicated that the students would prefer to have more convenient and efficient access to learning materials/activities in the online environment, so that they can feel a greater sense of gain from studying in such an environment. To ensure students enjoying more convenient and efficient access, teachers should not assume that everyone knows how to use the online environment to access activities and materials. Teachers may spend more time teaching the students on how to use the features in the online environment.

Computer Based Learning

Computer based learning supports a great deal of the collaborative activities in educational institutions. When dealing with Computer based learning such as email, individual must simultaneously contend with both computers and communication. This interaction of computer technology with both computers and communication medium

may have unintended consequences for Computer based learning use. Individual differences pertaining to the use of a computer and/or communication can have a negative impact on organization's ability to encourage use of Computer based learning.

Computer based learning are computer systems that enable individuals to communicate with others. These systems include many of the tools used to communicate today, such as telephone systems, voice mail, and videoconferencing as well as text-based systems, such as bulletin boards, instant messaging, and email. These latter text-based systems consist of computer text-processing and communication tools used to exchange information among participants. They require individuals to use computer to communicate (telephone, voice mail, and videoconferences do not necessarily require direct interaction with a computer).

RESEARCH METHOD

Sampling Method

The study is performed by means of survey method. The population studied is Faculty of Economics students at STIE Perbanas Surabaya. The sample is taken randomly (random sampling) and data is collected through a questionnaire.

Operational Definition

The variable of this study is the perception toward Computer Based Learning (CBL) in the academic area. The term is taken from the combination of e-learning definition delivered by Cheng (2006) and that of Computer Based Learning (CBL) by Wong et al (2006).

Computer Based Learning (CBL) refers to learners gaining knowledge through the individual use of electronic or digital media, such as computers, tapes, CD, the internet, etc. This definition includes both on-line learning, also referred to as web based learning, which means that learners achieve learning through the media of the internet, or an intranet and off-line learning. This latter dimension refers to learning by way of an independent computer and the content of the learning material is stored on disks or CD. While the subset we are study is this article is on-line learning and off-line learning.

The perception toward Computer Based Learning (CBL) categorization based on questionnaires to asses their perceptions of their e-learning classroom. The modified e-learning perception had seven items in the first scale (Access) and eight items in each of the remaining three scales (Interaction, Response, and Result). A five-point response scale, with alternatives of 5-point scale where 1= strongly dislike and 5 = strongly like was used. The perception of students toward e-learning in academic environment shall consist of:

1. **Access**, is to ascertain the convenience of accessing the learning activities, the efficiency in terms of accessing the learning materials at a location suitable to the student, and the autonomy of accessing the learning materials at a time convenient to the student.
2. **Interaction**, assesses if students are able to work in a collaborative and cooperative manner with other students to achieve the learning outcomes.
3. **Response**, measure how students feel in using this type of learning environment by getting them to indicate their perceptions of this learning environment.
4. **Results**, assesses whether the students have gained from this learning environment.

Questionnaire

The instrument of study is adopted from Wong et al (2006) with some modifications related to the condition in Indonesia. The evaluation shall be performed as referred to the answer given. Items were measure on a 5-point scale where 1= strongly dislike and 5 = strongly like.

Data Analysis Technique

After the data is collected then data analysis is performed in the following stages: ***The first analysis*** is Descriptive Analysis**.** This analysis is performed to search for and draw a conclusion of findings that can be obtained on the field. Those collected findings are further presented in a tabulation or graphic to be easily understood and read. The descriptive analysis is explained in four things: access, interaction, response and result.

The second analysis is interpretation the respondent answer about their preferences on access, interaction, response and result. **Access Factor**, when most respondent chose strongly like or like, it's means the respondent convenience of accessing the learning activities, the efficiency in terms of accessing the learning materials at a location suitable to the student, and the autonomy of accessing the learning materials at a time convenient to the student. **Interaction Factor**, when most respondent chose strongly like or like, its means the respondent are able to work in a collaborative and cooperative manner with other students to achieve the learning outcomes. **Response Factor**, when most respondent chose strongly like or like, its means the respondent feel convenient in using this type of learning environment by getting them to indicate their perceptions of this learning environment. **Result Factor**, when most respondent chose strongly like or like, its means the respondent have gained from this learning environment. ***The third analysis*** is comparing the perceived of student preferences of computer supported classroom environment based on characteristic of student.

RESULT

The questionnaires distributed for all student at STIE Perbanas Surabaya randomly. The questionnaires distributed to 900 respondents, and 647 questionnaires have been returned. All respondents completed a survey item that measure Computer Based Learning in access variable, interaction variable, response variable, and result variable. Before doing any analysis of research result, the following descriptive analysis of respondent's identify is presented. The descriptive analysis of each respondent shall include the data of their department subject, batch, and GPA. Table 1 describes characteristics of respondents.

According table 1, in this study, total respondents whose enroll in Accounting Department are 366 respondents or as much as 56.6%; total respondents whose enroll Non Accounting Department are 280 respondents or as much as 43.3%. Beside that, total respondents are studying at STIE Perbanas for less than 2 years are 338 respondents or as much as 52% and rest that are studying at STIE Perbanas more than 2 years are 304 respondents or as much as 48%, while total respondents whose GPA more than 3.00 (grade 4.00) are 392 or as much as 61%, and less than or equal 3.00 (grade 4.00) are 255 or as much as 39%.

VALIDITY AND RELIABILITY TEST

Validity test is performed to evaluate whether the questionnaire of this study is valid or not. According to the data, all instruments for access, interaction, response, and result variables have the probability level below 0.01. Therefore, it can be concluded that all instruments are considered as valid.

The reliability test indicates that the measuring instrument is reliable. A questionnaire is considered to be reliable when respondent's answer to a question is consistent. From the data, the alpha score of all variables is more than 0.60. Therefore, it can be concluded that all those variables are considered as reliable.

I. DEPARTMENT/PROGRAM–BASED ANALYSIS

Table 2 describes about preferences of respondents of access variable depend on Department (Program). According to this table, most of respondent for both Accounting Department and Non Accounting Department are more favorable to used computer and internet to access Learning. The respondent prefer to access internet, on-line resources, to work at their own pace, to discuss using internet, to access internet to meet their learning goals, and to explore online resources which they interested in. This indicate, that more students prefer access learning with computer rather than traditional learning (access learning without use computer) for both major, Accounting Department and Non Accounting Department.

According interaction variable, most of respondent for both Accounting Department and Non Accounting Department more favorable to used media online to learn and work with computer. The other sides, for discussing in online group environment item and supported by positive attitude from their group members item, respondent unfavorable about this item, which is less than 50%, both for Accounting Department and Non Accounting Department.

For response variable, most of respondents for both Accounting Department and Non Accounting Department more favorable to used computer, media online and work with group. But only Preferences students that it be easy to organize a group for an online discussion just 50% for both, students for Accounting Department and Non accounting Department. It was indicated that half of student felt difficult to organize a group for an online discussion

And the last, for result variable, most of respondents for both Accounting Department and Non Accounting Department more favorable if the result from media online can be used to learning object. It was indicate that preferences students that Computer Based Learning enable them to interact with other students and teachers.

II. GPA – BASED ANALYSIS

Table 2 describe about preferences of respondents of access variable, and the result is most of respondent for both GPA less than 3 and more than 3.00 (grade 4.00) are more favorable to used computer and internet to Learning. The respondent prefer to access internet, on-line resources, to work at their own pace, to discuss using internet, to access internet to meet their learning goals, and to explore online resources which they interested in.

According to interaction variable, most of respondent for both GPA less than 3 and more than 3.00 (grade 4.00) are more favorable to used media online to learn and work with computer. But, for discussing in online group environment item, respondents

unfavorable about this item, which is less than 50% both for GPA, less than 3.00 and more than 3.00.

Preferences of respondents of response variable, most of respondent for both GPA less than 3 and more than 3.00 (grade 4.00) are more favorable to used computer, media online and work with group. But only preferences students that it be easy to organize a group for an online discussion just 50% for student's GPA, less than or equal 3.00 and more than 3.00. It was indicated that half of student felt difficult to organize a group for an online discussion

Preferences of respondents of result variable, most of respondents for both GPA less than or equal 3 and more than 3.00 (grade 4.00) are more favorable if the result from media online can be used to learning object.

III. BATCH - BASED ANALYSIS

Preferences of respondents of access variable depend on batch of student, most of respondent for all batches are more favorable to used computer and internet to access Learning. It was indicated, that more students prefer access learning with computer rather than traditional learning (access learning without use computer) for all batches.

According interaction variable, most of respondent for all batches more favorable to used media online to learn and work with computer. The other sides, for discussing in online group environment item and supported by positive attitude from their group members item, respondent unfavorable about this item, which is less than 50%, for all batches.

For response variable, most of respondents for all batches more favorable to used computer, media online and work with group. But only preferences students that it be easy to organize a group for an online discussion just 50% for students all batches. It was indicated that half of student felt difficult to organize a group for an online discussion

And the last, for result variable, most of respondents for all batches more favorable if the result from media online can be used to learning object. It was indicate that preferences students that Computer Based Learning enable them to interact with other students and teachers

According to all characteristic of students indicates that the preferences students about access, interaction, response, and result variables of Computer Based Learning have same trends. It means that respondents from Department (program), GPA, and Batch of Students have same preference about Computer Based Learning. Students prefer to learn with media computer and online rather than traditional learning.

The other finding of this research indicated that preferences students in online environment with the other student and their teacher more favorable than discussion group online environment. And this result has same trends for Department (program), GPA, and Batch of Students.

CONCLUSION, LIMITATIONS AND IMPLICATION FOR INSTITUTION

The purpose of this study is to explore how students perceived their computer supported computer-based learning (CBL) environment and to examine the difference of perceived their computer supported computer-based learning (CBL) environment based on characteristic of student. The result of this study may be contributed for STIE Perbanas to develop learning method. Based on the study, it was indicated that students prefer to learn with computer media rather than traditional classroom. Moreover, an impact of Indonesian Government Grand Program to STIE Perbanas especially to

Department Accounting to increase IT Awareness can be felt for students from Non Accounting Department. The other implications for institution are that a higher education institution must integrate soft-skill into STIE Perbanas's curriculum such as team work and managerial skill. It is important because these skills can improve student capability at their work after graduate.

This research has limitations. The results are constrained by two factors. First, the samples are undergraduate students. Thus, the application of these results to individuals participating in distance education program in which the participants are mature age students and more experienced required additional empirical study. A second limitation is the omission of the other factors thought to influence learning. Future research should expand the model to incorporate other constructs such as learning style, instructor factor, and technology components. Future research should monitor impacts longitudinally to determine later academic success as a function of early exposure to Computer based Learning (CBL) tools.

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Table 1
Characteristics of Respondents

No	Description	Number of Students	Percent
I	**Department**		
	a. Accounting Department	366	56.6
	b. Non Accounting Department	280	43.3
	Unidentified	1	0.2
	Total	647	100.0
II	**Batch of Student**		
	< 2003	32	4.9
	2004	82	12.7
	2005	190	29.4
	2006	197	30.4
	2007	141	21.8
	Unidentified	5	0.8
	Total	647	100.0
III	**GPA (Grade 4.00)**		
	< 2,49	40	6.2
	2,5 – 2,74	65	10.0
	2,75 – 3,00	150	23.2
	3,01 – 3,49	231	35.7
	3,5 – 4	161	24.9
	Unidentified	0	0
	Total	647	100

Table 2

Preferences of Respondent of Access, Interaction, Response, and Result Variables

No.	Access Item	Department / Program		GPA		Batch	
		Accounting	Non Accounting	GPA ≤ 3.00	GPA > 3.00	2003, 2004, 2005	2006, 2007
1.	I prefer to access internet at times convenient to me.	69%	65%	64%	70%	67%	67%
2.	I prefer that the on-line resources be available at locations suitable for me.	75%	77%	80%	73%	77%	73%
3.	I prefer to be allowed to work at my own pace to achieve learning objective	77%	81%	81%	78%	79%	77%
4.	I prefer to decide how much I want to discuss using internet	74%	70%	75%	71%	75%	69%
5.	I prefer to decide when I want to discuss using internet	74%	76%	74%	75%	74%	75%
6.	I prefer to be allowed flexibility to access internet to meet my learning goals.	86%	85%	89%	84%	86%	84%
7.	I prefer to be allowed flexibility to explore online resources which I am interested in	87%	87%	89%	86%	88%	85%
No.	**Interaction Item**						
1.	I prefer to communicate with other students in this subject electronically (online discussions)	61%	58%	66%	55%	61%	57%
2.	In Computer Based Learning environment, I prefer to be self disciplined.	87%	85%	82%	89%	86%	85%
3.	I prefer to have the autonomy to ask the teachers what I do not understand.	91%	90%	88%	93%	91%	89%
4.	I prefer to have the autonomy to ask other students what I do not understand.	85%	85%	85%	85%	87%	82%
5.	I prefer that other students respond promptly to my questions	93%	92%	91%	94%	92%	92%
6.	I prefer to discuss in online environment	51%	51%	57%	47%	55%	46%
7.	I prefer to discuss in online group environment	40%	42%	47%	39%	46%	39%
8.	I prefer to be supported by positive attitude from my group members	46%	46%	54%	41%	50%	42%

No.	Response Item						
1.	I prefer that Computer Based Learning enable me to interact with other students and teachers asynchronously	72%	73%	76%	71%	75%	70%
2.	I prefer to feel a sense of satisfaction and achievement about Computer Based Learning	82%	80%	85%	79%	81%	81%
3.	I prefer to enjoy discussing in this online environment	62%	62%	68%	57%	65%	57%
4.	I prefer to discuss more in this online environment	61%	63%	71%	55%	63%	59%
5.	I prefer that it be easy to organize a group for an online discussion	53%	50%	58%	47%	53%	48%
6.	I prefer that it be easy to work collaboratively with other students involved in a group discussion	88%	82%	83%	87%	83%	86%
7.	I prefer that learning environment hold my interest throughout Computer Based Learning	80%	75%	79%	77%	82%	73%
8.	I prefer to feel a sense of boredom towards the end of Computer Based Learning	85%	81%	86%	82%	83%	83%
No.	**Result Item**						
1.	I prefer that the scope or learning objectives be clearly stated	98%	95%	95%	98%	97%	96%
2.	I prefer that the organization of each online discussion forum be easy to follow	84%	81%	84%	82%	81%	83%
3.	I prefer that the structure keep me focused on what is to be discussed	59%	59%	65%	55%	64%	53%
4.	I prefer that the expectations of tasks and roles are clearly stated in the online environment	74%	68%	76%	68%	73%	69%
5.	I prefer that activities he planned carefully	96%	95%	94%	96%	94%	95%
6.	I prefer that the resources and Just-in-Time lessons be appropriate for delivery online/ Computer Based Learning	69%	72%	73%	86%	70%	68%
7.	I prefer that the presentation of the forum topic be clear	75%	78%	81%	78%	94%	80%
8.	I prefer that the discussions and reflection log enhance my learning process	84%	81%	81%	79%	80%	78%

THE ROLE OF INSTITUTION OF HIGHER LEARNING IN CAPACITY BUILDING OF E-COMMUNITY CENTERS

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ABSTRACT

A Telecenter is an access point to internet for the marginalized communities. The facilities and infrastructures at the Telecenter help to democratize the usage of ICT, bridge information and digital divide among those at the urban and rural. One of the objectives of bridging digital divide initiatives is to bridge the knowledge gap and divide among the urban, rural and underserved communities in Malaysia. Today, Telecenter is becoming one-stop center with business, learning and teaching activities. These diversified roles are to ensure that Telecenter can be sustainable and self-funding beginning 2010. A research was conducted from January 2008 till April 2008, which employed qualitative and quantitative research techniques. This research includes survey, focus group interview and observation of 18 Telecenters. This paper will describe the findings of the research related to the needs of capacity building of the Telecenters' supervisors in view of the transformation of Telecenter into social business model. It will discuss the courses needed and describe the role of the Institution of Higher Learning (IHL) in developing the capacity building program for competitive advantage of the Telecenter. Hopefully, this paper will highlight the role's of IHL in collaborating with the Telecenter to assist the development of value added knowledge society.

Keywords*: Digital Divide, Telecenter, Institution of Higher Learning, ICT*

INTRODUCTION

The Telecenter is an access point to ICT at the marginalized areas. The facilities and infrastructures provided help to democratize the usage of ICT, bridge information gap and digital divide among those at the urban and rural areas. In order to support and contribute to the growth of capacity building and enhance the quality of life of rural communities, Malaysia Government gives 100% commitment to mainstream ICT (Harris et. al 2005). A lot of efforts have been made to ensure the digital divide is narrowed and Malaysians may share the benefit of ICT. Therefore, these efforts had helped the rural communities to generate economic value and improve living standards. Bridging the Digital Divide (BDD) is identified as a key policy thrust in order to ensure Malaysians reap the benefits of a knowledge-based economy (Harris et. al. 2005). Those strategies included the implementation of the infrastructure plan for universal access as well as making ICT products and services more available and affordable. As a result, more than 1945 Telecenters across Malaysia were established (Norizan Abdul Razak 2007). These Telecenters, comprising Rural Internet Center (RIC - Pusat Internet Desa), Medan InfoDesa (MID), Universal Service Provision (USP), USP Communication Center (UCC) and Rural Broadband Library (RBL) were set up to increase computer education and empower rural communities to access and utilize information to improve their economic and social well-being. A lot of programmes were also initiated to target underserved

groups including disable people, senior citizens, women, youth and the urban poor. Some of the existing Telecenters have been upgraded to Community Knowledge Centers that provide a wider range of economic and social information to communities. These centers become one-stop centre for community to access e-Government applications, e-learning and information resource exchange. The community is also given training on how to upgrade their ICT literacy. The training activities are directed towards assessing higher adoption of ICT usage at the Telecenter.

From the findings of the study, it was apparent that the capacity buildings of supervisors of Telecenters need to be enhanced in order to help the users to use the facilities effectively. As a consequence, the supervisors and users of Telecenters are able to use ICT effectively and become comfortable users of emerging technologies, such as wireless applications and online education programs. The objectives of this paper is to identify what kind of training that would be necessary to enhance the capacity building of the supervisors and users of Telecenters and the role of IHL in complementing the capacity building initiatives.

THEORETICAL BACKGROUND

The Institutions of Higher Learning (IHL) and Bridging Digital Divide initiators play an important role in developing the skills and human capacity for the community and society. The governments initiated the Telecenters programs since 2001. Primarily, these Telecenters offered e-governance services and also computer training, education, and activities related to agriculture, youth, and empowering the society economically via the use of e-commerce (Harris 2007 (b), Norizan Abdul Razak 2007). Therefore, collaboration with IHL will definitely increase the benefits of Telecenters to enhance the level of education of the rural and underserved communities. E-Learning is made possible with the growth of the internet and many educational institutions are now offering e-learning modules and courses to the in and off campus students. This benefits a variety of non-traditional educational learners; distance learners, adults in employment (in the form of continuous learners), housewives, out-of-work youths, the unemployed and school drop-outs.

Both public and private educational institutions are exploiting ICT to expand their course offerings beyond the classroom. As the Telecenters are access points for ICT and internet to the communities at the rural and urban, collaborations between IHL and Telecenter will be a good start to ensure democratization of education can be realized. Most of the problems faced by rural and marginalized communities are isolation, inadequate infrastructure, limited economic activities and limited opportunities for lifelong learning (Harris 2007 (b)). Therefore, Telecenter would play a bigger role in enabling shared access; reducing the isolation due to geographical areas, increase knowledge and awareness on current issues and assist development of socio-economic activities. The collaboration between IHL and the Telecenter will further reduce the challenges in development of skills and learning contents. Some possible models of collaborations are as following (Norizan Abdul Razak 2007, Harris 2007
(a)):

a. University-based Telecenter: The Telecenter is physically housed in a university facility, and where ICT resources can be shared under suitable

arrangements with people outside the university. This model has been successful in association with lower level schools of World Bank projects.

b. A university-administered community-based Telecenter: The Telecenter becomes an outreach or extension center apart from the institution's main campus. This model was used as an incubation strategy in South India but has not otherwise been widely exploited.
c. A university-supported arrangement: The university provides continuous services and assists a Telecenter that is owned and operated by a community entity such a local governmental body, or a non-governmental body like a cooperative and universitysupported commercial cybercafés.

These three models would help the IHL to execute better the training courses for the community, as well as the underserved and marginalized group. Moreover, in Philippines, the Commission on Information and Communications Technology (CICT), Office of the President, Philippines in coordination with KDDI Corporation, Waseda University Global Information and Telecommunication Studies of Japan, University of the Philippines, Cebu and The Law of Nature Foundation has embarked on the APT ICT Development Programme for Supporting ICT Pilot Project in Rural Areas in Bantayan Island, Cebu, Philippines. The objective of this program is to contribute in bridging the digital divide in the rural areas of the Philippines by providing facilities and championing the model for rural areas connectivity to the internet. The objectives of this program are:

a. To provide ICT services in Bantayan Island,
b. To connect the Marine Sanctuary & Learning Center, Public Schools and Municipal Halls using Broadband Wireless LAN, and extend the rural area network to the Internet,
c. To promote human resource capability building using IP Technologies by connectingBantayan and the UP System, and
d. To examine an application of RFID on Tagging and Remote/Self Instruction for E-learning leading to E-business in Bantayan.

This project was proven as a successful project and it supported the vision of producing e-Philippines, an electronically enabled society where the citizens live in an environment that will encourage and promote the access to technologies, providing quality education, efficient
government services, and greater sources of livelihood and ultimately a better way of life (Final Report 2006).

Another scenario is in Brazil, where Communication, Education, and Information on Gender (CEMINA) is an organization dedicated to strengthen women's leadership in community development through Internet radio. The CEMINA project was the first initiative to focus on promoting gender education by connecting the communities to the Internet via the radio. The content of the Radio program is produced locally and shared with other radio stations via broadband Internet links (for uploads and downloads). By 2002, 11 community radio stations have successfully used information and communication technology (ICT) to produce radio content and 1,500 women from all over Brazil have been trained in radio production. The main aim of CEMINA was to improve education on gender by strengthening the use of community radio by low income women in Brazil

(http://www.sustainableicts.org/infodev/Cemina.pdf). Thus, this paper foresees the collaboration between IHL and Telecenter result in better way.

RESEARCH METHODS

A research was conducted by using quantitative and qualitative methods. A set of questionnaire was given to each respondent and the Telecenter supervisors were interviewed and the users of Telecenter were also interviewed via focus group.

18 Telecenters' in Malaysia were chosen as respondents. A survey was conducted from January 2008 till April 2008.

RESULTS

This section will discuss the findings related to the demand of the community members and supervisors of Telecenter towards improving their skills and training needed.

The Questionnaire

The data presented in Table 1 show that there is a high percentage of users of Telecenter who surfed the internet (66.8%) and use e-mail (49.1%) and download games and entertainment (47.6%).

Table 1:
Types of Application Used (%)

Items	Yes	No
Internet Surfing	66.8	33.2
Email	49.1	50.9
Office Suite	46.6	53.4
Graphic/Photo/Pictures/draw	31.7	68.3
Finding information	38.8	61.2
"Chat"	24.3	75.7
Interest groups	30.8	69.2
Download software	30.2	69.8
Online service	21.5	78.5
Entertainment/Games	47.6	52.4
Others	18.8	81.2

They also show higher tendency to access information related to education (60.2%), news (46.8%), general information (41.8%), job opportunity (32.5%) and sports (33.3%). However, this does not mean that other types of information are not popular, for example politics and business, which are at 21% to 27% respectively (Please refer Table 2). Therefore, it is highly recommended that IHL should offer education courses and share educational materials with the users at the Telecenter.

Table 2:
Types of Information Seeked (%)

Items	Yes	No
Education	60.2	39.8
News	46.8	53.2
General Information	41.8	58.2
Job Opportunity	32.5	67.5
Finding information	38.8	61.2
Sports	33.3	66.7
Health	27.4	72.6
Gossip	28.2	71.8
Business	26.9	73.1
Politics	21.2	78.8
Others	22.4	77.6

The data obtained also show that there is a positive demand on training courses and proper certification for courses or programs attended. The data below (Table 3) supported that there is strong interest from the respondents (75.8%) to improve their ICT skills.

Table 3:
Level of Interest for Training

Respondents	(%)
Interested	75.8
Moderately interested	17.1
Not interested	7.1
Total	*100.00*

Another part of the questionnaire asked about the respondents perceptions on the added value of Telecenter. From the scale of 1 – 5, where 1 refer to no value at all to 5 as highest value, it was found that Telecenter helps the community to get early exposure to ICT (4.15), help the community to obtain latest info (4.12) and information about job opportunities (3.94). the other data please refer to Table 4.

Table 4:
Descriptive Statistical (Mean) Items on Advantages of Telecenters

Items	Mean
Early exposure of ICT to the community	4.15
Help to obtain the latest information	4.12
Information about job opportunities	3.94
To upgrade the quality and productivity of your work	3.61
To ease contact among the community, community leaders and the government	3.74
To bring family together	3.43
To enable information about the local area's attraction to be accessed	3.49

The Focus Group Interview

From the focus group interviews, it could be summarized that most of the supervisors have undergone some basic workshop on computer literacy that teach basic computer skill and application. According to the respondents, the instructor highlighted the use of MS Office suite and Internet applications via experiential approach (learning through experience) which combined with pedagogical approach that emphasizes on the authenticity of the application and examples. This module is only for the beginner.

According to the respondents, the major area that they would like to be trained in is computer instruction courses. These courses covered three sub-domains in human capital development: education, human development, and computerization. As the aim of the training is to produce supervisors who are not only experts in computerization but also well versed in instructional technology and management of Telecenter. This training will help them to not just teach ICT skills, but also prepare courses for the community and enhance lifelong learning. Regarding the curriculum provided at the *Telecenters*, the respondents replied that the modules were prepared only for the basic application. They would like to learn advance application of the technologies, such as knowledge of website design, blog, graphic design that would help them in their daily works. These skills are crucial as it will help them to offer services and generate income for the Telecenter via services printing wedding invitation cards, designing banner, poster and pamphlet; and taking pictures and digital video during a wedding receptions. However, their basic concern is the training that is provided or offered should offer proper certification and valid for the future reference. This is where the Institution of Higher Learning (IHL) may play its role as the source of knowledge. The training needed by the supervisors can be offered and proper certification can be issued. The training can also be extended to the members of the community who would like to be trained further. Since the training courses would include all necessary elements in capacity building, such as technical skill, computerization, generic skills such as communication and interpersonal skills, and human resource development and education, the users of Telecenter may want to choose which courses to take for lifelong learning and maybe subscribed to some courses as distant learner.

DISCUSSION

Thus, from the findings of the research, we could conclude that the collaboration between IHL and Telecenter can begin via:

a. Online courses offered and subscribed by the Telecenter users.
b. Telecenter being used as the training centers by the IHL
c. Telecenter as the access points for universities registration and distant learner to access elearning materials.
d. Telecenter as a focal point for meetings and universities research point.
e. Telecenter as location for industrial training, contact point for the community to network with universities and social work.
f. Universities to assist the management, collaboration with other agencies and a body for certification of Telecenter.

CONCLUSIONS

As a conclusion, training is a vital component for the supervisors and users of Telecenter. Through training courses, Telecenters' supervisors would be better occupied to manage and run the Telecenter as a one-stop center for learning and economic activities. The supervisors of Telecenters need to be trained in the skills required to do their jobs; including technical skills, managerial skills and skills with dealing the public. As they are engaged in community development, the Telecenter need to know how to elicit the information required by the community to support the local development. The courses can also be extended to the community members and the universities presence at the community is even more apparent.

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SUSTAINABILITY OF POST-GRADUATE PROGRAMMES AT OPEN UNIVERSITY MALAYSIA (OUM): AN IMPORTANCE-PERFORMANCE ANALYSIS

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ABSTRACT

Identifying the important aspects of the services provided to learners and measuring the institution's performance in providing those services are critical in ensuring continual acceptance and long-term sustainability of an institution's academic programmes.

In this regard, a study was undertaken using the importance-performance analysis (IPA) to identify the strengths and weaknesses of services provided to the post-graduate learners of OUM. A random sample survey was employed using a questionnaire containing 46 service-items, grouped into 8 dimensions which are pertinent to open and distance learning (ODL). The data was obtained from 231 learners from 10 state learning centres throughout the country. A regression analysis was carried out to determine the factors that influence learners' perception on quality, their level of satisfaction and intention to stay.

The results show that the learners' ratings for expectations and performance are high as indicated by the mean importance and performance scores of 6.1 and 5.5 out of a 7- point Likert Scale, respectively. Learners' perception of the quality of services was found to be influenced by three dimensions, namely, responsiveness, assurance and accessibility (R^2=54.3%), while their level of satisfaction was attributed to responsiveness, assurance and affordability (R^2=52.4%). Another pertinent finding in the context of OUM is that learners' intention to stay is influenced by affordability and flexibility.

The study has obvious implications on OUM's efforts to ensure the long-term sustainability of its postgraduate programmes. One of the principal outcomes of the study is that OUM needs to strengthen its academic-related services and reduce those not directly academic-oriented. The other outcome is that OUM needs to strengthen its staff's responsiveness to learners' requirements.

INRODUCTION

The world of higher education has radically changed by the beginning of the 21st Century. This change was marked by the onward march of globalization, the rise in student mobility, the increase in diversity of learners, greater emphasis on lifelong learning, the proliferation of open universities, growing role of private sector providers; and the advent of the Internet, e-learning and virtual classrooms. To cope with this change, higher education institutions are being driven towards commercial competition (Firdaus, A., 2006). In this regard, these institutions had to be concerned with not only what the society values in terms of skills and abilities of their graduates (Ginsberg, 1991; Lawson, 1992), but perhaps more importantly, how their students feel about their educational experience (Bemowski, 1991). This has led to the increasing attention given to the management processes relating to student support within the institutions as opposed to the traditional areas of academic standards, accreditation and performance indicators of teaching and research (Firdaus, A., 2006).

The change in focus as mentioned above has led to the emphasis on learner-centredness as a driving force in today's higher education institutions. By learner-centredness, we mean that the institutions place their learners as the principal focus or at the centre of their activities. As such, learners' experience becomes a key parameter by which the performance of the organisation is measured. This likened to the principle that the "customer is king" as adopted in traditional business practices. Thus, it becomes important for an institution in a competitive environment to identify what are the critical factors or dimensions that directly affect the experience of its learners.

This realization has resulted in the increasing interest in determining what services are actually important to learners and how well the institutions provide them. Several instruments have been developed in the attempt to measure the performance in these areas. Since they relate to the provision of services, many researchers have focused on service quality measures as the principal yardsticks to obtain inputs and feedback from customers and in the case of higher education, learners. These include SERVQUAL (Parasuraman, A., Zeithaml, V.A. and Berry, L.L., 1988), SERVPERF (Cronin, J.J. and Taylor, S.A., 1992) and evaluated performance (EP) (Teas, R.K., 1993a; Teas, R.K., 1993b). SERVQUAL measures service quality by comparing the perceptions of the service received with expectations, while SERVPERF maintains only the perceptions of service quality. On the other hand, EP scale uses the gap between perceived performance and the ideal amount of a feature rather than the customer's expectations to measure the performance of a service.

Follow-up studies using the above scales have demonstrated the existence of difficulties resulting from the conceptual or theoretical component as much as from the empirical component. A glaring comment on the use of these scales is that they are more suited to the purely commercialized service industry as opposed to the more restraint environment of the novel higher education. As a consequence, Firdaus (2006) proposed a new set of scales which he referred to as HEDPERF to attempt to measure the performance higher education institutions. After conducting very rigorous tests on the scales, he found that they are better in measuring the performance of the services provided by higher education institutions (Firdaus, A., 2006).

HEDPERF has been shown to adequately measure the performance of a higher education institution in general. Is this instrument capable of performing the same task and with the same results for a special kind of higher institutions that has a different kind of delivery mode like the open and distance learning (ODL) institutions? A cursory survey of the literature revealed that this task has yet to be carried out.

OBJECTIVE OF PAPER

The objective of the paper is to report on study conducted at OUM on the application of the Importance-Performance Analysis (IPA) to determining the sustainability of its post-graduate programmes. The use of IPA was found to be appropriate for this study since it provides a direct feedback from learners on how they rate the importance of the support services provided by the Centre for Graduate Studies (CGS) and how well they rate CGS's performance in delivering those services. Such a feedback is necessary to enable CGS to determine what services should be enhanced, maintained, reduced or even terminated. By doing so, CGS will be able to optimize the use of its resources to ensure the sustainability of its programmes in the future.

RESEARCH METHODOLOGY

The study utilises the survey method to obtain direct feedback from postgraduate learners. Data were collected by means a structured questionnaire comprising of four sections, namely A, B, C and D. Section A contained 18 questions pertaining to learner respondent profile. The content includes questions on the usual demographic profile.

Section B provides a list of 46 items related to learner support services provided by CGS. The items were generated based on the nature of delivery of services in an ODL institution. Each item was presented as a statement to which a learner-respondent was requested to relate to their feelings about its importance based on the 7-point Likert-type scale ranging from 1 (Not at all important) to 7 (Very important).

Section C consisted of the same number of items as in Section B. All of them were presented as statements and were related to the same set of support services as in the previous section. However, for each item in this section, learner-respondents were requested to rate the performance of the services/facilities that best indicate the extent of their agreement with it again using the 7-point Likert-type scale ranging from 1 (Strongly disagree) to 7 (Strongly agree).

In addition to the main scale addressing individual service-items, in Section D of the questionnaire, respondents were requested to provide an opinion on the overall quality of services/facilities, the level of satisfaction on the services/facilities and whether they have the intention to complete their study at OUM. Finally, the last question in the section, which is open-ended asked learner-respondents to provide reasons why they do agree to complete their study.

Data were collected from learners who were registered in one of the postgraduate programmes at 11 State Learning Centres (SLCs) for the January Semester of 2008. A total of 250 questionnaires were mailed to the specified learning centres and the questionnaires were randomly distributed to learners by the Directors of SLCs. The number of returned and usable questionnaires was 227 and that was the sample size of the survey and represents almost 11% of 2080 registered learners for the semester.

The reliability of the scale was tested using the Crombach Alpha and its validity was tested using Pearson Correlation Test. The data obtained were analysed using SPSS version 14.0 for Windows.

RESULTS

Demographic and Related Variables

Analysis of the demographic variables reveals that 56% of the learner-respondents were female. In terms of ethnic group, 36% of the students were Chinese, 33% were Malays and 10% were Indians. A large majority (73%) of respondents were married, leaving about 25% who were singles. The results also reveal that in term of age, more than 69% of the respondents were 34 years and above, about 27% were below 34 years and 13% were 55 years and above.

Importance Ratings by Items

The mean importance scores for all the 46 items range from the 5.2 to 6.5 with an overall mean score of 6.1. Table 1 below indicates the ten items of highest importance while Table 2 lists the ten items of lowest importance to the learners.

As can be seen from the table, the highest ranked item in terms of importance to these postgraduate learners is "Quality programmes", followed by "Knowledgeable and competent facilitators/tutors", "Up-to-date teaching and learning facilities", "Staff always willing to help" and "Easy payment of fees by installment". This ranking clearly indicates that postgraduate learners at OUM are concerned most with those services related to teaching and learning, fees and staff willingness to assist them in their learning.

On the other hand, services related to the physical appearance of staff and learning centres are relatively lower in importance to these learners. "Online forum discussions contributing to overall grades", "Learning skills workshop", "Student handbooks made available via online" and "Reachable tool free number" are also of lower importance to the learners. Paradoxically, flexibility in terms of allowing the learners to choose mode of learning and to sit for examinations at any learning centre also belong to this category. Finally, learners also do not rank high in importance items of "Strict examination procedures" and "Personal attention to learners". It become apparent from these responses that the postgraduate learners being adults, more matured and more independent, do not prefer too much personal interventions and assistance.

Table 1: 10 Highest Importance Items

No	Description	Dimension	Mean (I)
1	Quality programmes	Assurance	6.5
2	Knowledgeable and competent facilitators/tutors	Assurance	6.5
3	Up-to-date T&L facilities	Tangibility	6.3
4	Staff always willing to help	Responsiveness	6.3
5	Easy payment of fees by installment	Affordability	6.3
6	Discounts on tuition fees	Affordability	6.3
7	Informing when tutorials/seminars will be held	Responsiveness	6.3
8	Accessibility of myLMS	Accessibility	6.3
9	Flexible duration to complete study programmes	Flexibility	6.3
10	Tutorials conducted according to time-table	Reliability	6.3

Table 2: 10 Lowest Importance Items

No	Description	Dimension	Mean (I)
1	Well dressed staff	Tangibility	5.2
2	Appealing appearance of learning Centre	Tangibility	5.6
3	Online forum discussion contributing to overall grades	Responsiveness	5.6
4	Providing learning skills workshops	Empathy	5.7
5	Student handbook accessible via myLMS	Accessibility	5.8
6	Reachable toll free number	Accessibility	5.9
7	Learners allowed to choose mode of learning	Flexibility	5.9
8	Learners allowed to sit for exam at any learning centre	Flexibility	5.9
9	Strict exam invigilation procedures	Assurance	5.9
10	Personal attention to learners	Empathy	5.9

In terms of dimensions, "Assurance" is ranked highest indicating that learners regarded the quality of programmes and competency of facilitators as most important to them. This is followed by "Tangibility" with respect to teaching and learning activities, "Responsiveness" with respect to staff's meeting learners' needs, "Affordability" with respect fees, "Accessibility" with respect to myLMS, "Flexibility" with respect duration of study and "Reliability" with respect to the conduct of tutorials.

On the dimension of lowest importance, "Tangibility" tops the list with respect to the appearance of staff and learning centres. This is followed by "Responsiveness" with respect to online discussion contributing to overall grades, "Empathy" with respect to learning skills workshop and personal attention to learners, "Accessibility" with respect to student handbook made available online and tool free number, "Flexibility" with respect to the choice of mode of learning and sitting for examination at any learning centre and "Assurance" with respect to strict examination procedures.

Performance Ratings by Items

The mean performance scores for all the 46 items range from the 4.9 to 5.9 with an overall mean score of 5.5. Table 3 below indicates the ten highest performance items while Table 4 lists the ten lowest performance items.

It is very encouraging to note that the services related to teaching and learning again come out highest in the performance ratings by the postgraduate learners. Services related to "Quality programmes", "Knowledgeable and competent facilitators/tutors", tutorials conducted on time", "Quality examination and assignment questions", and "Strict invigilation procedures" are rated the highest in terms of performance by these learners. Finally, flexibility in terms of "Work experience considered as part of entry qualifications", "Flexible duration to complete study programmes" and "Programmes with various specializations" are also rated rather highly by learners.

Table 3: 10 Highest Performance Items

No	Description	Dimension	Mean (P)
1	Knowledgeable and competent facilitators/tutors	Assurance	5.9
2	Quality programmes	Assurance	5.8
3	Tutorials conducted according to time-table	Reliability	5.8
4	Treating learners with respect	Assurance	5.8
5	Quality exam & assignment questions	Assurance	5.8
6	Work experience considered as part of entry qualifications	Flexibility	5.8
7	Strict exam invigilation procedures	Assurance	5.8
8	Accessibility of myLMS	Accessibility	5.7
9	Flexible duration to complete study programmes	Flexibility	5.7
10	Programmes with various specialisations	Flexibility	5.7

Interestingly, the services that were ranked relatively lower in importance were also rated relatively lower by the learners. These are “Reachable toll free number”, “Providing learning skills workshops”, “Appealing appearance of learning Centre”, “Online forum discussion contributing to overall grades”, and “Well dressed staff”. A disturbing result is that the low rating accorded to staff-related services, namely, “Easy contacts by telephone”, “Attending to enquiries”, “Staff being sympathetic and reassuring” and “Feeling confident with staff”. Another disturbing finding is that the learners rated relatively low on tutors’ response to providing feedback on online forum. One item, “Strict exam invigilation procedures” was ranked relatively low in importance but rated relatively high on performance.

In terms of dimensions, only four out of the eight were rated in the high performance category. They were “Assurance” (5 items), “Reliability” (1 item), “Flexibility” (3 items) and “Accessibility” (1 item).

Table 4: 10 Lowest Performance Items

No	Description	Dimension	Mean (P)
1	Reachable toll free number	Accessibility	4.9
2	Providing learning skills workshops	Empathy	4.9
3	Easy contacts by telephones	Accessibility	5.1
4	Attending to enquiries	Responsiveness	5.2
5	Appealing appearance of learning Centre	Tangibility	5.2
6	Online forum discussion contributing to overall grades	Responsiveness	5.2
7	Well dressed staff	Tangibility	5.2
8	Providing prompt feedback on online forum discussions	Responsiveness	5.3
9	Staff being sympathetic and reassuring	Reliability	5.3
10	Feeling confident with staff	Assurance	5.3

Importance-Performance Gap Analysis (IPGA)

An important aspect of the survey was to identify the *performance gaps* between the importance attached to the six dimensions in the survey and their perceived performance as rated by learners. A performance gap greater than 1.0, or 16.7% based on priority indicates that OUM is not meeting learners' expectations, less than 1.0 (16.7%) is generally regarded as meeting learners' expectations and a negative performance gap indicates that OUM is exceeding learners' expectations.

The 10 items with the highest performance gap is given in Table 5 while the 10 items with lowest performance gap is given Table 6.

From Table 5, only two items are found not meeting learners' expectations while the other eight are found meeting their expectations. This clearly indicates a very positive finding for OUM. However, a closer examination of the results reveals that 4 out of 10 items relate to staff performance, particularly in terms of their responsiveness to enquiries by and communication with learners, indicating that staff performance needs to be improved upon.

In terms of dimensions, "Responsiveness" has the most number of items (4), followed by "Accessibility" (2), "Tangibility" (1), "Affordability" (1), "Empathy" (1) and "Reliability" (1).

Importance Ratings by Dimension

Importance ratings by dimension are given in Table 7. It is encouraging to observe that the overall importance rating is high (6.1), indicating that the dimensions of the services included in the survey questionnaires are of importance to the postgraduate learners at OUM. "Affordability" is ranked highest in importance, followed by "Assurance", "Reliability" and "Responsiveness". "Tangibility" and "Empathy" were ranked lowest in importance indicating that appearance and care are not in the priority list of these matured postgraduate learners. "Flexibility" and "Accessibility" also do not fare highly in importance to these learners probably because they already have a high degree of accessibility in terms of internet connectivity and mobile communications.

Table 5: 10 Highest Importance-Performance Gap Items

No	Description	Dimension	Mean (I)	Mean (P)	IP Gap
1	Attending to enquiries	Responsiveness	6.2	5.2	1.02
2	Reachable toll free number	Accessibility	5.9	4.9	1.02
3	Easy contacts by telephones	Accessibility	6.1	5.1	0.98
4	Up-to-date T&L facilities	Tangibility	6.3	5.4	0.89
5	Providing prompt feedback on assignments	Responsiveness	6.2	5.4	0.87
6	Staff always willing to help	Responsiveness	6.3	5.4	0.86
7	Reasonable tuition fees	Affordability	6.2	5.4	0.80
8	Providing learning skills workshops	Empathy	5.7	4.9	0.78
9	Academic staff delivering what is promised	Reliability	6.1	5.3	0.77
10	Providing prompt feedback on online forum discussions	Responsiveness	6.1	5.3	0.75

Table 6: 10 Lowest Importance-Performance Gap Items

No	Description	Dimension	Mean (I)	Mean (P)	IP Gap
1	Well dressed staff	Tangibility	5.2	5.2	0.04
2	Strict exam invigilation procedures	Assurance	5.9	5.8	0.17
3	Work experience considered as part of entry qualifications	Flexibility	6.0	5.8	0.24
4	Small class size	Empathy	6.0	5.7	0.28
5	Student handbook accessible via myLMS	Accessibility	5.8	5.5	0.29
6	Quality exam & assignment questions	Assurance	6.1	5.8	0.32
7	Application/exam forms accessible via myLMS	Accessibility	6.0	5.7	0.33
8	Personal attention to learners	Empathy	5.9	5.6	0.35
9	Online forum discussion contributing to overall grades	Responsiveness	5.6	5.2	0.35
10	Appealing appearance of learning Centre	Tangibility	5.6	5.2	0.38

Performance Ratings by Dimension

Table 8 shows the performance ratings by dimension. Compared to the overall importance ratings, the corresponding figure for performance ratings is lower at 5.5. "Assurance" is ranked highest in terms of performance, followed by "Flexibility", "Affordability" and "Reliability". "Responsiveness", "Tangibility", "Accessibility" and "Empathy" are in the bottom half of the table learners were not too happy with these aspects of the services provided in their postgraduate programmes.

Importance-Performance Gap Analysis by Dimension

Importance-performance gaps (IP Gap) ranking is given in Table 9. The table indicates that OUM appears to perform well in meeting the needs of its postgraduate learners with the overall IP Gap of 0.6.

Table 7: Importance Ratings by Dimension

Dimension	Mean(I)
Affordability	6.3
Assurance	6.2
Reliability	6.1
Responsiveness	6.1
Flexibility	6.1
Accessibility	6.1
Empathy	5.9
Tangibility	5.8
Overall service quality	**6.1**

Table 8: Performance Ratings by Dimension

Dimension	Mean(P)
Assurance	5.7
Flexibility	5.6
Affordability	5.5
Reliability	5.5
Empathy	5.4
Accessibility	5.4
Tangibility	5.4
Responsiveness	5.4
Overall service quality	**5.5**

Importance-Performance Matrix by Dimension

Using the overall importance ratings of 6.1 and overall performance ratings of 5.5 as the respective demarcation lines for the x- and y-axis, respectively, an Importance-Performance Matrix (IP Matrix) was developed as shown in Figure 1.

From the matrix, only "Assurance" dimension is in the high-importance-high-performance quadrant indicating that OUM performs very well in this category. "Empathy" and "Tangibility" are in the low-importance-low-performance quadrant clearly indicating that they are low-priority services. "Flexibility" lies between Quadrant I and II, "Reliability" and "Affordability" lie between Quadrant 2 and 3 and "Accessibility" and "Responsiveness" lie between Quadrant 3 and 4.

Table 9: Importance-Performance Gap by Dimension

Dimension	I-P Gap
Affordability	0.7
Responsiveness	0.7
Accessibility	0.7
Reliability	0.6
Empathy	0.5
Assurance	0.5
Flexibility	0.5
Tangibility	0.4
Overall service quality	**0.6**

Regression Analysis

The regression analysis resulted in the following equations:

$$\text{Overall Satisfaction} = -0.05 + 0.35p_resp + 0.25p_afford + 0.38p_assur \quad (1)$$
$$R^2 = 52.4\%$$

$$\text{Overall Quality} = 0.05 + 0.34p_resp + 0.39p_assur + 0.22p_access \quad (2)$$
$$R^2 = 54.3\%$$

$$\text{Intention to Complete} = 3.24 + 0.31p_afford + 0.21p_flex \quad (3)$$
$$R^2 = 27.8\%$$

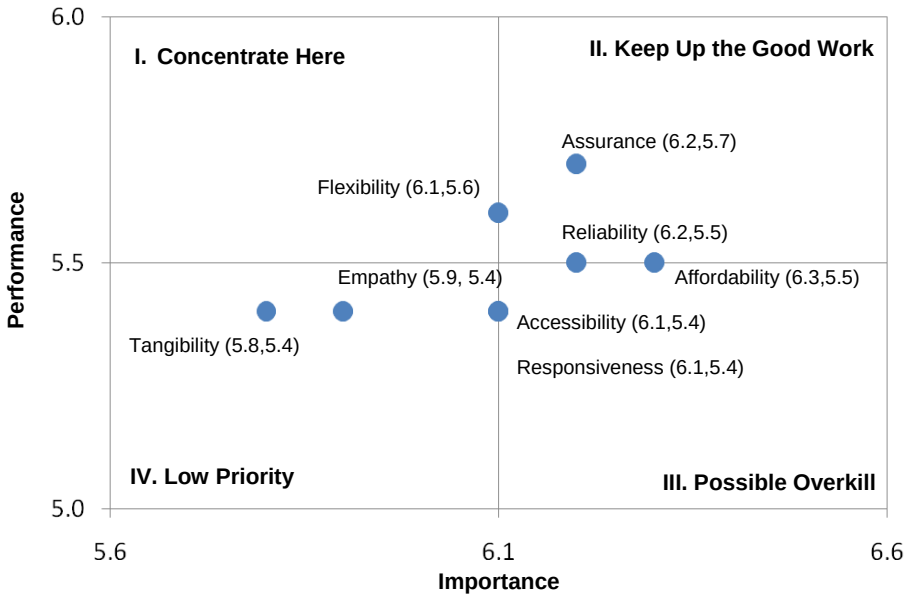
Equation (1) shows that learners' level of satisfaction was attributed to responsiveness, affordability and assurance with an R^2 of 52.4% while Equation (2) indicates that learners' perception of the quality of services was determined by three dimensions, namely, responsiveness, assurance and accessibility with an R^2 of 54.3%. Equation (3) indicates that learners' intention to stay is influenced by affordability and flexibility with an R^2 of 27.8%.

DISCUSSION AND IMPLICATIONS OF RESULTS

The results presented above may be summarised as follows:

1. The high overall ranking in terms of importance of 6.1 out of 7.0 for all service items in the survey questionnaires indicates that they are service-items which are of importance to the postgraduate learners of OUM.

Figure 1: Importance-Performance Matrix by Dimension



2. The results further indicate that postgraduate learners at OUM placed very high importance on academic-related services as opposed to services related to physical infrastructure, learning skills development, personal attention and examination procedures. This is evident from the high importance rankings accorded to the quality of academic programmes, tutors' competency and staff responsiveness and relatively low rankings given to well-dressed staff, appearance of learning centres, learning skills workshops, personal attention to learners and strict examination procedures.
3. It is encouraging to observe that learners also rated the performance of academic-related services highly compared to the others. In this regard, OUM has performed well in providing these services to its postgraduate learners.

4. The results of the IP Gap analysis indicate learners were not very happy with the staff responses to their enquiries and communications via the telephone services. The IP Gaps of these services are above 1.0 implying that they are not meeting learners' expectations.
5. In the IP Matrix, four (4) out of eight (8) dimensions fall in the "Keep up the Good Work" Quadrant indicating again that OUM has done relatively well in providing these services to its learners.
6. However, OUM has to review the services relating to physical infrastructure and empathy. These groups of services were place in the low priority quadrant of the IP Matrix by learners. To optimize its resources, OUM needs to review the provision of these services.
7. The regression analysis indicates that learners' satisfaction is a function of responsiveness, affordability and assurance. This result thus indicates that to increase our postgraduate learners' satisfaction, OUM has to improve on its staff responsiveness to learners needs, ensure that its fees and fees payment structure are affordable and maintain the quality of its academic programmes and delivery mechanisms.
8. The regression analysis also indicates that quality is determined by responsiveness, assurance and access. Thus, to maintain quality, OUM needs to improve on its staff responsiveness and quality of its programmes. In addition, OUM also needs to increase the accessibility of its programme offerings.
9. Finally, for learners to complete their study programmes, OUM must ensure that its fees are affordable and it is flexible enough to meet the needs of its varying learners' requirements.

CONCLUSION

In conclusion, this study had been able to identify the types of services which are important to the postgraduate learners of OUM. The study had also been able to determine which of these services were well-delivered to these learners.

Thus, the study has obvious implications on OUM's efforts to ensure the long-term sustainability of its postgraduate programmes. The results of the study would be able to assist OUM in both the planning and actual delivery of these services in order to further improve their quality to meet the needs of the learners. In terms of planning, expenditure on those services which are of low priority, such as physical infrastructure and learner interventions, may be reduced. On the other hand, expenditure and efforts on academic-related services need to be increased.

On the implementation side, further improvements in the delivery of academic-related services need to be made including, such as the enhancements to the tutors' knowledge and tutoring techniques. Staff responsiveness and promptness with regard to enquiries and feedback from learners need to be adequately addressed.

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THE INFLUENCES OF PERSONAL VALUES AND TIME CONSTRAINTS ON FACULTY – STUDENT OUT-OF-CLASS INTERACTION: AN EMPIRICAL RESEARCH

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ABSTRACT

Student retention is one of central themes in education. This is because some students left universities without having completed their courses. On the contrary, universities are having difficulties in recruiting students nowadays as a result of tight competition among universities. There are several factors contributing to students leaving niversities such as financial and psychological problems. One essential finding from several researches on student development is the importance of student-faculty interaction in the lives of students. The interaction can be divided into interaction in the class room and outside the class room (out-of-class interaction). The interaction in the classroom is about the subject being taught by the lecturer in that subject class. On the other hand, out-of-class interaction is interaction between faculty and students in informal way. Although there has been a fair amount of research on out-of-class student-faculty interaction based on students' perception, few studies have focused on that interaction based on faculty perception. Therefore, this research developed a model to investigate the relationship between personal values, time constraints, attitude toward doing interaction out-of-class, and doing interaction out-of-class based on faculty's perception. A self-administered questionnaire was used to collect the data for this study. The data was then analyzed using structural equation modeling. Only provides an analysis of the data, a discussion of the findings and the one research hypotheses were supported, which is the relationship between time constraints and attitude toward doing out-of-class interaction. The paper implications for theoretical and managerial.

Key words: *Student Retention, Faculty, Out-Of-Class Interaction*

BACKGROUND TO THE RESEARCH PROBLEM

Student retention is one of central themes in education (Mayo, Helms & Codjoe, 2004). This is because some students left universities without having completed their courses. On the contrary, universities are having difficulties in recruiting students nowadays as a result of tight competition among universities (http://rembuknas2008.diknas.go.id).

There are several factors why student leave universities such as financial and psychological problems. One essential finding from several researches on student development is the importance of student-faculty interaction in the lives of students (e.g., Kim & Sax, 2007). The interaction can be divided into interaction in the classroom and beyond the classroom (out-of-class interaction). The interaction in the classroom is mainly about the interaction between faculty and student about the subject is being taught by the lecturer in that subject class. On the other hand, out-of-class interaction is interaction between faculty and students in informal way. That interaction can be done in many ways, such as talking to students, attending student's activities, and having chat

through internet. Although there has been a fair amount of research on out-of-class student-faculty interaction on students' perception, few studies have focused on that interaction based on faculty perception. Therefore, the purpose of this study was to examine faculty perception of out-of-class interactions with students and to determine the relationship among personal values, time constraints, attitudes toward doing interaction and faculty-student out-of-class interaction.

Justifications for the research

This research can be justified on these two grounds: (1) the importance to understand the faculty-student interaction, and (2) the lack of research on faculty – student out-of-class interaction from the lecturer's perspective.

The importance to understand the faculty-student interaction. Education is an interactive process between student and faculty. Research has shown that faculty-student interaction, in and out-of-class is one of the important factors associated with student development (Umbach & Wawrzynski, 2008; Kim & Sax, 2007; Garrett & Zabriskie, 2004). Furthermore, students have more positive perceptions of supportive campuses where faculty members interact frequently with the students (Umbach & Wawrzynski, 2008). Thus, there is a need to understand the faculty-student interaction in and out of the classroom. An understanding of that interaction can provide valuable insight not only for faculty but also to the university as a whole.

The lack of research on faculty – student out-of-class interaction from the lecturer's perspective. Conducting empirical research that focuses on faculty-student out-of-class interactions will contribute to the literature on faculty-student interaction. This is because despite the extensive research addressing student-faculty out-of-class interaction (for example: Kim & Sax, 2007; Laird & Cruce, 2007; Garrett & Zabriskie, 2004; Lundberg & Schreiner, 2004; Bradley, Kish, Krudwig, Williams, & Ontario, 2002; Mook, 2002; Jaasma & Koper, 2001), not many research on student-faculty out-of-class interaction is conducted (Frankel & Swanson, 2002). Specially, it is important to understand education based on both student and faculty perspectives. If only one perspective is frequently measured, the results will be wrong.

LITERATURE REVIEW

Interpersonal communication

Interpersonal communication is defined as the process through which people create and manage their relationship and exercising mutual responsibility in creating meaning (Verderber, Verderber, & Berryman-Fink, 2007). Interpersonal communication is important because it interpersonal communication serves peoples needs. In other words, we need to interact with other people to meet a range of human needs such as physical needs, safety needs, belonging needs, self-esteem needs, and self-actualization needs.

Models of interpersonal communication

According to Wood (2004), there are three models of interpersonal communication: linear model, interactive model, and transactional model. The linear model shows that communication is a one-way process in which one person acts on another. This model has three major weaknesses. First, this model shows that

communication is flowing in only one direction, from a sender to a receiver. In other words, the listeners only listen and never give feedback. Second, a linear model shows listeners as passively absorbing senders' messages but not as having any impact on sender. Thirdly, the model portrays that communication as a sequential set of actions in which one step (listening) follows an earlier step (talking).

The interactive model shows communication as a process in which listeners respond to speakers. A key feature in this model is feedback. The interactive model is an improvement over the linear model. However, one major weakness of this model is that it still treats communication as a sequence of set actions.

The transactional model shows that interpersonal communication as a process and dynamic in which people simultaneously send and receive messages. The transactional model doesn't label one person as a sender and the other as a receiver. This model is the foundation for understanding people interaction. Interpersonal communication is something that people do everyday. The interaction between faculty and student is an example of interpersonal communication.

Faculty-student out-of-class interaction

A variety of literature shows that student learning and development were formed by many factors such as coursework, motivation, class participation, interaction with faculty in and out-of-class, and others (Umbach & Wawrzynski, 2008; Lundber & Schreiner, 2004). Specifically, Tinto (1987 cited by Garrett & Zabriskie, 2004) stated that student-faculty interaction (that is, in and out-of-class interaction) is a main factor for student retention and student development. In relating with out-of-class interaction, several researchers found that out-of-class interaction can support integration of students into academic and social life (Kim & Sax, 2007; Chickering & Gamson, 1987; Garrett & Zabriskie, 2004).

There are several factors that can influence personal interaction based on consumer behavior literature. Those factors are personal values, attitude toward doing out-of-class interaction, and time constraints.

The value-attitude-behavior hierarchy

A value is defined as a type of belief about how one ought or ought not to behave (Rokeach, 1968). Values are the underlying beliefs that shape people to act, think, and feel (Rokeach, 1968; Wells & Prensky, 1996). The concept of value is one important variable to understand consumer behavior. This is because values are taught in an earlier age. Specifically, Hofstede (1994) pointed out that values are among the first children learning. Since the age of 10, most children have their basic value systems. Moreover, values are stable through generations. As stated before, values the underlying beliefs that shape people to act, think, and feel. Therefore, values influence internal factors inside consumers such as perception and attitude. Consumer attitudes then influence consumer behavior. This hierarchy is referred to the value-attitude- behavior hierarchy (Arnould *et al*., 2004; Homer & Kahle, 1988).

According to Homer and Kahle (1988), values have an indirect effect on consumer behavior through less abstract mediating factors such as domain-specific attitudes. Furthermore, the influence of values flows from abstract values to mid-range attitudes to specific behaviors. This research followed the sequence of value → attitude → behavior. In other words, personal values lead to consumer attitude. Consumer attitudes lead to

specific behavior. This hierarchy has been applied by several researchers (e.g., Jayawardhena, 2004; Schiffman, Sherman, & Long, 2003).

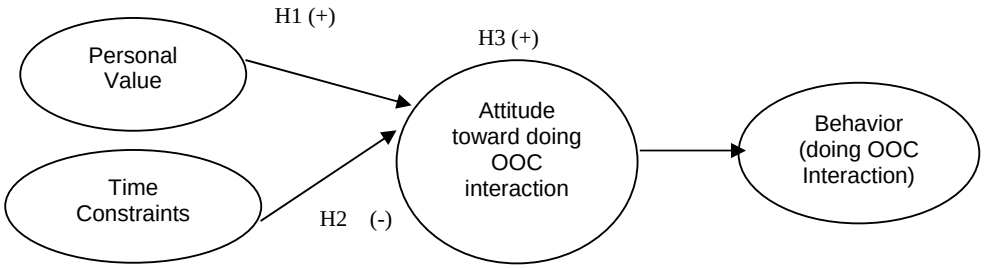
Time constraints

There are three primary professional responsibilities of faculty: teaching, research, and service. In other words, faculty should not only focus on teaching loads, but also doing research and serving the society.

Several researches indicated that time constraints is one major problem of faculty-student out-of-class interaction (eg., Cuseo, 2008) brought about by the three responsibilities above. In the specific, faculty should manage their time to do teaching, research, and service. Therefore, time constraint is one major issue in understanding interaction between faculty and student.

Based on the explanation above, the following model is developed and research hypotheses are stated as follows:

Figure 1. Research Model



- *H1*. Personal value will positively relate to attitude toward doing out-of-class interaction.
- *H2*. Time constraints will negatively relate to attitude toward doing out-of-class interaction.
- *H3*. Attitude toward doing out-of-class interaction will positively relate to behavior (doing out-of-class interaction).

RESEARCH METHOD

Data collection. The data for this research was obtained through self-administered questionnaire from lecturers in a private university in West Java. The design sampling for this research was a purposive sampling. Respondents are those staff who have worked at least one year at the university.

This research applied a two-step process to obtain a good response rate. First, researchers brought questionnaires to all faculties. In each faculty, researchers met respondents (i.e., faculty members) and informed them about the survey. When possible, researchers tried to give questionnaires to faculty members directly. However, when researchers could not meet faculty members directly, then researchers left questionnaires

to the administration staff of each faculty so s(he) can give questionnaires to these lecturers.

Second, we contacted those respondents in 3 to 14 days in order to obtain reponses. The Researcher also contacted the staff administration to collect the questionnaires. The anonymity of the respondents was considered in this research. The respondent were assured of their anonymity was assured to the anonymity of the respondents. In order to obtain good response rate, all questionnaires were also provided with a gift from researchers.

Sample size. This research applied structural equation modeling for analyzing data. The sample size was considered mainly in regard to the method used in analyzing data. Following Hair, Black, Babin, Anderson, and Tatham (2006), the sample size was set at between 100 and 200.

Research Instrument. As suggested by Sekaran (2006), established scales were used where possible. Therefore, constructs used in this study (i.e., attitude and value) were measured by multi-item scales from prior studies. Items in the questionnaire were designed to be grouped together. In other words, items that measure the same constructs were grouped together. This is because it can facilitate comprehension of the questions and retrieval information (Harrison & McLaughlin, 1996). Furthermore, the grouped items can result in greater discriminant validity (Harrison & McLaughlin, 1996).

Only items for measuring time constraints and out-of-class faculty-student interaction were developed using scale development. In other words, item generation was based on surveys about factors that can inhibit faculty members to do interaction with students and most activities that faculty do when they interact with student out-of-class. Scale development was used because the established scales for measuring out-of-class interaction may not be appropriate for
this research. In assuring the validity of the questionnaire, a control group consisting of 30 lecturers was used.. The aims of the pilot test are instrument clarity, question wording, and validity (Fraj & Martinez, 2006).

Value

This research applied the Kahle (1983) List of Values (LOV) to measure personal values. This scale consists of nine values, namely, a sense of belonging, excitement, fun and enjoyment of life, warm relationships with others, self-fulfillment, being well-respected, sense of accomplishment, security, and self-respect. The items were measured by a seven point rating scale from very unimportant to very important in response to the question: "How important are the following words to you in guiding principles in your life?" The LOV scale was applied because of the following advantages: first, the LOV scale is being easier to administer and easier to complete quickly (Hoyer & McInnis, 2007; Wells & Prensky, 1996; McCarthy & Shrum, 1993; Beatty, Kahle, Homer, & Misra, 1986; Kahle, Beatty, & Homer, 1986). Second, the value items were believed well grounded in theory (Suzanne & Muller, 1996). Third, the LOV is meeting the requirement for validity and reliability (Kropp, Lavack, & Silvera, 2005). Fourth, according to Hoyer and MacInnis (2007), some values in another scale (that is, Rokeach Value Survey) are less relevant to consumer behavior. Those values are salvation, forgiving, and being obedient.

Attitude.
Respondents will be asked to express their attitude toward the act of doing interaction with students' out-of-class on five 7-point semantic differential evaluative scales: bad – good; foolish – wise; harmful - beneficial; unpleasant – pleasant.

Out-of-class faculty-student interaction.
The dependent variable for this research is out-of-class faculty-student interaction. Examples items for this variable are as follows: "advise or supervise students working on their research project", "participated in meetings of students organization", and "had a small talk with students". All items were measured on a five point scale ranging from never to very often.

Time constraint.
Respondents were asked to express their opinion toward items such as "My teaching obligations leave little or no time for out-of-class interaction with students" and "My research obligations leave little or no time for out-of-class interaction with students". (1 = completely disagree to 7 = completely agree)

Reliability and validity of the measures. Reliability is an assessment of the degree of consistency between multiple measurements of a variable (Hair et al., 2006). Reliability was measured by applying the Cronbach's alpha test and the item-to-total correlation. The cut-off point for Cronbach's alpha is 0.7 and 0.50 for the item-to-total-correlation (Hair et al., 2006) were applied in this study.

Validity is the extent to which a scale or set of measures accurately represents the concept of interest (Hair et al., 2006). According to Hair et al. (2006), three most widely accepted forms of reliability are convergent, discriminant, and nomological validity. First, based on Sengupta, Krapfel, and Pusateri (2000), every item loaded significantly on its underlying latent factor providing evidence of convergent validity. Second, discriminant validity can be assessed through correlational analysis (Sekaran, 2003, Bagozzi & Kimmel, 1995). Specifically, discriminant validity is established when two different constructs are not correlated with each other. In other words, the correlation between constructs should be less than 1. Finally, nomological validity can be established by to which predictions from constructs are consistent with a theory (Bagozzi *et al*., 2006). It can be assessed through correlation (Steenkamp and van Trijp, 1991).

Data analysis. This research applied structural equation modeling (SEM) with maximum likelihood estimation to test research hypotheses. This method was used because SEM has ability to assess the relationships comprehensive (Hair *et al*., 2006). As suggested by Anderson and Gerbing (1988), the structural equation analysis in this research was conducted in two main stages: the estimation of the measuring model and the estimation yof the structural model. Specially, the former was conducted to confirm the suitability of the proposed scales using the criteria of reliability and validity. Then, the latter will be conducted to test the relationships between the constructs.

RESULTS

Response rate and sample characteristics

A total of 147 questionnaires were returned out of 200 distributed. Fifteen questionnaires were eliminated due to incomplete responses. Hence, 132 usable questionnaires were obtained, yielding a response rate of 66%.

As shown in Table 1, the profile of the sample reveals that male constituted about 67.9 per cent of the sample. Those between 31-35 years old represent 20.6% of the sample, and the oldest (more than 51 years old) represent 15.3% of the sample. The majority of the respondents are full-time lecturers (Working a 5-day week). Almost two-third of the respondents were married (71%). From those who were married, almost one-third respondents have no children (31.1%).

Table 1. Sample profile

Demographic Characteristics	Frequency (Percentage)
Gender:	
Male	89 (67.9%)
Female	42 (32.1%)
Age:	
< 20 years old	0 (0%)
21 - 25	11 (8.4%)
26 - 30	26 (19.8%)
31 - 35	27 (20.6%)
36 - 40	21 (16%)
41- 45	13 (9.9%)
46 - 50	13 (9.9%)
≥ 51	20 (15.3%)
Job Status	
Lecturer assistant	11 (8.4%)
Lecturer	120 (91.6%)
Full time Lecturer (5 days work)	77 (64.16%)
Semi Full time Lecturer (2 – 4 days work)	13 (10.8 %)
Part time Lecturer	30 (25.04%)
Job experience	
< 1 year	13 (9.9%)
1 – 2 years	21 (16%)
3 – 4 years	19 (14.5%)
5 – 6 years	17 (13%)
7 – 8 years	16 (12.2%)
9 – 10 years	4 (3.1%)
≥ 11 years	41(31.35)
Marital status	
Single	38 (29%)
Married	93 (71%)
Married but no child	29 (31.1%)
Married with 1 child	20 (21.5%)
Married with 2 child	21 (22.5%)
Married with > 2 child	23 (24.9%)

Table 2 shows the correlations between Value, Attitude, Behaviour and Time Constraints, behavior, and time constraints. Table 2 also shows the reliability of the measures. According to Hair et al. (2006), the generally agreed upon lower limit for Cronbach's alpha is 0.70, although it may decrease to 0.60 in exploratory research. The reliability (i.e., Cronbach's Alpha) of the scales of all variables ranged from 0.683 to

0.915, proving evidence of internal consistency of the measures. The Cronbach's alpha for behavior (doing interaction) is 0.683. The lower alpha may result that this research is an exploratory study, as far as researcher understands that no similar research has been conducted in Indonesian context.

Table 2. Correlation matrix and summary statistics

Variable	1	2	3	4
1. Value	1			
2. Attitude	0.172*	1		
3. Behavior	0.039	0.072	1	
4. Time constraints	-0.075	-0.147	- 0.090	1
Mean	5.96	5.83	2.95	2.81
Standard deviation	0.93	0.88	0.84	1.23
Cronbach's alpha	0.915	0.812	0.683	0.897

* Correlation is significant at 0.05 level

According to Bagozzi, Yi and Phillips (1991), discriminant validity was achieved when the factor correlations were significantly different from one. Table 2 above shows a coefficient correlations among constructs are different from one indicated discriminant validity was achieved. However, based on table 2 also shows that nomological validity was not achieved since some correlations among constructs are not significant. Table 3 shows that all items were loading on their corresponding construct indicating convergent validity were achieved.

Table 3. Factor Analysis

	1	2	3	4
Value1			0.959	
Value2			0.898	
Value3			0.901	
Attitude1		0.800		
Attitude2		0.841		
Attitude3		0.821		
Attitude 4		0.765		
Behavior1				0.820
Behavior2				0.823
Behavior3				0.727
T-constraint1	0.864			
T-constraint2	0.900			
T-constraint3	0.914			
T-constraint4	0.809			

Measurement model

Confirmatory factor analysis (CFA) using maximum likelihood method was performed to assess the measurement model. The results show a chi-square value of 94.945 with 71 degrees of freedom (DF) at the p = 0.030 level for a 1.337 chi-square/DF (the adjusted chi-square). There is no clear guideline about what value of the adjusted chi-square is minimally acceptable. Two suggestion are that the ratio is as low as 1.0 (Hair *et al*., 1995) and as high as 5.0 (Kelloway, 1993). Thus, a ratio 1.337 is within the range of acceptable model fit. Other fit indices show a good-fit model (GFI = 0.914, CFI = 0.974, RMR = 0.077).

Following Bagozzi, Yi and Phillips (1991) and also Anderson and Gerbing (1988), convergent validity was assessed by examining the parameter estimates and their associated t-values. The result showed that most parameter estimates were high with significant t-values (Table 4).

Table 4. Standardized Regression Weight

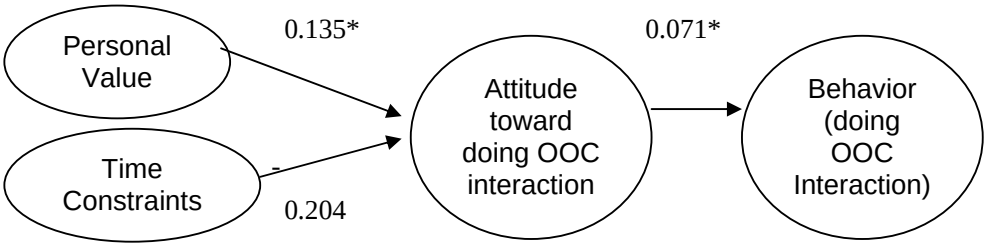
			Estimate	CR
Value1	<---	Value	.997	
Value2	<---	Value	.840	14.643
Value3	<---	Value	.823	13.993
Attitude1	<---	Attitude	.752	
Attitude2	<---	Attitude	.807	8.303
Attitude3	<---	Attitude	.736	7.786
Attitude4	<---	Attitude	.658	7.006
Behavior1	<---	Behavior	.751	
Behavior2	<---	Behavior	.733	4.567
Behavior3	<---	Behavior	.500	4.380
T-constraint1	<---	T-constraint	.810	
T-constraint2	<---	T-constraint	.875	11.754
T-constraint3	<---	T-constraint	.911	12.253
T-constraint4	<---	T-constraint	.700	8.741

Model and hypothesis testing

Using structural equation modeling, the relationships hypothesized in this study were analyzed. The results showed a chi-square value of 95.369 with 73 degrees of freedom (DF) at the p = 0.0041 level for a 1.306 chi-square/DF. A ratio of 1.306 is within the range of acceptable model fit. Other fit indices show a marginal-fit model (GFI = 0.914, AGFI = 0.876, RMR = 0.080)

Hypothesis 1 (that is, personal value will positively relate to attitude toward doing out-of-class interaction) is not supported. The standardized coefficient in this hypothesis has non significant value (standardized regression weight = 0.135; CR = 1.452). Time constraints will negatively relate to attitude toward doing out-of-class interaction in hypothesis 2 is supported (standardized regression weight = -0.204; CR = -2.076). However, hypothesis 3 (attitude toward doing out-of-class interaction will positively relate to do out-of-class interaction) is not confirmed (standardized regression weight = 0.071; CR = 0.644).

Figure 2. Parameter Estimates for Structural Paths



* not significant

DISCUSSION

The results show that there is no significant relation between personal values and attitude toward doing out-of-class interaction. Furthermore, the results also show that there is no significant relation between attitude toward doing out-of-class interaction and doing out-of-class interaction. The only supported hypothesis in this research is the relationship between time constraints and attitude toward doing out-of-class interaction.

There are two reasons why these two hypotheses were not supported (i.e., the not significant relation between value and attitude and the relation between attitude and behavior). First, the list of values (LOV) that was used in this research was developed to assess the values of Americans (Follows & Jober, 2000) which are different from those of Indonesians Indonesian. Therefore, the insignificant relationship between personal values and attitude toward doing interaction was because the personal values measurement were not match with the Indonesian value.

Second, the other possible explanation for insignificant relation between attitude and behavior is the omission of one variable called behavioral intention. Behavioral intention is one main variable that can used to explain consumer behavior. In the specific, this variable is used in several consumer model such as theory of reasoned action (Ajzen & Fishbein, 1980), theory of planned behavior (Ajzen, 1988), and theory of trying (Bagozzi & Warshaw, 1990). For instance, based on theory of reasoned action shows that individual behavior is driven by behavioral intentions where behavioral intentions are a function of an individual's attitude toward the behavior and subjective norms surrounding the performance of the behavior (Ajzen & Fishbein, 1980).

The insignificant relation between attitude and behavior may also result from other factors. For example, according to several researchers, attitudes alone are no longer expected to predict unconditionally: however, their relation to behavior is moderated by other variables, such as: temporal stability of attitudes (Doll & Ajzen, 1992), the amount of information about the attitude object (Davidson et al., 1985), self-monitoring (Borgida & Campbell, 1982), attitude strength (Smith & Swinyard, 1983), behavioral commitment (Smith & Swinyard, 1983), personal experience (Smith & Swinyard 1983; Ajzen, Timko, & White, 1982), sequence of prior events, attitude change, time interval and correspondence between attitudinal and behavioral variables (Davidson & Jaccard, 1979)

Theoretical And Managerial Implications

This study attempted to test the relationship among personal values, time constraints, attitude toward interaction and faculty-student out-of-class interaction based on faculty's perception. This research has both theoretical and managerial implications. For theory, this research provides support for the relationship between time constraints and attitude toward doing out-of-class interaction. In other words, factors such as teaching loads and writing academic articles may result in the negative attitude toward attitude toward doing out-of-class interaction.

For practice, Understanding faculty-student interactions is important to a university as it helps retain student, faculty-student interaction is one key point for student development Therefore, the more understanding on faculty-student interaction, the better universities will be able to support their faculty member to improve themselves without decreasing interaction with students.

CONCLUSION, RESEARCH LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This research results suggest that time constraints will negatively relate to attitude toward doing out-of-class interaction. However, no significant relationship between personal values and attitude toward doing interaction. The results also shows that no significant relation between attitude toward doing interaction and faculty-student out-of-class interaction.

The results of this research need to be viewed in light of its limitation. The first limitation is the use of a non-probability sampling. Therefore, the generalisability of the findings limited to samples in which the study was conducted. Another limitation is the multi-item scales used for measuring out-of-class interaction does not include internet as a medium of out-of-class interaction. This is because the main answers given by the respondents when they were asked on activities out-of-class interaction with students did not including interaction via internet.

The research's limitations suggest directions for future research. First, future research needs to replicate this model and use probability sampling. Furthermore, the replication of model in different populations and different countries is recommended to enhance external validity of the model. Second, the understanding that faculty and student interaction is important for student development. In the specific, the interaction can be done in and out of the class. The digital era has brought information and communication technology (ICT) into every aspect of human life. ICT in education has no exception. Therefore, future research may consider out-of-class interaction including interaction via internet.

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SUFFICIENCY AND SUSTAINABILITY: INSTITUTIONAL CAPACITY BUILDING FOR HEI

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ABSTRACT

Rapid commercialization and internationalization of education at the expense of HEI (Higher Education Institution) quality has led to questionable HEI practices that raises the questions of balancing the individual and institution economics and sustainability while maintaining education excellence, its holistic foundation. To address this, the "Sufficient and Sustainable" HE model (Teay, 2007) redefined HEI's sufficiency and sustainability through a middle path philosophy that is moderating, reasonable and self-resilient moderated by a set of knowledge and morality conditions that is applicable to both the capability and capacity of the individual and institution. It calls for the individual and institution transformation leading to the transformation of the students, instructors and institution. Teay (2008) developed the individual capacity building model in the second paper of the series. In this third paper, the focus is on the imperative to create education value through the institutional capacity which represents the HEI House of Learning through the sufficient moralistic organizational capacity and capability model. This constitutes the organizational nuts and bolts of skills, knowledge, experience and personality interacting within the context of values, beliefs and ideals that influence the institutional mind set and practices. This imperative calls for strategically managing the Strategic Organization Capital of its aligned organization strategy, systems, style, shared values, leadership, and its work processes framework and mechanisms that is based on rationality, moderation and self-resilience. This augment the organizational strengthening, capacity enhancement and work processes improvement and alignment and management from a more moralistic and sufficiency and sustainable stance that needs to be addressed as they represent the core competency of the HEI to create education value.

Key words: *Sufficiency and Sustainability, Institution Capacity and Capability Building, Higher Education Institution*

INTRODUCTION

The present day economy is market driven affecting the sustenance of organizations which is very dependant on its performance. Achieving the organization's performance means strategically managing and building its organization capabilities that are the key intangible assets that produce superior market value rather than only looking at tangible assets. Its performance is dependant on its organization effectiveness and efficiency in creating and delivering on quality educational value.

HEI performance statistics in Thailand from the CHE (Commission on Higher Education) as lamented in Bangkok Post, (July, 29, 2008) showed the following chilling facts:

1. Number of HEI graduates had increased from 1.03 million (1998) to 1.85 million (2003* - when the 42 Rajabhat and Rajamangala institutes were upgraded to universities) to 2.04 million (2007).

2. Courses offered by HEI has increased 10 fold in the last 6 years from 235 (2003) to 2,562 (2008).

It is a wild paper chase by the students leading to chasing capital gains by the HEI rather than educational quality gains. The ONESQA (Office of National Education Standards and Quality Assessment) noted that HEI had employed lecturers with GPA of 2.5 or lower. The qualifications of instructors affects the quality of the instruction and curriculum and coupled with the quality of the incoming students whose O-Net and A-Net scores of students from Mathayom 4 to 6 (Grade 10 – 12) levels were well below average in all subjects will affect the quality of graduates. This will lead to the final outcome quality of the graduates who are the workforce forming the lifeblood and lifeline of the industry and the development of the country. This becomes a catch-22 vicious cycle that can cripple the development of the country.

Instead of blaming the system, the HEI should look inwards in what they are capable of doing and whether they have the capacity of doing it that affects the overall organizational effectiveness. As such, organizational effectiveness is related to the capacity of an organization to sustain the people, strategies, learning, infrastructure and resources it needs to continue to achieve its mission. It is a long-term outcome that some capacity building strategies may affect, while others may not (and this is acceptable in the continuum of management strategies needed to build capacity). There are many definitions and characterizations of effectiveness, taking into consideration elements such as organizational structure, culture, leadership, governance, strategy, human resources, etc. The various frameworks for measuring organizational effectiveness can be helpful in defining indicators for the success of capacity-building initiatives.

Based on this rationale, this paper tries to harmonize the western and the eastern concept in developing an organization model based on the sufficiency approach, which is the 3rd paper in this series. This paper will look at the organizational capability and capacity building using the capabilities and competency framework of the west but that also approach it with a “moral” element that is found to be deficient in the human and organization DNA. It is propositioned that an organization must define “the thin line of walking between what is right or wrong morally not only for its own interest but that does not inflict harm on others but contribute to the betterment of others”, and that is self correcting. This proposition is aimed at the heart of producing quality competent and morally tuned graduates who have IQ (intelligent quotient), EQ (emotional quotient), AQ (adversity quotient) and MQ (moral quotient) by the HEI based on its competency, capability and capacity from a moralistic dimension.

ORGANIZATIONAL CAPACITY BUILDING

Ann Philbin of Ford Foundation, (1996) on behalf of Capacity Building in Social Justice Organizations defined capacity building as “the process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in the fast-changing world". Technically, organization capacity is essential to an organization’s ability to achieve its mission effectively and to sustain itself over the long term which is highly dependant on the skills and capabilities of individuals within the organization setting. It is the ability of individuals, organizations or broader social system to perform appropriate functions and address issues and concerns effectively, efficiently and sustainably (CIDA, 2000 and Milen, 2001).

For organizations, capacity building may relate to almost any aspect of its work: improved governance, leadership, mission and strategy, administration (including human resources, financial management, and legal matters), program development and implementation, income generation, diversity, partnerships and collaboration, evaluation, advocacy and policy change, marketing, positioning, planning, etc. It refers to activities that improve an organization's ability to achieve its mission or a person's ability to define and realize his/her goals or to do his/her job more effectively. Capacity building aims at developing secure, stable, and sustainable structures, systems and organizations, with a particular emphasis on using motivation and inspiration for people to improve their lives. For individuals, capacity building may relate to leadership development, advocacy skills, training/speaking abilities, technical skills, organizing skills, and other areas of personal and professional development. Capacities can be "hard", such as personal skills, functions, structures, infrastructure and resources, and "soft", such as motivations, beliefs and demands of a material, cultural or social nature (Land, 2000)**.**

Organizational capacity building as defined in this paper is:

> *"a **process** that enhances the ability of the individual, entity or a broader social system to perform effectively in the functions for which they exist, identify and address new challenges or improve control over their practices in a **sustainable** manner within **dynamic contexts**"* (Lavergne, R. and Saxby, J., (2001) and CIDA, 2000).

In this definition, **a process** (CIDA, 2000; Brown, LaFond, and Macintyre, 2001; Hawe, et al., 2001; Lusthaus, Adrien, and Perstinger, 1999; Milen, 2001) is seen as:

- **internal process** – this internal process may be enhanced or accelerated when an external group/entity assists the individuals/communities, organization or institution to improve its functions or abilities;
- **multi-dimensional** – in terms of its components, strategies, dimensions, or interventions and recognition of interdependence of all factors;
- **non-linear** - it depends on feedback and is subject to reversal and setbacks;
- **ongoing and dynamic** – the individual, organization or broader social system is never complete or in a steady state, but requires continuous renewal and investment; and
- **invisible** – due to the association of capacity building with the soft capacities, such as values, motivations, ownership, empowerment, etc

ORGANIZATION DNA IN HEI

An organization DNA as a collective set of sub-systems working interactively to achieve a set of common goals can be viewed from a "Chaordic Organization" that has both chaos and order at the same time. The Chaordic Alliance (1998) defines "chaordic" as: (1) anything simultaneously orderly and chaotic; (2) patterned in a way dominated neither by order nor chaos, and (3) existing in the phase between order and chaos. This "chaordic" organization aptly applies to any organization based on its strive to be orderly and systematic but at the same time faced by the environmental dynamic changes from external forces, that brings about adjusting its orderly and systematic processes to address

the chaotic forces. Hock (1996a and 1999) introduced the term "chaord" as an amalgamation of chaos and order, or a chaotically-ordered complex with the following properties: (1) consciousness – mind; (2) connectivity – an organization is both a whole and a part of a bigger whole (Fitzgerald, 1996a, 1997b and 2002). Based on this approach, this paper will adopt this position to view the learning organization as a "chaordic system complex" (Eijnatten, 2004).

Wiber (1996) notion of the organization as a holon (entities that are being wholes and parts of a greater whole at the same time [Koestler, 1967 and 1978]) has an exterior surface (objectifiable entity or process that can be described by empirical observations using a human's five senses) as well as an interior essence (characterized by emotions, thoughts and feelings – the individual mind) with 4 quadrants (which is about sensitivity and consciousness) as shown in Figure 1. Collective mind leading to a common and collective worldview with a commonly shared meaning is the result of the exchanges and sharing of individual thoughts. The real world organization DNA matrix can be depicted by the interactions of 4 quadrants of: "ME" – the truth for the intentional domain; "YOU" – the truth for the behavioral domain of what and how we intend to think and act towards another entity; "US" – the justness for the cultural domain of thinking and acting collectively towards another entity; and "THEY" – the functional fit for the social domain of thinking and acting towards social interests or self-vested interest.

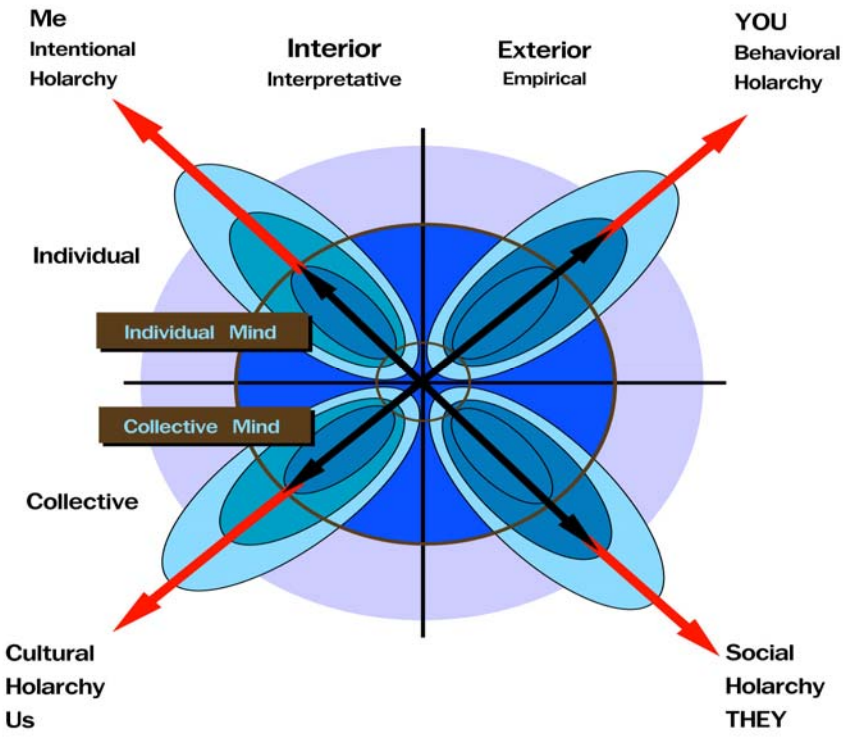


Figure 1: The Individual and Collective Mind of the Organizational DNA

Source: Wiber (1996), as adapted from Eijnatten. F.M.v., (2004), Chaordic Systems Thinking, Some Suggestions for a complexity framework to inform a learning organization, The Learning Organization, Vol. 11, No. 6, pp. 430 - 449

"SUFFICIENCY" AND THE ORGANIZATION DNA IN HEI: THE MISSING LINK

This paper propositions that a more conscientious organization working towards the betterment of mankind rather than its own self-interest would bring about a better world. The Sufficiency philosophy of H.M. King Bhumibhol Aduyadej is used to operationalize a more "moral" organization working in tandem towards this betterment of humanity. The main definitions of the sufficiency philosophy had been defined in Teay (2007 and 2008) and this is applied to identify the organizational DNA as shown in Figure 2 that will be expounded in the latter parts.

Basically, the HEI as an organization shown in Figure 2 is the house of learning, with its roof of the organization purpose and values, its basic core ideology. The roof is supported by the 3 pillars of: (1) the organizational self-resilience or its self-immunity from the internal and external forces by identifying its strengths or weakness through its capability and capacity building to achieve its envisioned position, (2) the organizational reasonableness, as the organization is an entity composed of human's actions and activities that are executed through sound reasoning or rationales for the benefit of the whole rather than the parts, and (3) the organizational moderation, which instead of being overly aggressive for "greed" or "wantons" through deceit or deceptive means or self-gratification, the organization should be able to determine what, when and how is deemed "enough and sufficient" and when the "equitable sufficiency" is reached would not make the organization act or do something beyond its equitable sufficiency through devious and deceitful ways and means or self-gratification to achieve an "immoral gain".

The foundation of the success of the organization to support the "3 pillars of organizational self-immunity through organizational reasonableness and organizational moderation are the strategic capital assets of: the human capital, information capital and the organization capital (Kaplan and Norton, 2004 and Teay, 2007). These intangible strategic assets are the realms where the organizations falter, flounder or fail miserably as they are inadvertently ignored or neglected in the development or creating of the needed human, information and organization capability and capacity that is the key to a sound and strong foundation of the organization. Even with a strong foundation, but the morality and the knowledge conditioning through the abuse of the use of information, power and position can eat into and weaken the foundation. It is this issue that a lot of the western literature had discussed but had not adequately addressed in terms of the organizational knowledge and morality conditioning that this paper aims to address.

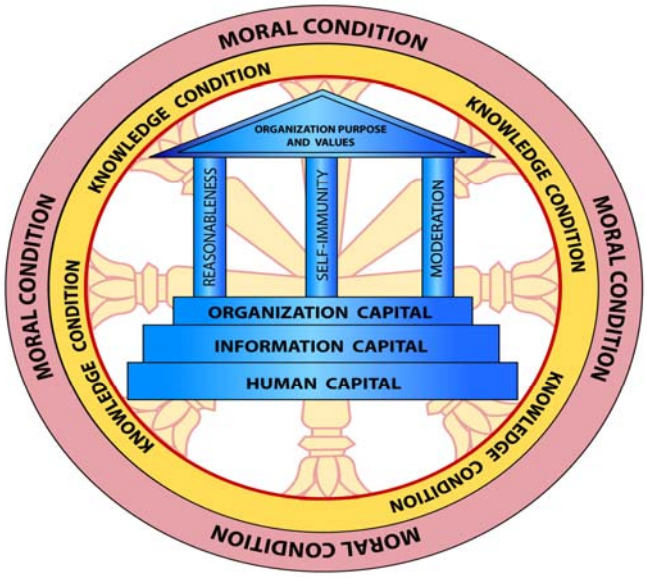


Figure 2: The Organization DNA from the Sufficiency Approach

a. Organizational Capabilities and Competencies

Organizational capability is focused on the internal processes and systems for meeting customer needs. Capability creates organization-specific competencies that provide competitive advantage. It can be surmised that organizational capability deals with *competencies*, which are employed or exercised through internal processes and systems and that an evolutionary path exists, which, if followed, allows the organization to evolve into one that is more organized, more systematic, and more mature.

Capabilities and competencies had been defined interchangeably by Spanos and Prastacos (2004), resources and capabilities by Peteraf and Bergen (2003) and Ray *et al.* (2004), and skill, competence, and capability by Hamel and Prahalad (1994). Other scholars have distinguished these associated concepts (Branzei and Thornhill, 2006; Makadok, 2001; Helfat and Peteraf, 2003; Amit and Shoemaker, 1993; Savory, 2006; Ljungquist, 2007 and 2008). This led to diverse research streams in strategic management that include the resource- (Penrose, 1959; Wernerfelt, 1984), competence- (Sanchez *et al.*, 1996), learning- (Senge, 1990), knowledge- (Grant, 1996), and dynamic capability-based views (Eisenhardt and Martin, 2000; Teece *et al.*, 1997). A general agreement is that a competence refers to a quality inherent in individuals or teams of individuals, a quality that develops and refines something (e.g. capabilities, resources), occasionally to a visionary end (e.g. to generate sustainable profits) (Prahalad and Hamel, 1990; Hamel and Prahalad, 1994).
Contemporary research has also distinguished capabilities as being either operational or dynamic (Helfat and Peteraf, 2003). Operational capabilities include all the routines generally involved when performing an activity such as manufacturing, whereas dynamic capabilities (Teece *et al.*, 1997; Eisenhardt and Martin, 2000) are those that build,

integrate, and reconfigure operational capabilities. Winter (2003) also claims that capabilities are locally defined either as normal routines, or as "activities to support change"**.**

b. Organizational Purpose and Value: The Organization Roof

In identifying its organization vision of "what the organization wants to be" (Teay, 2007), the guiding philosophy of the organization or its core ideology consists of 2 main components of: core purpose and values. An organization must identify its ideology which consists of its values (guiding principles by which the organization navigates) and purpose (the reason for its existence based on what it can be). The organizational core ideology as defined by Collins and Porras (1991 and 1996) is the "timeless enduring character of an organization – a consistent identity that transcends product or market life cycle, technological breakthroughs, management fads and individual leaders". Without its core purpose, it will flounders aimlessly in the turbulent wide ocean as there is no beacon where everyone can swim to a single rallying and unifying point. Without its core values, it will vacillates without a soul, as these values represents the spirit and soul of the organization that differentiates itself from others in the "moral and ethical" realms.

Achievement of the organization purpose and its commitment to excellence, "the way the organization do things or the way the organization behaves" is embodied in a set of core values. These are the enduring and essential tenets of the organization, its principles and intrinsic values critical to the organization. An organization should pursue its purpose within an environment that fosters integrity, respect, trust, openness, fairness, quality performance, and accountability. In doing so, the core values that an organization should commit to are:

- **Excellence** – The organization commitment to achieving its purpose is through the individual and collective efforts, the highest levels of performance as measured against national, regional and global standards. Organization members collectively engage in fulfilling the organizational purpose. Organization members should seek excellence in every facet of the organization experience.
- **Inquiry and Knowledge** – An organization key mission is Intellectual growth. The organization should be committed to developing an informed citizenry, to fostering a love of learning and intellectual inquiry in all its forms - empirical, theoretical, and aesthetic - and to developing the capacity for thoughtful reasoning.
- **Leadership and Diversity** – An organization should be guided by an ethic of leadership and service that recognizes the importance of identifying, articulating, and responding to the interests and needs of an organization's diverse constituencies. To serve the organization's diverse communities, the organization must first be a community that extends mutual respect and regard for all individuals and protects their right to free expression. An organization's differences are expressed in many ways, including race, sex, age, physical and mental ability, sexual orientation, religion, class, philosophy, and culture.

- **Character and Ethics** – An organization should be committed to a culture of learning that challenges, inspires, liberates, and ultimately transforms the hearts, minds, and actions of individuals, eliminating prejudice. An organization should aim to create, through its work and relationships in an environment that cultivates individual virtues and institutional integrity. Respect for all persons and their contributions are essential to achieving its mission. Organization members should use knowledge to create a deeper sense of self and society. The organization members should adhere to the highest personal and professional standards.
- **People and Teamwork** – An organization should recognize that human talent is its primary resource and principal contribution to society and is committed to creating opportunities for individuals to realize their full potential. The organization should value a common commitment to achieving the organization's goals, a collective spirit, and a dedication to teamwork that transcends private concerns through the initiative and individual creativity of its members.

c. Pillars of Organizational Reasoning and Moderation

The traditional execution of strategy emphasizes on "execution-as-efficiency" whereby the leader provides the answer, and the employees follow the directions by optimizing the work processes that are designed in advance, with minimal or infrequent process innovation. Feedbacks are normally one-directional with fear as part of the work environment that rarely emphasizes on problem solving as judgment is not required. In a true learning organization, Edmondson (2008) highlighted the imperative of organizational learning through an "execution-as-learning" focused organizations. "Learning-by" processes (by-doing, by-using and by-interacting) typically originates from tacit knowledge (Polanyi, 1967). This imperative uses the best knowledge obtainable to inform the design of specific process guidelines by enabling their employees to collaborate by making information available when and where it is needed. The process data are routinely captured to discover how the work is really being done and studying these data in an effort to find ways to improve. This practice should form the basis of a learning infrastructure that runs through the fabric of the organization, making continual learning part of business as usual. Learning is intrinsically social as there is a need to retain the data and information set used in perceiving and comprehending that could lead to the problem of cognitive mismatch and interpretive and integrative ambiguity. The Organization learning is subject to its capability and capacity to reason and be moderate in its actions.

Morality is a key factor in the success of human groups in competition or co-existence with each other (Allott, 1991). A moral being in an organization is one who is capable of comparing his past and future actions or motives, and of approving or disapproving of them (Darwin 1871:88). The traditional approach to saying what morality is focuses on the vocabulary of morality: words such as good, bad, fair, right, wrong, just, should, must, will, etc., etc.

In the absence of morality, one is in a world of powerful, clever, unpredictable animals. Only by understanding others can one protect oneself. Others in the group will only be

predictable to the extent that they follow the same moral rules and are moved by the same emotions. A group's morality is concerned not only with how an individual should judge his own action but with how other organization members of the group collectively will judge the individual's actions and respond to them. An individual who rejects the morality of the group in an organization rejects empathetic membership of the group and empathetic recognition by others of his membership of the group in the organization.

A group's moral code represents an increasingly rational pattern of behavior derived from the collective experience of the group handed down from generation to generation. Group selection in an organization is a controversial idea but it is inescapable in accounting for human evolution under the influence of language and the accumulation of cultural patterns. Morality has an objective physiological and neurological basis in so far as it exists to moderate the expression of the array of genetically-derived emotional patterns.
Eugene Khutoryansky's "Objective Morality: Based on Scientific and Rational Reasoning" argued that objective morality exist and is based on the fundamentals of rationality and reasoning and that all organization or human actions can be placed into one of two categories. Some organization actions can belong to both of these groups simultaneously. However, all organization actions must belong to at least one of these categories. The first group consists of all actions which the organization do for its own self interest while not harming others. Simple organizational examples of this are producing a quality product based on the organization value proposition to its customers or improving the capabilities of its organization members. These are activities which the organization engages in because it believes that these activities will benefit it.

The second group consists of two types of organizational behavior. The first type is behavior which either harms or intends to harm others through, unjust practice or malpractice, misinformation or disinformation aiming at "unconstructive destruction or destroying the stakeholders unethically". The second type is behavior which the organization engage in, not because the organization believe that it will somehow benefit it in the long run, but because it believe that it will benefit others. This includes any action the organization do, and any action which the organization could refrain from doing, not for it, but for others. It is with this second group of behaviors with which organization morality is concerned. Organization Morality, then, is engaging in behavior, not out of self interest, but because it is in the interest of others, basically the stakeholders.

As such, morality is antecedent to the organization ethics which is "the scientific part of morality based on objective rationality and reasoning". Preaching morality will not make the organization members more moral but objectively rationalizing morality through sound scientific reasoning could convince the organization members to be more moralistic in their actions. This objective rationality that seek to bring benefits to other is what the Western literature harps technically as CSR – Corporate Social Responsibility. Even though different cultures hold very different beliefs about a certain issue, this does not necessarily imply that there is no objective reality behind these beliefs.

d. Pillar of Organizational Self-Immunity

In anticipating opportunities and mitigating threats, an organization has normally addressed it from the externalized dynamic changes with the market forces or external environmental issues and factors through its over-worked but frequently misunderstood SWOT. In its development of its risk management, externally driven or derived factors can be mitigated with a through and thorough "analytical and critical" or technically a "divergent and convergent" approach in interpreting and integrating the volumes of data and convert them into market wisdom to better protect themselves form these changes leading to a better self-immune system. A seldom visited or down-played set of internal issue that can equally and seriously paralyze an organization is its deceptive and deceitful practices collectively called "fraud" but this goes beyond the fraudulent issues as found in the organization but goes into the organizational moral issue to be discussed in the latter part.

Some of the very well known organizational fraud cases were Enron and its collusion with Anderson Consulting in 2002. In a post mortem analysis by Free, Macintosh and Stein (2007), the collapse of Enron was due to its inter-linkages in the organizational fraud triangle of Leadership-Management Controls-Culture. In 2008 were the infamous sub-prime melt-downs, Citigroup, Morgan and Stanley and other financial giants in the deceptive financial products they hawked to the consumers. In "Analyzing Organizational Fraud", Carpenter and Mahoney (2001) studied 4 major fraudulent practices surveys by COSO (Committee of Sponsoring Organizations of the Treasury Commission, 1999), KPMG 1998 Fraud Survey, IOMA/IIA Study (Institute of Management and Administration/Institute of Internal Auditors) and Ernst & Young 2000 Survey and came up with the following findings:

- CEO and CFO was responsible for 72% and 43% of fraudulent financial reporting cases respectively, 82% were perpetrated by employees at all levels, with the most prevalent by management as they represent a smaller percentage of the workforce,
- Companies with known fraudulent practices were mostly dominated by insiders (inclusive of the internal Board of Directors or political appointees) and had close ties with the organization thus circumventing internal controls,
- Medical claim costs form the greatest average cost per incident, and even though companies fraud report decreased from 1994 to 1998 but the average loss associated with check fraud, inventory theft, expense account abuse and unnecessary purchases for personal use increased,
- 50% responded that non-management employee fraud poses a greater threat to the organization than external or management fraud, with 15% identifying management misappropriation as the greatest fraud risk to the organization.

As noted above, it appeared that the key threat that undermines the organization in terms of its "self-immunity" is more internalized than externalized. Some of the key underlying reasons for fraud occurrences is poor internal controls and management override of controls, with 31% citing collusion between employees and external third parties and 19% citing collusion between employees or management, 11% citing directors' lack of control over management, 8% citing non-existent corporate ethics policy. The term "fraud" used in this paper covers all conscious activities that inflicts damages to the whole or other parties for self-interest and applies to all deceptive and deceitful practices.

Even though one might think that attention had been paid to these fraud prevention and detection, only 39% noted that the budget for this had increased, with a small fraction devoted to fraud-specific training with the median of a meager 0.1% allocated for it. 47 % characterized their external auditor as "cavaliers", "arrogant and dangerous" and "earnest but inept" because of their inability to understand their industry, with only 11% stating that the external auditors as being helpful, valuable or insightful.

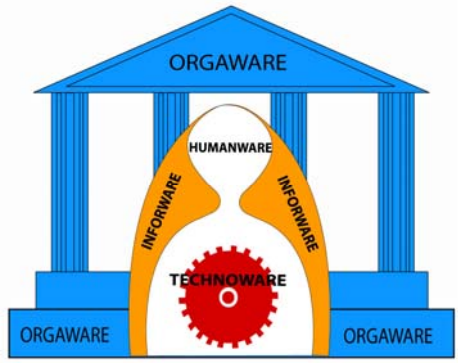
Common steps used in preventing fraud included reviewing and improving internal controls, increasing the focus of senior management, offering training courses in fraud prevention and detection, establishing a corporate code of moral conduct and ethics and provide training. 58% of the respondent expressed the belief that holding management accountable to the same standards for misconduct or mismanagement or malpractices of deception and deceit is a key area to be improved. It is also believed that making the Board of Directors aware of identified and known cases of fraud and their related costs will make the organization more proactive in dealing with these cases. Pressures on the workforce to perform to meet "overly aggressive financial and business objectives" could compromise the workforces' adherence to the organization's standards of moral and ethical codes.

Communication, understanding and commitment of the organization's ethics and fraud program to the workforce would be a key component of the fraud detection and management but 34% of respondent noted that these were "well-intended but meaningless" while 21% said that no such guidelines and policies existed, but 63% recommended that strict monitoring of the internal control could enhance the effectiveness of these codes of conduct. Organizations that had not performed fraud vulnerability reviews had a 66% chances of having a fraud within a 12-months period than an organization that conducts a review, with 80% expressing serious concerns regarding the likelihood of a major fraud within their organizations, and 40% thought that their organizations as vulnerable as they lacked any specific policies or reviews. The use of fraud vulnerability review, use of fraud hotlines by the workforce or other stakeholders to report fraudulent activities and practices, the establishment of "supportive whistle-blowing policies" and the use of forensic accountants are some of the key mechanisms to fight these malpractices that undermines the organizational self-immunity.

e. Foundation of Organizational Human Capital DNA

In the House of learning as shown in Figure 3, Teay (2008) dealt in-depth into identifying the Human DNA as "the degree of human sophistication in the utilization of the information capital through its interpretation and integration of the information domain to use the internal processes of the organization to create and deliver on education value to the stakeholders within the context of the organization capital (inclusive of the organizational frameworks, systems, mechanisms, style, shared values, leadership, teamwork, culture)" that reigns supreme in determining the success of the organization as they form the foundation of success of the organization". Within this framework, the sufficiency philosophy as a "middle way" approach is incorporated to strengthen the Human DNA through its moral and knowledge conditioning based on a path of reason and moderation in what one does to bring about self-immunity.

The House of Learning in HE



Sufficiency and Sustainability mapping onto The Human DNA

Figure 3: The House of Learning and the Human DNA

Source: *Teay, S., (2008), Sufficiency and Sustainability: Individual Capacity Building for HE, scholarly paper presented at the 48th Annual Association For Institutional Research, Seattle, U.S. 26th – 28th May, 2008*

In the capabilities literature, Ulrich and Smallwood (2004) identified 2 groups of capabilities as 1) technical capability, which includes individual's functional competence and organization's core competence and 2) Social, which includes individual's Leadership or organization's leadership and culture, but they are deficient in the moral and reasoning virtues. The twelve organizational capabilities that can affect the organization's competitive positioning:

- **Talent:** Attracting, motivating and retaining competent and committed people.
- **Speed:** Making improvement changes rapidly.
- **Shared mindset:** Ensuring that customers and employees have positive and consistent images of and experiences with the organization.
- **Accountability:** High Performance orientation at all levels.
- **Collaboration:** Working across boundaries to ensure efficiency and leverage.
- **Learning:** Generating and generalizing idea with impact.
- **Leadership:** Identifying, developing and embedding leaders across levels.
- **Customer Connectivity:** Building enduring trust relationships with the targeted customers.

- **Strategic Unity:** Articulating and sharing strategies.
- **Innovation:** Doing something new in both content and processes.
- **Efficiency:** Effectively managing costs.

f. Foundation of Organizational Information Capital

An organization can be viewed as repositories of tacit and codified knowledge (Doring and Schnellenbach 2006). Information can be defined as "data relating to states of the world and the state of contingent consequences that follow the events of the world" (Fransman, 1994, p 716). Knowledge instead is related to beliefs where information processing is influenced by the beliefs of the user that provides insight, creativity and misconception. Knowledge can be categorized into two groups: the knowledge which is unable to be decoded is called tacit knowledge and that which can be decoded called codified knowledge. In most Knowledge Management System, only coded knowledge can be stored, replicated and shared or transmitted through knowledge dissemination or diffusion. Knowledge diffusion has been defined as the movement of useful ideas between organizations which is the process of communicating an innovative idea among members within social system (Appleyard and Kalsow 1999). The purpose of knowledge diffusion is to transfer knowledge from the member who preserves it to the member who lacks it (Huang, et al. 2007).

Studies had shown that the greater the level of knowledge diffusion, the greater the total factor productivity, international competitiveness (Bretschger 1997; Park and Kim 1999; Luintel and Khan 2004), R&D and innovation outcomes (Afonso and Aguiar 2005). Some of the key determinants of knowledge diffusion are:

- Attitude of the management to encourage staff in transferring knowledge to others (Huang, et al. 2007),
- Level of codification as interpretation of knowledge and information is crucial in knowledge diffusion and un-codified knowledge will always increase the cost of diffusion (Martinez-Brawley 1994; Co 2006; Kamoche and Harvey 2006; Hoetker and Agarwal 2007),
- Extent of interpersonal contact that supports the knowledge spillovers (Singh 2005),
- Communication channel (Appleyard and Kalsow 1999; Bretschger 1999),
- Change agent effect as the champion plays a crucial role in bringing about knowledge utilization (Appleyard and Kalsow 1999),
- Nature of social system in the organization (Appleyard and Kalsow 1999; Singh 2005),
- Incentive to motivate the sharing of knowledge (Singh 2005),
- Absorptive capability by the skilled labor (Martinez-Brawley 1994; Bretschger 1997; Afonso and de Vasconcelos 2006; Huang, et al. 2007),
- Technology prowess in terms of technology capabilities (Martinez-Brawley 1994).

Schierz (2007), emphasized that, proper codification of knowledge will reduce bundle of resources and lead time used in innovation. The well codified knowledge can also speed up the diffusion process, and improve the efficiency of technologic resources.

Additionally, well codified knowledge can also improve the production efficiency (Singh 2005; Sorenson and Singh 2007).

g. Foundation of Organizational Capital

Kaplan and Norton (2004) highlighted the learning and growth of the organization as the human, information and organization capital. In the organization capital, they emphasized on leadership, culture, teamwork and alignment. In reality and practicality, the organization is only as strong as its organizational frameworks, mechanisms, cultures, leadership, systems, styles, staffs, and alignment that basically goes into the realms of organizational development that could include:

- Institution strengthening – covering the process of institutional development or institution building implying an infrastructure mentality (Berg, 1992) that could mean the values and cultural aspects of institution building (Morgan, 1993).

- Procedural improvements and Management – covering general functions changes or systems reforms in the academic and administrative units that are on-going (Berg, 1992 and Morgan, 1993). This work organization includes planning, designing, sequencing and mobilizing resources that affects the institutional knowledge creation and teaching-learning-research environment (Lounser, 1991). The institution mechanisms used include group interactions, knowledge management, institutional learning and change management, culture, experience and skills of the institution (Lee and Bai, 2003).

h. Sphere of Organizational Knowledge Conditioning

A key condition of knowledge utilization calls for the human faculty in the identification, interpretation and integration of the information and insights into knowledge and synthesizing them into wisdom. This is the individual capacity and capability that subverts the achievement of "sufficient and sustainable" ideals of the institutional capacity and capability in the creation of knowledge by the individual and institution. Institutional knowledge is a mixture of both tacit and explicit knowledge and knowledge management role is to unlock them and leverage them as institution asset for the benefits and betterment of others and not only out of the organization's self interest.

Knowledge Management is essentially the transfer of knowledge to others who need it for carrying out their responsibilities in the institution and to help others do better. This transfer from students to lecturers, staffs to administrators, academics to administrative staffs and vice-versa is a synchronous communication between "speaker" and "listener" whereby the information must be interpreted and integrated into knowledge (Haeckel, 1987) with the rest of the knowledge that he or she possesses (Mahesh and Suresh, 2004) leading to wisdom. Knowledge transfer is about connection (Davenport and Prusak, 1998) and not collection (Dougherty, 1999) and von Krogh *et. al* (1996) referred it to "knowledge connection" that is made up of formal and informal relationships. Amidon (1997) went one step further to describe "knowledge innovation – as the creation, evolution, exchange and applications of new ideas into marketable goods and services". Under such a circumstance, knowledge condition is the management and utilization of

knowledge for the benefits of others and not abusing for one's own self-interest. It must also be noted that this benefit can only be achieved if the human and the organization as a whole can interpret and integrate them within the moral dimension as noted later.

i. Sphere of Organizational Moral Conditioning

Morality is antecedent to ethics (Joyce, 1911): it denotes those concrete activities of which ethics is the science. It may be defined as human conduct, in this case, the organizational conduct; in so far as it is freely subordinated to the ideal of what is right and fitting. Using Crain's "Theories of Development" (1985) that expounded clearly Kohlberg's six stages of moral development of people, it is heavily adapted as the foundation to identify the organizational moral conditioning:

- ***Level 1. Organizational Pre-conventional Morality Condition***

  - ***Stage 1 – Obedience and Punishment Orientation:*** Stage 1 assumes that powerful authorities in the organization hand down a fixed set of rules which the organization members must unquestioningly obey. The organizational individuals focus on the direct consequences that their actions will have for themselves. The key question here is, "How can I as an individual organization member avoid punishment?"
  - ***Stage 2 – Individualism and Exchange:*** At this stage organization members recognize that there is not just one right view that is handed down by the authorities in the organization. Different individuals have different viewpoints. This is a self-interest driven stage in the organization that espouses the *"what's in it for me"* position. Right behavior is defined by "from one's own best interest". The line of reasoning shows a limited interest in the needs of others, but only to a point where it might further one's own interests, such as *"you scratch my back, and I'll scratch yours"*. The key question here is, "What is in it for me?"

- ***Level II. Organizational Conventional Morality Condition***

  - ***Stage 3 – Good Interpersonal Relationships:*** At this stage organization members see morality as more than simple deals. They believe that organization members should live up to the expectations of the family, community, organization and society and behave in "good" ways. Good behavior means having good motives and interpersonal feelings such as love, empathy, trust, and concern for others. This is an interpersonal accord and conformity driven stage. The organization members enter the organization or society by filling organizational and social roles. Organization members are receptive of approval or disapproval from other people as it reflects the organization's or society's accordance with the perceived role. They try to be a *good boy* or *good girl* or *good organization man* to live up to these expectations, having learned that there is inherent value in doing so and non-conformance would lead to censure and diatribe. Stage three reasoning may judge the morality of an

action by evaluating its consequences in terms of a person's relationships with others in the organization or society, which now begin to include things like respect, gratitude and the 'golden rule of culture and values – or the way we do things here'. Desire to maintain rules and authority exists only to further support these stereotypical social roles.The key emphasis here is, "The good organization member's attitude".

- ***Stage 4 – Maintaining the Social Order:*** Stage 3 reasoning works best in two-person relationships with family members, close friends or organization peers, where one can make a real effort to get to know the other's feelings and needs and try to help. At stage 4, in contrast, the organization members become more broadly concerned with the organization and society as a whole. Now the emphasis is on obeying laws, respecting authority, and performing one's duties so that the social order is maintained. This stage is authority and social order obedience driven. It is important to obey organizational laws and policies, dictums and governance and social conventions because of their importance in maintaining a functioning organization or society. Moral reasoning in stage four is thus beyond the need for individual approval exhibited in stage three; the organization members as a whole or society must learn to transcend individual needs for the benefits of others. A central ideal or ideals often prescribe what is right and wrong. If organization members violate an organization law or policy, it is morally wrong, thus there is an obligation and a duty to uphold laws and rules, thus culpability, responsibility and accountability are significant factors in this stage as they separate the bad organization domains from the good ones. The key emphasis here is, "Law and Order Morality in the Organization".

- ***Level III. Organizational Post-conventional Morality Condition***

  - ***Stage 5* – Social Contract and Individual Rights:** The key emphasis here is, "Social Contract Orientation". At stage 4, organization members want to keep society and the organization functioning. However, a smoothly functioning society and organization is not necessarily a good one. A totalitarian or dictatorial organization or society might be well-organized, but it is hardly the moral ideal. At stage 5, people begin to ask, "What makes for a good organization or a good society?" They begin to think about organization and society in a very theoretical way, stepping back from their own organization and society and considering the rights and values that an organization and society ought to uphold. They then evaluate the existing organization and societies in terms of these prior considerations. They are said to take a "prior-to-society" perspective (Colby and Kohlberg, 1983, p. 22). Stage 5 organization members basically believe that a good organization or society is best conceived as a social contract into which people freely enter to work toward the benefit of all. They recognize that different social groups within the organization or society will have different values, but they believe that all rational people would agree on two points. First they would all want certain basic rights, such as liberty and life, to be

protected. Second, they would want some democratic procedures for changing unfair policies or governing laws and for improving the organization and society.

- ***Stage 6 – Universal Principles:*** The key emphasis here is, "Principled Conscience in the Organization". Stage 5 organization members are working toward a conception of the good organization and society. They suggest that the organization need to (a) protect certain individual rights and (b) settle disputes through democratic processes (c) contribute to organizational, societal and community development. However, democratic processes alone do not always result in outcomes that one intuitively sense is just. A majority, for example, may vote for a policy or governing law that hinders a minority group in the organization. Thus, Kohlberg (1981) believes that there must be a higher stage 6 which defines the principles by which the organization can achieve justice. This is a universal ethical principles driven stage. The organization moral reasoning is based on abstract reasoning using universal ethical principles for the benefits of others. Laws are valid only insofar as they are grounded in justice to the organization and society. A commitment to justice carries with it an obligation to disobey unjust organization laws. This can be done by imagining what one would do being in anyone's shoes, who imagined what anyone would do thinking the same. The resulting consensus is the action taken by the organization members. In this way action is never a means but always an end in itself; one acts *because* it is right, and not because it is instrumental, expected, legal or previously agreed upon.

IMPLICATIONS AND DISCUSSIONS

Conventionally, the present day literature has dealt in-depth into a diverse set of approaches or frameworks into managing capability and capacity building as noted in Robinson, (2005), who identified some of the key determinants of organization capacity building as:

1. Revitalizing the organization's vision (which is the key of and to its future) and not the mission (which is the statement of purpose) as first step to improving an organization's capacity and developing its strategy to achieve it.
2. Managing the whole organization holistically and taking a proactive approach to managing their organization with an attitude of getting it done.
3. The areas within which organizations demonstrated the greatest need of improvement included:
    a. Human resources - the extent to which the organization has comprehensive policies and practices.
    b. Processes - the internal processes of the organization and the extent to which they facilitate productivity and achievement of performance objectives.
    c. Organizational effectiveness - the extent to which the organization's interpersonal and inter-group operations are effective; and
    d. Quality - the extent to which the organization uses and integrates quality management into its day-to-day operations.

The above framework works in the sense that this is what and how the organization should manage its capacity and capability which is its capital resources that it needs to achieve competitive advantage. But this is a case of the capitalistic model for success of which the common denominator is "financial gains", the key indicator of organizational performance and success. Inadvertently this builds up a pressure to "always performance" regardless of the means and mechanisms used and this drive the human and the organization to the grey areas and domains of "what is permitted, what is right, what is wrong – the morality demarcation".

This "morality demarcation" is a thin fine but invisible line that is widely and hotly contested and challenged based on one's beliefs, guiding principles and culture. The proposition here is not to identify what is right or what is wrong. The proposition is that the conventional organization should be strengthened to be "the human and the organization – a collective group of human in a chaordic system" whereby the organization should:

1. Have a clear set of organizational ideology stating what its core purpose is, and what core values that it adhere to and use to achieve its core purpose in society – as the society in itself is a chaordic system complex of all organizations working in tandem to achieve a sustainable existence,
2. Have identified and built:
    a. its strategic pillar of self-resilience or immunity not only from the external dynamic factors and changes but its internal resilience to "malpractice or deceptive or deceitful practices" that gnaws slowly into its foundation of success,
    b. its strategic pillar of reasonableness as the organization as an entity should base its actions and activities on a sound set of rationale and reasoning based not on data and information but on an integrated set of knowledge and wisdom rather than on heuristic or subjective means which might undermine the organizational morality,
    c. its strategic pillar of moderation, which in the western context of the capitalistic model should be redefined from the eastern context of "sufficiency and moderation" in what the organization should do and not be over-greedy and over-wanton, that push the human and the organization into the "grey areas" of morality.
3. Have laid a strong foundation of its strategic capital assets of human capital plus information capital plus organization capital all of which must work in tandem with each other and cannot exist independently or exclusively of each other, as a weak foundation will undermine the organization long-term sustainability. The organization is only as strong as its foundation, as such, it is an imperative to create and build a strong and sustainable foundation that is long lasting for continued survival. It is also this foundation where the organization finds its point of difference from others based on its internal capability and capacity which is its true competency.
4. Have created its 2 spheres of knowledge and moral conditioning as the interpretation and integration of the knowledge into wisdom must be defined from a "moralistic" dimension that not only serves the organization's self-interest but must benefit others. This goes into the realms of the grey area of

abusing the use of information and knowledge to subvert the organization and other stakeholders and that within the morality realm is unacceptable to society as it does not build but destroy.

CONCLUSION

In conclusion, this paper does not go against the capitalistic model as approached by the western literature but that highlights the inner soul of the organization based on its capability and capacity that is neglected or had not been fully developed. It also tries to complement the western capability and capacity frameworks with an added dose of "sufficiency" philosophy that takes a middle-path approach from a more fundamentalist moral aspect.

It is also argued that this "sufficient and moral" organizational context would build a more sustainable organization based on a set of capability and capacity that has an added moral dimension that is lacking in the present day human and organization. An organization with good character but without knowledge is weak and feeble as it it unable to develop self-immunity, but an organization with knowledge but without character is dangerous and a hazardous peril to the organization and society in general. It is a choice that all organization must choose to define and identify itself.

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THE ROLE OF COMPUTER ANXIETY AND COMMUNICATION COMPREHENSION TO INFLUENCE REACTION AND INTERACTION OF INDIVIDUALS WITH TECHNOLOGY MEDIATED LEARNING (TML)

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ABSTRACT

Technology Mediated Learning (TML), which is defined as "an environment in which the learner's interactions with learning materials, peers, and/or instructors is mediated through advanced information technologies. The Technologies used to support TML include video conference, web interface, and email. In order for TML to work, the technology must actually be used.

STIE Perbanas Surabaya has accepted Grand Program from Indonesia government to enhance graduate employability program of student. The Enhancing Information Technology (IT) Awareness Program is the one of program to enhance graduate employability program of student in STIE Perbanas Surabaya. This research examines individual anxieties related to communication and computing to see how they influence an individual's reaction to and interaction with technology tools used in Technology Mediated Learning (TML). Specifically, the objectives of this research is to examine the role of anxiety, an individual characteristic, in Technology Mediated Learning (TML)

The survey has been conducted to 662 Accounting and Management students to explore individual anxieties related to communication and computing to see how they influence an individual's reaction to and interaction with Technology Mediated Learning (TML), tools used in an e-learning environment. Using a multiple regression model, the research result indicate that Computer Anxiety, email experience and website experience are significantly impact on Computer mediated communication (CMC) anxiety

Keywords: *Technology Mediated Learning (TML), computing anxiety, communication apprehension, computer experience*

INTRODUCTION

Online learning course are becoming more popular as people come to appreciate the advantage of learning online. Lin and Hsieh (2001) reviewed the research evidence on learner control in a web based teaching environment and the conditions under which it most effectively facilitated learning.

Effective implementation of e-learning initiative requires a number of factors, including those related to technology, pedagogy, and individuals. While many studies examine the technological and pedagogical factors associated with e-learning, very few examine individual characteristic or factor that uniquely identify persons and those that do examine individual characteristic tend to focus on individual learning styles. Today, e-learning environments require individuals characteristic to interact using technology. This blending of computing and communicating task presents particularly interesting challenges for society, institutions, and individuals alike.

E-Learning is essentially any form of education that is facilitated by the internet and its technologies. Thus, it encompasses the use of the World Wide Web to support

instruction and to deliver course content. E-Learning represents one form of technology mediated learning, which is defined as "an environment in which the learner's interaction with the learning materials, peers, and/or instructor is mediated through advanced information technologies.

A number of individual characteristics have been identified as influential in the acceptance and subsequent use of information technology. There are several reasons that individual characteristics have been identified as influential in the acceptance and subsequent use of information technology. First, E-Learning exist because of computer technology. Second, communication is a key aspect of the instructional process. Finally, due to the convergence of communication and computing tools as utilized in e-learning environment.

This research examines individual anxieties related to communication and computing to see how they influence an individual's reaction to and interaction with technology tools used in a technology mediated learning environment. Specifically, the objectives of this research are: (1) to examine the role of anxiety, an individual characteristic, in e-learning, (2) to assess the impact of communication and computing anxiety on the use of an underlying technology mediated learning and subsequent outcomes on learning

LITERATUR REVIEW

Previous Research

The field of TML (Technology Mediated Learning) is gaining in importance as educational institution and enterprise continue to allocate significant amounts of resources to information technology-enabled learning environment (Alavi and Gallupe, 2003; Lang and Zhao, 2000). The literature on the "no significant differences" phenomenon examines learning outcome by considering the role of technology in effective instruction (Russell, 2001). Some researchers consider TML to be an alternative educational medium that produces no more significant result than traditional learning (Russell, 2001; Conlon and Simpson, 2003). By contrast, one strand of research report that TML can enable collaborative modes of learning and produce better learning outcomes (Kekkonen-Moneta and Moneta, 2002), but at the same time TML may only imitate and amplify the problems of classroom-based learning (Knipe and Lee, 2002)

Tung and Chang (2007) examine computer self efficacy, computer anxiety, innovation diffusion theory, the technology acceptance model, and a proposed new hybrid technology acceptance model to study adolescents behavioral intentions to used online learning courses. The result of the study found that computer self-efficacy has a positive effect on the behavioral intention to use online learning courses. Tung and Chang (2007) found that computer anxiety has a great negative effect on computer self efficacy and the behavioral intention to use online learning courses. In other words, the higher the computer anxiety of the online learning courses users, the lower the computer self efficacy. Higher computer anxiety also reduces the behavioral intention to use online learning courses.

Mills, Lawless and Pratt (2006) examined the knowledge gains of students within cooperative group interacting with computer based instruction compared to students working alone. Mills, Lawless and Pratt (2006) find no statistically significant differences between group score and individual learner. Differences between the groups and individual learners would have indicated the presence of confounding variable in the study. A finding of no significant difference, however, indicates an overall effectiveness

of the CBI to increase student achievement for both group and individual CBI learners. The other finding of their study, there are statistically differences in achievement scores between the group member controlling the mouse and observing group members provides evidence that the additional responsibility of a learner to navigate through the computer-based program and attend to the needs of others in the group may place this learner cognitive burden on the learner. The conclusion of their research regarding cognitive overload associated with navigating and learning from a hypertext document.

Fuller, Vician and Brown (2006) examined the role of technology is instruction and corporate training for over three decades. In particular, their research provides evidence that together, computer anxiety, group oral communication apprehension, and prior experience with email technology explain 68% of the variance in email anxiety. Email anxiety and computer experience explain 22% of the variance in email use, and email use and age explain 11% of the variance in learning. Thus, the results demonstrate the anxiety plays a significant role in influencing use of email. Further, the results indicate that email use has a positive impact on course learning, suggesting that individuals who avoid email use are at a disadvantage in terms of learning opportunities in an e-learning environment.

Brown, Fuller and Vician (2004) integrated the literature on computer anxiety and communication apprehension to determine their joint impact upon individual attitudes toward using and use of computer mediated communication. Brown, Fuller and Vician (2004) introduced the application-specific computer mediated communication anxiety, defined as an individual's level of fear or apprehension associated with actual or anticipated use of information technology to communicate with others. The results show that the factors contributing to Computer Mediated Communication anxiety include computer anxiety, oral communication apprehension, and Computer Mediated Communication familiarity. The results further show that Computer Mediated Communication anxiety mediates the relationship between oral communication apprehension and computer anxiety and the dependent variables. Contrary to expectations, written communication apprehension was not a significant determinant of Computer Mediated Communication anxiety. Computer Mediated Communication anxiety explains 34% of the variance in attitude toward using Computer Mediated Communication technology and Computer Mediated Communication anxiety and familiarity explain 14% of the variance in usage of Computer Mediated Communication technology.

Technology Mediated Learning

Technology mediated learning (TML) defined as an environment in which the learner's interaction with the learning materials, peers, and/or instructors is mediated through advanced information technology (Petrides, 2002). TML holds much promise as a means of enhancing learning, as its use can expand the boundaries of traditional instruction, thus enabling learners to have greater access to other participants in the learning environment.

Part of the rationale for TML is that the use of the technology actively involves an individual's cognitive processes in the construction of new knowledge through communication episodes, in contrast to traditional classroom lectures that are believed to affect cognitive processes in primarily a passive manner for the majority of students. An individual's active engagement in communication where the individual is involved with other learning participants in sending, receiving, and cognitively processing messages-provides a way for the individual to make the learning tangible. Yet, prior communication

research indicates that communication apprehension can be a powerful inhibitor of an individual's involvement is such communication activities even under non-technology mediated conditions. Given the importance communication in the technology mediated learning environment, it is essential to understand the influence of communication apprehension in order to enhance the learning experience.

Effect Of Individual Characteristics On Technology Mediated Learning

A number of individual characteristics have been identified as influential in the acceptance and subsequent use of information technology. However, in this study, we choose to focus on those characteristics directly associated with the unique environment caused by the convergence of computing and communication tools embedded in technology mediated learning.

RESEARCH METHOD

Sampling Method

The study was performed by means of survey method. The population studied was students of STIE Perbanas Surabaya. The sample was taken randomly (random sampling). The data was collected through a questionnaire.

Operational Definition

The survey contained items measuring computer anxiety, oral communication apprehension, written communication apprehension, email experience, computer experience, email anxiety, email usage and learning. A five-point response scale used to measure the variable, where 1 = strongly disagree and 5 = strongly agree.

Computer anxiety is the tendency of individuals to uneasy, apprehensive, or fearful about current or future use of computers. Computer anxiety is generally held to be state, rather than a trait, which suggest that it is malleable give the appropriate conditions and/or anxiety interventions.

Communication apprehension is defined as an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons. Communications apprehensive tend to avoid communication situations, often choosing not to take courses in which they perceive the communications requirements to be high. Additionally, communication apprehension has been associated with lower performance in academic settings, particularly in interaction-intensive classes. Communication apprehension can be further delineated into oral and written apprehension. Oral communication apprehension focuses on the anxieties associated with one's verbal communication in dyads, as part of a group, and when making speeches. Written communication apprehension focuses on anxieties associated with one's perceived inability to write, lack of enjoyment with writing processes and potential negative evaluations from others reading one's writing.

Email/Web experienced is familiarity with electronic communication tools (like email and web). Email/Web experienced will be associated with reduced email anxiety. Some researches suggest that experience communicating and computing reduces associated anxiety. When an email tool is encountered in an e-learning environment, prior successful email and web usage may provide novice e-learners with confidence in their communication, thus serving to reduce anxiety.

Computer mediated communication (CMC) anxiety is an application specific instantiation of computer-mediated communication anxiety which generally comes about from an individual's apprehension regarding the use of information technology to communication with others. Email usage is a count of the number of e-mail message sent by the subject. Learning is course grade as reported by the instructor.

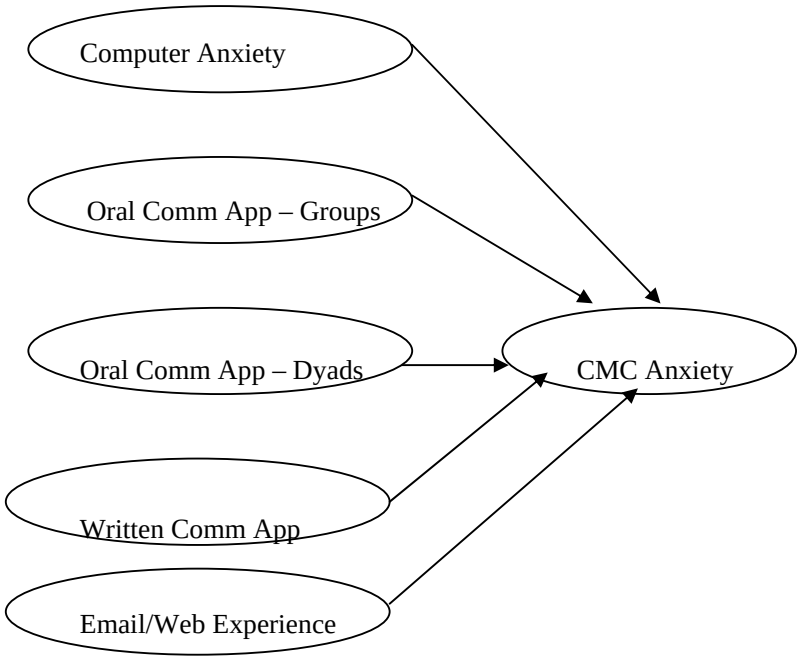
Questionnaire

The research instrument of study is adopted from Fuller et al (2006) with some modifications according to the condition in Indonesia. The evaluation was conducted based pm the answer of the respondents falling between strongly disagree and strongly agree.

Data Analysis Technique

After the data was collected then data analysis was performed in the following stages: **The first analysis** was Descriptive Analysis**.** This analysis was performed to get the findings on the respondents demography. Those collected findings were further presented in a tabulation or graphic to be easily understood and read. The descriptive analysis was explained in four things: access, interaction, response and result. **The second analysis** was tested using multiple regressions linear. The research model is presented in Figure 1.

Figure 1
Research Model



DISCUSSION

Descriptive Statistic

The questionnaires distributed to for all student of STIE Perbanas randomly. The questionnaires were distributed to 900 respondents, but only 694 were given back. Out of 694, there were 32 questionnaires that were incomplete; so, totally were 662 that were analyzed.

The following descriptive analysis of respondent's identify is presented. The descriptive analysis of each respondent shall include the data of their course subject, batch, and GPA. Table 1 describes characteristics of respondents. Most of respondents are female (64.7%). And the respondents whose age dominant in interval 20-24 years are 62.1%. Beside that, respondent whose enroll in Accounting Department (Bachelor and Diploma) are 385 respondents or as much as 56.6% and the respondent whose enroll in Management Department (Bachelor and Diploma) are 271 or as much as 41%. And according to GPA, most student or respondent with GPA more than 3.00 (grade 4.00) as much as 394 (60%).

Table 1
Characteristics of Respondents

Gender	**Number of Students**	**%**
Male	215	32.5
Female	428	64.7
Unidentified	19	2.8
Total	**662**	**100.0**
Age	**Number of Students**	**%**
≥ 25 years	14	2.1
20 – 24 years	411	62.1
< 20 years	141	21.3
Unidentified	96	14.5
Total	**662**	**100**
Department (Program)	**Number of Students**	**%**
Management (diploma)	52	7.9
Management (bachelor)	219	33.1
Accounting (diploma)	25	3.8
Accounting (bachelor)	360	54.4
Unidentified	6	0.9
Total	**662**	**100**
GPA (max. 4)	**Number of Students**	**%**
< 2,49	57	8.6
2,5 – 2,74	60	9.1
2,75 – 3,00	144	21.8
3,01 – 3,49	232	35.5
3,5 – 4	162	24.5
Unidentified	7	1.1
Total	**662**	**100**

Validity And Reliability Test

Validity test is performed to evaluate whether the questionnaire of this study is valid or not. The questionnaires were valid because all indicators probability levels were below 0.01, besides, the score of correlation coefficient is > 0.5.

The reliability test indicates that the measuring instrument is reliable. A questionnaire is considered reliable is when a respondents answer are consistent or table from time to time. From the data, the alpha scores of all variables were more than 0.60, so those variables were reliable.

Diagnostic Test

Diagnostic test is to detect the existence of multicolinearity, heteroskedasticity, autocorrelation and normality problems, specific error and the fit of multiple regression models. Diagnostic test is firstly done to detect autocorrelation. The test used runs test. This test stated that if runs test value has probability more than 0.05, the autocorrelation does not exist in the regression model. The result showed that runs test value is 0.351, so it was found that there was no autocorrelation (see table 2).

Tabel 2

Runs Test

	Unstandardized Residual
Test Value [a]	-.00435
Cases < Test Value	331
Cases >= Test Value	331
Total Cases	662
Number of Runs	320
Z	-.933
Asymp. Sig. (2-tailed)	.351

a. Median

The second testing of assumption is heteroskedasticity problem. It used Glejser test. This test stated that if probability value of each variable has probability more than 0.05, the heteroskedasticity problem does not exist in the regression model. The results showed that all variable have probability value more than 0.05, so it was found that there was no heteroskedasticity (see table 3).

Tabel 3

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.765	.193		3.965	.000		
	AVGCA	-.015	.036	-.019	-.421	.674	.757	1.321
	AVGOCAG	-.037	.026	-.062	-1.420	.156	.795	1.258
	AVGOCAI	.010	.027	.016	.381	.704	.807	1.239
	AVGWCA	-.026	.019	-.053	-1.328	.185	.932	1.073
	AVGEMAIL	-.034	.027	-.069	-1.245	.213	.492	2.032
	AVGWEBSI	-.004	.030	-.008	-.145	.885	.478	2.091

a. Dependent Variable: ABSUT

The third testing of assumption is multicolinearity problem. The result showed that the score of tolerance and VIF less than the rule of thumb (for tolerance=1 and VIF= 10), so it was found that there was no multicolinearity (see table 3).

The last testing of assumption is normality problem. It used one sample kolmogorov – smirnov test. This test stated that if probability value of unstandardized residual has probability more than 0.05, the normality problem does not exist in the regression model. The results showed that unstandardized residual has probability value more than 0.05 so it was found that there was no normality (see table 3).

Tabel 4

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			662
Normal Parameters	a,b	Mean	.0000000
		Std. Deviation	.54024523
Most Extreme Differences		Absolute	.051
		Positive	.051
		Negative	-.035
Kolmogorov-Smirnov Z			1.317
Asymp. Sig. (2-tailed)			.062

a. Test distribution is Normal.

b. Calculated from data.

Regression Results

Having tested the four classic assumptions of regression anlysis, the regression analysis resulted the following findings:

Tabel 5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.687[a]	.472	.467	.54271

a. Predictors: (Constant), AVGWEBSI, AVGOCAI, AVGWCA, AVGOCAG, AVGCA, AVGEMAIL

The Goodness of Fit test showed the value of adjusted R^2 = 0.467 which means that the value of the dependent variable can be explained by 46.7% by the independent variables. This value can be considered sufficient because Computer mediated communication (CMC) anxiety is influenced by many factors besides Computer Anxiety, Oral communication apprehension – group communication, Oral communication apprehension – dyadic communication, Written communication apprehension, Email experience and Website experience.

The F test, as shown in table 6, indicates that the Computer Anxiety, Oral communication apprehension – group communication, Oral communication apprehension – dyadic communication, Written communication apprehension, Email experience and Website experience are very significantly associated with the Computer mediated communication (CMC) anxiety.

Tabel 6
F Test (Anova)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	172.515	6	28.752	97.619	.000[a]
	Residual	192.923	655	.295		
	Total	365.437	661			

a. Predictors: (Constant), AVGWEBSI, AVGOCAI, AVGWCA, AVGOCAG, AVGCA, AVGEMAIL

b. Dependent Variable: AVGANEMA

Table 7 indicates the significance of the relationship between the dependent variable and each of independent variables. As we can see from this table, Computer Anxiety is significantly impact on Computer mediated communication (CMC) anxiety. The result shows that Computer Anxiety has positive influence on Computer mediated communication (CMC) anxiety. The results indicate that individuals with computer anxiety would likewise experience anxiety with computer mediated communication or email, as it involves the use of a computer. Prior research has indicated that general anxieties are positively associated with more specific forms of that anxiety. Likewise, more specific and proximal types of anxiety will mediate the effect that more distal and general types of anxiety have on behavior.

The results show that email experience and website experience have significantly impact on Computer mediated communication (CMC) anxiety. The results indicate that familiarity with electronic communication tools will be associated with reduced Computer mediated communication or email anxiety. A preponderance of the research in computer anxiety suggests that experience and familiarity reduce anxiety. However, solely providing additional exposure to computers is unlikely to reduce computer anxiety. Some research suggests that experience computing reduces associated anxieties. When an email tool is encountered in an technology mediated learning environment, prior successful email and web usage may provide novice e-learners with confidence in their communications, thus serving to reduce anxiety

However, some variables namely: oral communication apprehension – group communication, oral communication apprehension – dyadic communication, and written communication apprehension are not significantly impact on computer mediated communication (CMC) anxiety

Tabel 7

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.032	.296		13.614	.000
	AVGCA	.444	.055	.263	8.062	.000
	AVGOCAG	-.036	.040	-.029	-.896	.371
	AVGOCAI	-.045	.042	-.034	-1.062	.289
	AVGWCA	-.024	.030	-.024	-.810	.418
	AVGEMAIL	-.391	.042	-.380	-9.391	.000
	AVGWEBSI	-.202	.047	-.178	-4.337	.000

a. Dependent Variable: AVGANEMA

CONCLUSION, LIMITATIONS, DIRECTIONS FOR FUTURE RESEARCH AND IMPLICATION FOR INSTITUTION

The objectives of this research are: (1) to examine the role of anxiety, an individual characteristic, in Technology Mediated Learning (TML), (2) to assess the impact of communication and computing anxiety on the use of an underlying Technology Mediated Learning (TML), and subsequent outcomes on learning. The results show Computer Anxiety, email experience and website experience are significantly impact on Computer mediated communication (CMC) anxiety.

As with any research, this research has limitations. The results were constrained by two factors. First, this is a sample of undergraduate students. Thus, the application of these results to individuals participating in distance education program in which the participants are older and more experienced requires additional empirical study. A second limitation is the omission of the other factors thought to influence learning. Future research should expand the model to incorporate other constructs such as learning style, instructor factor, and technology components.

Future research should monitor impacts longitudinally to determine later academic success as a function of early exposure to Technology Mediated Learning (TML) tools. Another important direction for research is to examine the social implications of participating in Technology Mediated Learning (TML) education environment. Future research should examine the changing nature of relationships among individual learners and instructors and assess the impact that these changes have on the social aspects and outcomes of the learning process.

For Institution, the results of this study have two primary implications. First, the fact that email familiarity is significant in the model suggests that early exposure to e-mail is important for encouraging email use later in one's e-learning experience. Second, if the institutions develop "Enhancing Information Technology (IT) Awareness Program" must integrated information technology in learning method.

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STUDENT RETENTION AT STIE PERBANAS SURABAYA, INDONESIA (CASE STUDY WITH TINTO'S MODEL)

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ABSTRACT

In Indonesia, the duration of study in higher education (HE) takes 8 semesters. Anyhow, while studying some students often do not successfully undergo the studying process, meaning they fail, and finally they drop out. This condition commonly happens in Indonesian HE. This is a very serious problem for the HE institution since student retention refers to varied problems such cash flows, image, and its long term sustainability. Institution, then, must be aware of assessing why this problem happens by looking at some aspects such as students' personal characteristic and HE institutional aspects both academic and social aspects.

This research reviewed the factors related to the retention of the students of STIE Perbanas Surabaya at the first semester. A path analytic approach based on Tinto's model was employed to explore the effects of students' background, preparedness, goal and institutional commitment, academic and social integration upon the students' retention.

This study resulted that all variables significantly influenced the students' retention. That's why institution should pay more attention to build and maintained student's goal and institution to gain their high academic and social integration and retention.

BACKGROUND

Experiences of higher education students in the first year have become a major focus of concern. Many institutions work hard to retain students, using strategies that generally consider the first-year experience (Beder 2001). From the students' point of view they might have several aspects that cause their failure in undergoing their first year's study. Those aspects regards to the students' personal and family backgrounds, their ability to adapt with the social and academic environment at college.

Failure in the students' first year's experience in study leads to serious effects on both the students themselves and the institution. The students may fail in several areas such how well they are able to adapt, getting unsatisfied academic performance, accepting unexpected condition and weak quality on academic services .The failed students may feel disappointed and do not want to continue their study. Never mind the multiplied negative effects moving on to the other students facing similar condition.

From the HE institution point of view, students' failure in the first years also cause serious problem. The institution may suffer from losing a certain number of students leading to financial and non-financial effects. Financially, losing students means losing revenue. Losing students also invites ruined image of the institution quality that may be caught by students or society. The ruined image, in turn, will also destruct the sustainability of the institution.

Referring to the importance of keeping excellent condition that must be experienced by the first year's students, it is very crucial to assess whether the students' aspect and the institution condition have been considered by the management to avoid losing students or to hold the student retention.

THEORETICAL FRAMEWORK

Many studies and literature reviews summarize similar sources and provide similar conclusions. Landmark studies by Tinto (1975), Kraemer (1978), Strage (99), Elkins et al (2000), Wall, 2004, Moore 2006, and Clark 2007, have examined the issue of student retention and departure. In particular, Tinto's attrition model has become the benchmarked foundation for most research regarding student retention.

Tinto's Student Integration Model (1975), theorizes that the social integration of students increases their institutional commitment, ultimately reducing the likelihood of student attrition. According to Tinto, student commitment to the goal of college completion and his commitment to the institution determines whether or not he decides to drop out. Tinto's model has been revised or enhanced by a number of researchers using important aspects of Tinto's academic and social integration theory.

Amy A Strage (1999), found that retention rate and success consistently predicted by student academic and social integration into their environment. Clark, (2007) stated that high school performance (GPA and ACT) can be used to predict student's success rate (retention and performance) in the first but not on the second semester. Parents education can give a little tendency to predict student's success. Moore (2006) showed a relation between student's long term success with their first semester performance.

Factors and Issues Influencing Retention

There are a number of factors related to retention as stated in the research literature. Here is the summary of their major findings (Swail,Redd and Perna, 2003)

Academic Preparedness. Acording to Swail, Redd and Perna, (2003) academic integration and preparation are the primary features of many models of retention. Research shows that between 30 and 40 percent of all entering freshman are unprepared.

Commitment to Educational Goals and the Institution. Tinto (1993) hypothesized that commitment to occupational and educational goals as well as commitment to the institution in which one enrolls, significantly influence college performance and persistence. The stronger the goal and institutional commitment the more likely the student will graduate. Research shows that student goals and institutional mission is mediated by the academic and social components. Further that the increasing integration into academic and social campus communities which causes greater institutional commitment and student persistence.

Social and Academic Integration. the level of social integration within a given year of study is part of the cumulative experience that continues to build throughout one's college experience. Social integration is more than a simple matter of a student having social interactions (Kraemer, 1997). The establishment of peer relations and the development of role models and mentors have been defined in the literature as important factors in student integration, both academically and socially. While researchers agree that "institutional fit" and campus integration are important in retaining college students to degree completion, campus climate mediates undergraduates' academic and social experiences in college.

Before coming to university most students have begun to form their new identity because of the commitment and preparation required to decide to go to university. Nevertheless the university experience requires personal changes that many students are unprepared

Hipothesis :

H1a : academic integration significantly related with social integration
H1b : intention significantly related with goal commitment
H1c : intention significantly related with institutional commitment
H2a : academic integration significantly influence retention through Intention, goal commitment and institutional commitment
H2b : social integration significantly influence retention through Intention, goal commitment and institutional commitment
H4a : family background moderated retention
H4b. : school preparedness moderated

METHODOLOGY

1. Variable and measurement

Variables in this study were

a. Exogen Variable :

Academic Integration (AI) which is the students' development of a strong affiliation with the college academic environment both in the classroom and outside of class. It includes interactions with faculty, academic staff, and peers but of an academic nature (e.g., peer tutoring, study groups)

Social Integration (SI) which refers to the studentst' abiliity to see themselves as the member of an academic or social community within the university. It also refers to strong students' affiliation with the college social environment both in the classroom and outside of class.

b. Endogen Variable :

Goal Commitment (GC) which indicates the degree to which student are committed to attaining their goal

Institutional Commitment (IC), which indicates the degree to which student are committed to the institution into which they enter.

Intention (INT) which refers to the level and type of education desired by the students.

c. Dependent variable :

Retention rate (R) which is the degree to which students would persist in the face of difficulty or failure.

d. Moderating Variable (P), school preparedness
e. Moderating Variable (F), Family Background

2. Instrument and Procedure

This research employed questionnaire operationalizing the theories and that has been used by the Monash university doing similar research..

The questionnaire was distributed to 232 respondents, which are the students, when the students were in class. The questionnaire was anonymous to encourage students to feel independent. The questionnaire consisted of 69 questions using six-point Likert scale (1 = strongly disagree, 6 = strongly agree).

3. Validity and Reliability Test

Validity measures the degree in which our test or other measuring device is truly measuring what we intended it to measure. While reliability measures the consistency of a test, survey, observation, or other measuring device. A reliability coefficient is often the statistic of choice in determining the reliability of a test., This coefficient merely represents a correlation, which measures the intensity and direction of a relationship between two or more variables. The most common internal consistency measure is Cronbach's alpha, which is usually interpreted as the mean of all possible split-half coefficients

4. Analysis technique

a. Descriptive Statistic Analysis

Descriptive statistics was used to analyse all items of the questionnaire in term of the average score.

b. Inferential Statistic Analysis

This study employed path analysis using simple regression model. This test examined whether exogen variable significantly influenced the retention rate directly or indirectly through the endogen variables. The equation is :

$$\mathbf{R = \alpha + \beta_1 AI + \beta_2 SI + e} \quad \ldots\ldots\ldots\

RESULTS AND DISCUSSION

Referring to the items of the research instrument, 29 items out of 69 items were not valid. So the analysis went with 40 items. The summary of valid items are as follows:.

no	variable	number of valid items	Mean	Cronbach α
1.	Retention (R)	4	4.51	0.877
2.	Intention (INT)	3	4.27	0.797
3.	Institutional commitment (IC)	2	5.15	0.758
4.	Goal commitment (GC)	8	4.56	0.893
5.	Academic integration (AI)	8	4.38	0.797
6.	Social integration (SI)	7	4.75	0.780
7.	Preparedness (PREP)	5	4.37	0.849
8.	Family background (FAM)	2	3.279	0.813
	total	**40**		

Assumption test was done to test that the models were linear. The test examined the unstandardized residual of every models. The model was considered linear if the residual was not significant (the score is > 0.05). This insignificant residual was free form independent variable. After testing all models, it was found that all models were linear.

On the result of the research, it was explained in two areas namely the result of the descriptive statistic analysis and the inferential statistic analysis .

Descriptively, most parents' education level were senior high school . About 50% of the respondents had made preparation for entering university enrollment test. So, they joined a course that guided them to pass the enrollment test to university. Other data gained was that the average GPA of the respondents was 3.15. Average retention rate was 4.51 meaning that the respondents enjoyed the study at the college and believed that they could get success in their future. The average rate of the institutional commitment was 5.15 meaning that they had an emotional linkage with this institution. The average rate of the goal commitment was 4.56 showing that they had quite good commitment to reach their goal to get knowledge. The average rate of the academic integration was 4.38 indicating that students' academic integration was also quite good.

The average rate of students' social integration was 4.75 indicating that academically and socially were quite good.

Inferentially, the result refers the influence of academic integration (AI) and social integration (SI) to student retention with using intention (INT) and goal commitment (GC) and institutional commitment (IC) as a mediating variables. The relationship between academic and social integrations was significant.

The result of the Path model of retention are as follows;

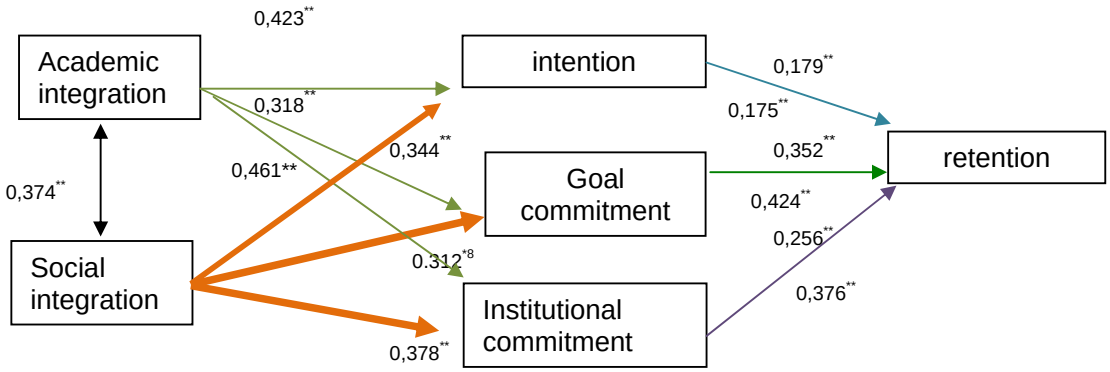
	Model	F	β	R^2	sign
1	$R= \alpha + \beta_1.AI + \beta_2.INT + \varepsilon_1$	45.231		0.283	0.000
	AI		.423		0.000
	INT		.179		0.000
2	$R= \alpha + \beta_1.AI + \beta_2.GC + \varepsilon_1$	60.705		0.346	0.000
	AI		.318		0.000
	GC		.352		0.000
3	$R= \alpha + \beta_1.AI + \beta_2.IC + \varepsilon_1$	54.251		0.321	0.000
	AI		.461		0.000
	IC		.256		0.000
Total effect of Academic integration to retention through intention, goal commitment and institutional commintment was = **.0118+ .112+ .076= .306**					
4	$R= \alpha + \beta_1.SI + \beta_2.INT + \varepsilon_1$	32.458		.221	0.000
	SI		.344		0.017
	INT		.175		0.000
5	$R= \alpha + \beta_1.SI + \beta_2.GC + \varepsilon_1$	64.919		.362	0.000
	SI		.312		0.000
	GC		.424		0.000
6	$R= \alpha + \beta_1.SI + \beta_2.IC + \varepsilon_1$	36.428		.241	0.000
	SI		.213		0.000
	IC		.376		0.000
Total effect of Social integration to retention through intention, goal commitment and institutional commintment was = **.080+ .132+ .060= .272**					
7	$R= \alpha + \beta_1.SI + \beta_2AI + \varepsilon_1$	70.208		.382	0.000
	SI		.378		0.000
	AI		.329		0.000
Total causal effect of Academic integration to retention through intention, goal commitment and institutional commintment was = **.306 +.329= .635**					
Total causal effect of Social integration to retention through intention, goal commitment and institutional commintment was = **.272 + .378 = .650**					

The models developed were fit and significant. Surprisingly that family background as one of personal characteristic was not significantly influencing intention, goal commitment and institutional commitment of a student. The fact proved that students's decision to enter university did not much depend on their parents' involvement. In developing countries like Indonesia, most parents have lower education level as shown in descriptive analysis, so their young generation have more commitment to reach higher education. It was similar with Tinto that claimed that personal characteristics have less influence (Parteger.et.al, 1998)

The important result was that academic integration and social integration significantly influenced retention directly and indirectly. The total causal effect was high (>60%), The R^2 also relatively high that showed the percentage of academic integration and social integration influencing the retention. The rest of the percentage might be explained by other variables that were not included in this study. This result was consistent with several previous studies explaining that academic integration and social integration had been significant predictors to performance and persistence. Tinto suggested that student goal commitment and institutional commitment were very important to retention. He believed that students who know what their degree goal were more likely to remain at a particular institution (Parteger. Et al, 1998)

The summary of the model could depicted as follow

Figure 1.



Limitation of study

1. Since this study only utilized students of one college, the finding was limited to a student population that is similar to that institution.
2. Retention models have been developed by some researchers using various variables but not all variables were tested in this research so that the variables using in this research have not explained the retention comprehensively.

CONCLUSIONS AND CONSIDERATIONS FOR FURTHER RESEARCH

The academic integration and social integration proved signifincantly affecting the retention of the students of STIE Perbanas Surabaya, directly and indirectly. However, this result should be intrepreted wisely meaning that lathough the result of the research showed that the retention was quite high but some students tended to leave or move to another university because of unsatisfied academic services.

These findings need encouragement by further researches considering the following points:

1. Previous research found that the process of becoming socially and academically integrated into campus environment has also been found to be both a cumulative and compounding process (Swail, Redd and Perna, 2005) . It means that students need time to more integrate. That's why this study should be tested further to the

same respondent in the following semester to know the longitudinal effect. It also can be examined whether the institutional commitment becomes higher or not.

2. This kind of study could be conducted at some colleges and be compared to know the level of their commitment to the campus.

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DEVELOPING GOOD MANAGEMENT SYSTEM TO ENHANCE EFFICIENCY IN PRODUCING AND SELLING PRODUCTS OF INSTITUTE OF FOOD RESEARCH AND PRODUCT DEVELOPMENT, KASETSART UNIVERSITY, THAILAND

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ABSTRACT

The purpose of this research was to develop participating process of production and selling of Institute of Food Research and Product Development, Kasetsart University, Thailand in order to improve management system to meet its highest potentials. Action Research associated with PDCA model was our main research methods. 45 participants were from Production and Selling Department. They were assigned to work together to create their work improving plan by analyzing situations of their organization in last 3 years (during 2003 to 2005). Instruments in this study were brain storming, observation, and group discussion. The data obtained were analyzed and discussed through content analysis.

The study revealed that participants from Production and Selling Department worked separately. They never summarized the results of their works, and lacked cooperating between different departments. Most of them only worked according to assignments. However, working environment was different. They always helped each other, and leaders took good care of their workers.

After joining all research processes, the participants could see the importance of data operation and indicate the trend and directions of their working plan. They selected products which had highest potentials and profits to produce as a priority. They also deleted some products that had a difficulty to produce, and chose some outstanding products to promote the organization. This study found that after our research procedures the participants recorded their working systems periodically. They were able to increase their income from 15,872,148 in 2005 to 18,060,161.60 baht in 2006 and 19,751,890.66 baht in 2007.

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INTRODUCTION

Institute of Food Research and Product Development (IFRPD) is one of research institutes at Kasetsart University, Thailand. It was established since 1968. IFRPD has main duties to perform research on the quality of food science and technology. The institute normally works on the nutrition extracted from raw materials of agricultural products with the intention to maintain high quality for a long time.

The IFRPD has worked both in family level and factory level. The institute usually has its role to assist food industries, to provide food information to social, academic offices, industries and communities, and to offer laboratories for students in Food Science who studied in Kasetsart University and also other universities. All products of the IFRPD are usually sold at the shop of the institute, express shops and other private representative shops.

The institute is a public and large organization. Administration and management systems, however, are not organized as other private organizations. Staff usually divided the works by themselves with no well plans. People in food production and selling departments never discussed together about how to improve their works. This was because there are so many lines of productions, which are from many experiments in the laboratory performing as the educational institute. This has caused inefficient production procedures. This problem has been accumulated for a long period of time. Because of the economic crisis, all state universities have to be prepared to support themselves. It is essential for IFRPD to improve and to adjust its organization in order to be "a leader of food innovation, academic supporter and the pointer to the best food industries of the country". Thus, the institute has to be ready for change in order to generate a great movement.

One way to create an effective change is to foster participation among the staff from production and distribution departments. This research project included 45 participants from these two departments. Two main research objectives were to develop participation and cooperation between the staff of production and selling departments, and to increase production and distribution efficiency of the organization.

RESEARCH METHODS

This study is the action research. There were 45 participants from two pilot plants (the pilot plant 1 and 2) and selling department. Research procedures was run under loop of preplanning – plan- act – reflection-evaluation, adapted from Deming's model (1994) as the following:

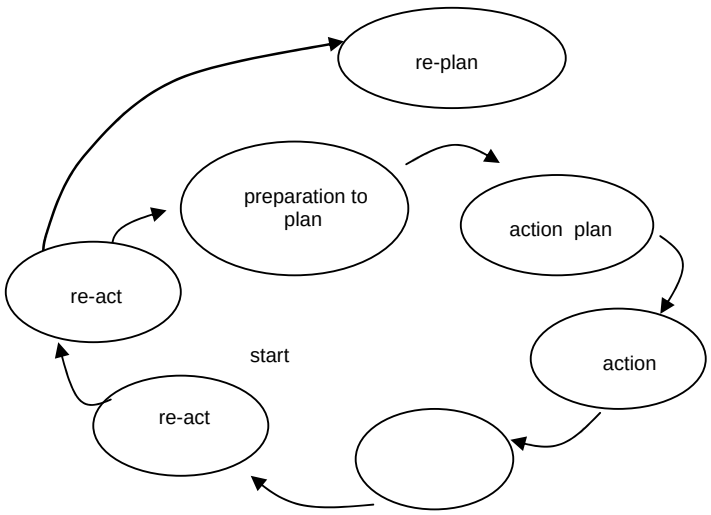

Figure 1 loop of preplanning – plan- act – reflection-evaluation, adapted from Deming's model (1994)

For the preparation, brain storming was used among participants to consider the potential and problems of production and distribution. However, the product and distribution departments were studied separately. The researchers started with the study on the total quantity of selling for last 3 years (during 2003 -2005). Then the information in producing and selling of the institution was analyzed. The results of the study in the first part were used as a reflection

and materials for the participants to discuss and find the tendency to solve the problems together.

After conducting the working plan, the operators used the plans for 6 months per round, checking the results of the plan every month and then evaluated the plans every 6 months. Research instruments used in this study were brain storming, observation and group discussion. Content analysis was utilized to analyze data.

RESULTS

1. From an observation of working situation in the pilot plants, the general environment among participants was friendly. The head of all factories was very kind and always understood the workers. However, it was found that the staff was lacked of their responsibility. Most staff was the older, and gained low incomes. The study also revealed that there was the problem of order delays from the selling department to the pilot plants. This was caused a slow preparation that could meet requirements of the customer.

2. During 2003 -2005, there were 24 categories of products. The incomes from the selling department were in fluctuation and perhaps in declination as shown in Table 1.

Table 1 Selling Situation during 2003 -2005

Number	Product categories	Year 2003 Selling Total Amount (baht)	Year 2004 Selling Total Amount (baht)	Year 2005 Selling Total Amount (baht)
1	Supplementary food for infant and young children	435,180.00	482,173.00	344,410.00
2	Textured vegetable protein	12,821,952.00	14,536,377.00	13,258,228.00
3	Instant cereal beverage powders	49,223.00	41,712.00	35,354.00
4	Snack food	29,690.00	80,569.00	26,092.00
5	Breakfast cereal	26,080.00	49,719.50	54,780.00
6	Cookies	178,126.00	578,630.00	439,079.00
7	Soy milk	109,825.00	107,076.00	102,621.00
8	Beverage	51,264.00	126,561.00	108,759.00
9	Concentrated juice	124,897.00	189,597.00	175,468.00
10	Flavored syrup	37,768.00	33,749.00	40,092.00
11	Herbal drink	18,646.00	41,357.00	51,536.00
12	Dressing	35,965.00	46,484.00	18,182.00
13	Fruit dipping sauce	469,148.00	622,315.00	576,189.00
14	Chili paste	168,094.00	200,799.00	239,806.00
15	Dipping sauce	9,925.00	20,200.00	29,306.00
16	Thai curry	31,066.00	193,975.00	168,329.00
17	Fine textured vegetable protein with chili paste	37,464.00	63,640.00	50,236.00
18	Pickle	122,99.00	102,871.00	26,394.00
19	Jam	47,008.00	50,674.00	35,424.00
20	Kaset noodle	24,318.00	71,423.00	61,346.00
21	Soy product	7,012.00	8,134.00	6,486.00
22	Vine	0.00	167,700.00	26,000.00
23	Meangkam sauce	22,396.00	39,386.00	26,261.00
24	Starter culture of fruit Vinegar drink	67,882.00	28,095.00	35,090.00
	Total	14,917,286.00	17,883,217.00	15,872,148.00

From the above total selling amount, textured vegetable protein and fruit dipping sauce were the best selling products. The selling amount of breakfast cereal, herbal drink, chili paste and dipping sauce showed high tendency products for extending the markets.

In contrast, the selling amount of pickle expressed declination of market needs. Moreover, in 2005 the amount of selling and profits of textured vegetable protein and cookies showed high demands (Table 2).

Table 2 Order of good selling product and profits in 2005

number	Product categories	Profit (baht)	Order of profit
1	Textured vegetable protein	3,544,747.37	1
2	Fruit dipping sauce	93,536.78	3
3	Cookies	111,985.95	2
4	Supplementary food for infant and young children	36,484.80	9
5	Chili paste	42,828.90	7
6	Concentrated juice	73,832.02	4
7	Thai curry	57,810.12	5
8	Beverage	53,129.87	6
9	Soy milk	36,232.77	10
10	Kaset noodle	13,323.58	12
11	Breakfast cereal	12,244.46	13
12	Herbal drink	9,219.76	17
13	Fine textured vegetable protein with chili paste	36,778.72	8
14	Flavored syrup	8,947.20	19
15	Jam	9,204.60	18
16	Instant cereal beverage powders	4,423.95	21
17	Starter culture of fruit Vinegar drink	35,090.00	11
18	Dipping sauce	10,100.82	15
19	Pickle	9,750.60	16
20	Snack food	5,381.65	20
21	Vine	11,877.50	14
22	Meangkam sauce	2,113.75	23
23	Dressing	3,934.90	22
24	Soy product	1,890.09	24
	Total	4,224,870.16	

The results of study the amount of selling in 2003 – 2005 showed the direction and trend of selling products. This information was used for discussion on the total of distribution, cost and profits of production among two groups of participants from production and distribution departments. The participants could make a plan bringing the most benefits and quantity of production. After the discussion, they could identified their products into various types such as products bringing a high income, products with low cost production as well as with easy production process, and well-responded products that were outstanding of the institute. This could let the participants to set the priority of the products to be produced properly, and thus bringing the better management in the organization. At the end of the workshop, it was found that the managers of the plants could upgrade the amount of production with no time excuse.

By following the plan, it found that the total amount of selling increased to 18,060,161.60 baht in 2006 and 19,751,890.66 baht in 2007, as shown in Table 3.

Table 3 Total amount of selling during 2006-2007

Product categories	Total Amount in 2006 (baht)	Total Amount in 2007 (baht)
1. Supplementary food for infant and young children	256,995.00	299,353.75
2. Textured vegetable protein	14,372,515.08	15,165,485.00
3. Instant cereal beverage powders	21,421.30	33,908.40
4. Snack food	49,995.55	52,791.65
5. Breakfast cereal	29,716.10	25,680.50
6. Cookies	565,412.55	760,091.55
7. Soy milk	75,203.25	109,543.80
8. Beverage	232,579.95	343,342.50
9. Concentrated juice	270,920.95	316,992.75
10.Flavored syrup	49,205.25	64,485.00
11.Herbal drink	104,747.05	125,848.00
12. Dressing	39,326.50	34,896.25
13.Fruit dipping sauce	726,678.68	734,891.02
14.Chili paste	259,478.49	330,775.59
15.Dipping sauce	27,280.10	22,557.30
16.Thai curry	171,252.85	169,126.40
17.Fine textured vegetable protein with chili paste	88,261.00	142,732.70
18.Pickle	69,159.00	124,156.00
19.Jam	10,879.30	-
20.Kaset noodle	60,360.25	74,167.00
21. Soy product	-	875.00
22. Vine	277,412.50	202,675.00
23. Meangkam sauce	40,557.55	31,696.00
24. Starter culture of fruit Vinegar drink	-	151,104.00
25. Fruit Vinegar drink	336,592.20	319,309.55
26.Gifts Production	95,482.00	118,406.00
Total	18,060,161.60	19,751,890.66

DISCUSSION

1. The results of this action research project have generated the power in the organization. This could build up cooperation and participation among the staff, whose incomes and educations were different. They could support together, and create the atmosphere of self-esteem and co-workers. The results of this projects is in accordance with the study of Suthinarakorn and others (2005), which mentioned that staff of Sport Office and Kasetsart University could get more effective working after empowerment with participation process.

2. The staff who worked in plants has never known about selling information. On the other hand, the staff who worked in the selling has never known about difficulty of production process. The process of sharing information and feeling together could lead to a better understanding and feeling of sympathy among the staff of production and distribution departments. As the result, the staff of those two groups is happier and willing to work together more than their duties.

SUGGESTIONS TO ORGANIZATION

1. When the staff could increase more production and selling, the organization should consider the potential to motivate the staffs in terms of increase incomes and rewards as the incentive form the private agencies.

2. IFRPD should support institute research to develop other sections of the organization by supporting activities to exchange experiences among the staff. This will increase the positive thinking which can create higher quality of working in every sector of the organization.

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DEVELOPING PERSONAL COMPETENCES ASSESMENT FOR DIAGNOSING GRADUATES SOFT SKILL

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ABSTRACT

Recently, some studies on graduates' competitiveness revealed that personal competences as part of soft skill attribute becomes the main factor considered industry for hiring employees. Based on some research in industries on graduates' competitiveness, industries placed team work and management conflict style competencies as the main qualification. Even though this competency is very important, only a few of universities concern assessing and doing extra effort in either academic or non academic process for developing it. This research objective is to develop personal competencies assessment for diagnosing graduate personal competences, especially their predisposition in team work role and in handling conflict. This assessment is developed based on the instrument which is popular for assessing team work role competencies and conflict management style in handling conflict and industrial needs. Team work competences assessment is designed by developing Belbin team role self-perception inventory instrument. This instrument can assess predisposition of the graduates in team work situation and their role preferences. There are nine kinds possibility predisposition, namely: as implementer, coordinator, shaper, plant, resource investigator, monitor evaluator, team worker, complete finisher and specialist. While management conflict style assessment is developed from Thomas Killman Inventory instrument that measure the management style in handling conflict, like accommodation, collaboration, compromise, avoiding and competition. For examining the validity and reliability, 199 graduates are involved in that process. The paper focused on developing the process of personal competencies assessment, the assessment instrument itself and the usage of it. This instrument is already applied for assessing graduates and the result generates fruitful benefits for diagnosing graduates' soft skill that give feed back for learning improvement process.

Keywords: *Personal Competencies, Teamwork Role, Conflict Management Style.*

INTRODUCTION

In hyper-competition, higher learning education institutions (HLEI) are demanded to improve continuously the employability of their graduations. It is not en essay job for the HLEI because for gaining this goal, they should be enhancing relevancy their teaching process with industries' need. They should fit their content of learning and student activity to their students to improve their knowledge and soft skill.

Research on graduates in Indonesia and tracer study conducted in many universities revealed that soft skill contributes to almost 40 % for supporting success in working. Some of users viewed that soft skill like interpersonal relationship in

teamwork, ability in handling conflict, communication skill and others are more important than knowledge (Wilopo, et al, 2006).Unfortunately, these skills are not generally developed seriously in academic processes.

Based on the institution research (tracer study), the style of handling conflict and team role preference in team work situation are very important for employees because it can much contribute to organizational performance. In educational processes how to improve the student skills related it will generate benefits for preparing graduates. Beside it, how to develop the instrument for assess handling conflict style skill and team role preference of the students of HLEI is important for developing their skill. This research objective is to design instrument (assessment) for measuring handling conflict style and team role preferences.

Handling conflict style instrument designed refers to The Thomas Kilmann Conflict Mode Instrument (TKI) that diagnoses five possibility styles: competing, collaborating, compromising, avoiding, and accommodating (Thomas and Kilmann, 2007). Hence, for measure team role skill, research modified "Team Role Self-Perception Inventory Belbin" which popular in team role assessment usage (Aritzeta, et al, 2005). By developing instrument on Indonesia setting, it's expected can be apply for asses HLEI students skill in that area, so HLEI can improve their skill based on their competences and enhance the graduate competitiveness.

THEORITICAL REVIEW

Personal Competencies

"Soft" skills, are also referred to as "micro social" skills, and are universally recognized as being critical to being successful to do the job. The increasingly interpersonal characteristic in the workplace has been widely discussed. According to Peter Drucker (1994 in Muis, 2004), the effective knowledge worker is working in teams, multitasks, and is a critical and creative thinker, worker must adapt well to social and operational contexts. "Soft skills" are the essential tools for helping them contribute to their full potential. Teamwork and interpersonal activities are fundamentally inherent in promoting soft skill development. Graduates entering the workforce for the first time and as new hires must learn new skills and adapt to a culture where behavioral norms may seem obscure. These experiences can lead to conflict, such as when a newly hired graduate fails to perform to a superior's expectations or when a more experienced coworker rejects a new hire's ideas. Higher education can play an important role in helping graduates confront the ambiguity of organizational life and, in particular, handle work-related conflict. Today's workers must demonstrate aptitude at social as well as technical skills (Muir, 2004). Conflict management is a learned social skill, include the ability to manage interpersonal situations and conflict in work place.

Assessing Competencies for Diagnosing Soft Skill

1) Handling Conflict Style Assessment

The conceptual model of conflict styles developed by Thomas and Kilmann has been widely adopted for counseling, training and empirical objectives. Thomas-Kilmann Inventory (TKI) consists of five distinct conflict styles are arrayed along two dimensions: *assertiveness* (referred to as concern for self or own personal outcomes) and *cooperativeness* (referred to as conked for others' outcomes). An avoiding style is low on

both concern for self and concern for other; an accommodating style is high on concern for other and low on concern for self; a competing style is low on concern for other and high on concern for self; and a collaborating style is high on concern for both self and other. A compromising style falls into the moderate range on both dimensions and is located at the midpoint of the two dimensional space in the theoretical model (Thomas-Kilmann, 2007).

TKI was chosen in this research because it is widely available; it can be completed in a short period of time and a perfect framework to survey conflict management styles. Compared with other scales derived from the dual-concern model, the TKI is also relatively uncontaminated by social desirability effects (Zhenzhong, 2007).

Respondents choose the most self-descriptive sentence from each of 30 pairs. Each sentence operationalizes one of the five styles, and each style is paired against each alternative style. For example, the choices for one item are first, "I am usually firm in pursuing my goals and I might try to soothe the other's feelings and preserve our relationship". Second, "I try to find a compromise solution and I attempt to deal with all of his/her and my concerns". Third, I try to find a compromise solution and I Sometimes sacrifices my own wishes for the wishes of the other person". The score for each style is the number of times its corresponding sentences were chosen by the respondent. For example, the first item is such as competing and accommodating style, collaborating and compromising, compromising and accommodating (Thomas and Killman, 2007).

2) Team Roles Preference Assessment

According Belbin, team roles were vital to effective team performance and identified five principles underlying such performance: 1) Each team member contributes towards achieving the team's objectives by performing both a functional role, that is professional and/or technical knowledge, and a team role, that is a characteristic pattern of team interaction, 2) the team needs an optimal balance in both functional and team roles which is dependent on the goals and tasks that the team faces, 3) the effectiveness of a team will be promoted by the extent to which members correctly recognize and adjust themselves to the relative strengths within the team, both in expertise and ability to engage in specific team roles, 4) personal qualities fit members for some team roles while limiting the likelihood that they can perform others, 5) a team can deploy its technical resources to best advantage only when it has the requisite range of team roles to ensure sufficient teamwork. The nine team roles that Belbin identified were plant, resource investigator, coordinator, shaper, monitor evaluator, team worker, implementer, completer-finisher, and specialist. Belbin predicted that combinations of these roles would influence team performance (Fisher, 1999).

The team roles can be subdivided into two categories: task oriented and relation oriented team roles. The task oriented team roles are: Monitor-evaluator, Plant, Shaper, and Completer-finisher. The relation oriented team roles are Resource-investigator, Coordinator, Team worker, and Implementer. Belbin subdivided: a 4 x 2 typology, which combines two kinds of negotiators (Resource-investigator * Team worker), two kinds of intellectuals (Monitor & Plant), two kinds of managers (Implementer & Completer-finisher) and two kinds of team leaders (Coordinator & Shaper). The specialist was not part of either model (Dirk Van Dierendonck, 2008). The characteristics of the team roles as follows in table 1:

Table 1: Belbin's Role Characteristics

Plant (PL)	Creative, imaginative, unorthodox. Solves difficult problems
Resource Investigator (RI)	Extrovert, enthusiastic, communicative. Explores opportunities. Develops contacts.
Co-ordinator (CO)	Mature, confident, a good chairperson. Clarifies goals, promotes decision-making, delegates well.
Shaper (SH)	Challenging, dynamic, thrives on pressure. The drive and courage to overcome obstacles.
Monitor Evaluator (ME)	Sober, strategic and discerning. Sees all options. Judges accurately.
Team Worker (TW)	Co-operative, mild, perceptive and diplomatic. Listens, builds, averts friction.
Implementer (IMP)	Disciplined, reliable, conservative and efficient. Turns ideas into practical actions.
Completer-Finisher (CF)	Painstaking, conscientious, anxious. Searches out errors and omissions. Delivers on time.
Specialist (SP)	Single-minded, self-starting, dedicated. Provides knowledge and skills in rare supply.

Source: Belbin Associates, 2004 e-Interlace IV material in Eric Chong (2007)

RESEARCH METHODS

Research Design

This research design is a descriptive research in nature and the objective is to create the best instrument for assessing handling conflict style and team role preference. When it is viewed from the crystallization perspective of this research, it's formal research due to the objective formulated obviously (Cooper and Schundler, 2003). It can also be considered survey research category because the main data are gathered by means of questionnaires. Thus, the students are given questionnaires for expressing their attitudes and behaviors in handling conflict situation and team role preferences for examination the validity and reliability of instrument developed.

Subject

Research involves 199 graduates. All individuals filled out the self-perception list about handling conflict style and team role preferences. The sample consists of 60 males, and 139 females. It's selected by convenience sampling technique.

Instruments

According to the purposes, the objective of this research is to design instrument for assessing handling conflict style and role team preferences. For assessing handling conflict style, Thomas-Kilmann Conflict mode instrument is modified in order to create the new instrument which good validity. This instrument consists of 30 items with two alternative choices in every number of items. Respondents are asked to prefer one of the

both alternatives. Empirical and predictive validity are used for examining the validity of handling conflict style instrument.

For assessing the team role preferences in this research, researcher used Team Role Self-Perception inventory (TRSPI) as the basic for creating the new instrument. This instrument is used to identify the relative strength of an individual's team roles with a view to building and maintaining team. This instrument consists of 9 dimensions of role perception and each dimension consists of 7 option possibility preferences. Respondents must distribute score in every option with the total score 30.

Beside validity, the reliability of both instruments must be examined because it is important to examine the internal consistency.

Analysis and discussion

For designing two instruments for assessing the graduates' skill in handling conflict and team role prefrences, it takes at least five steps, namely:

1) Review some previous instruments, especially handling conflict style instrument and team role preferences instrument.
2) Designing the instrument
3) Implementation (trial instrument for asssessing).
4) Examination the validity and reliability instrument.
5) Recommendation for accomplishment the instrument.

1) Review some previous instruments

In these studies, the Thomas Kilmann Conlfict mode is used as the basic for designing the instrument for assessing handling conflict style. According to Thomas-Kilmann, in conflict situation person's bevahior can be described using two basic dimensions: 1) assertiveness, the extent to which the indivial attempts to satisfy his or her own concerns, and 2) cooperativeness, the extent to which the individual attempts to satisfy other person concerns. There are 30 items in that assessment and the researchers modify this instrument to adapt it so as to be relevant to Indonesia setting. The model of scale and scoring are designed the same way as the previous instrument.

For assessing the team role preference, Team Role Self-Perception Inventory (TRSPI) is used as the basic principle for creating the new instrument. In this research, the researchers use the first instrument model (not Belbin revisited) because we believe that the intuitive appeal and face validity are quite popular among consultants and other human resource professionals. In this research, all items are translated into Indonesia, and the questionaire method based on self perception is used to measure the team role preferences. This instrument is classified into nine team roles to reflect the way in which individuals behave, contribute, and interrelate with others in work team, namely: plan, resource investigator, coordinator, shaper, monitor evaluator, specialist, team worker, implementer, and complete finisher.

2) Designing the instrument

Refering to two instruments described above; designing instrument is conducted by some adaptations. In order to help the graduates understand these questions and have the same perception like what the questions means, focus group discussion (FGD) conducted to evaluate the the clearness and simpleness of the questions. Based on FGD result the real instrument is designed.

3) Implementation

After designing the test, test implemention for assess gradutes is done. It consists of 199 graduates involving in implementing this instrument. The test was conducted in a certain room with psychological condition standard for assessment. The condition in every time of the test conducted is designed conditioned in the same standard and some of variables that are assumed to disturb the result were controlled.

4) Examination the validity and reliability instrument.

For evaluating the validity and reliability of both instruments in assessing the handling conflict style and role team preferences, 199 students were selected to involve in the trial processess. Based on previous reesearch in Europe using Belbin test, it was revealed that eventhough Belbin test as role team preference test is very popolar, and it also entails intuitive appeals and face validity which are quite popular among consultants and others who are professionally engaged in this field. But some of academic critisized its psychometric quality (Furnham, Steele, & Belbin revisited in Dirk Van Dierendonck, 2008). The recent research (Arizeta, Swailes, & Senior, 2005) also provided mixed evidence on the convergent validity of the measure. Based on 43 empirical studies, these authors concluded that especially the discriminant validity of some of the scales is weak. In this research for examining the validity of role team preferences also found diffidulty. By factor analysis and examining the predictive validity with handling conflict style, the predictive validity is not significant. So, it's important for developing it further, and therefore, the reserachers used another instrument to examining the predictive and construct validity. Reliability of the instrument more recent research has shown adequate reliability (Arizeta, Swailes & Mclntyre-Bhatty, 2005). Validity and reliability of this tst sholud be reexamining to improve it. Peter Klaus Schoenhof (2001) also stated that Belbin test has not been validated, and should be taken with a grain of salt.

Handling conflict style instrument is examined by comparing the results with the same research in this field using Indonesia subject (Sjors van Lieshout, 2006). The analysis indicates results consistently. Like previsously research graduates tend to prefer compromozing and accomodating in handling conflict. By spilt halt method for examining reliability, the result indicate that the instrumen have a good reliability (more than 0,7).

5) Recommendation

Eventhough both of the instruments are very popular for professional and human resource consultants, it needs to review them, especially for validity and reliability. Previous studies suggest that examining for validity and reliability should be done, for improving the ability of test for assessing what they means. In Indonesia setting, it is better if it compares this instrument to other test that assesses the same field to examine validity accurately. It's necessary for doing test-re-test to examine the reliability to make sure that these instruments produce consistent result.

In assessing process, it's better if the researchers (assessors) do not only use questionaire as a single method. It should be combined with the observation with game methods or others. By triangulation methods, it it is intended to confirm the response accurately and comprehensivelly.

CONCLUSION

Knowing comprehensively graduates' competences is very important for higher learning education to improve their graduates competitiveness. Two of the competences usually needed by industry are team work role and in handling conflict ability. For assessing that skill, it 's very importan to developt assessment.

There are five steps for developing this instruments, namely: 1) review some previous instruments, especially handling conflict style instrument and team role preferences instrument, 2) designing the instrument, 3) implementation (trial instrument for asssessing), 4) examination the validity and reliability instrument, 5) recommendation for accomplishment the instrument. Result found that some of the statements of team role preference must be revised to adjust with the culture., For examining validity accurately of handling conflict and team role preferences instrument, it's better if compare it with other instrument (assessment) that assess team role and handling conflict style It should be done because even though these instruments are very popular in professional and industry, but their validity is still doubt.

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A DISCIPLINE SPECIFIC FACTOR ANALYSIS APPROACH TO EVALUATING STUDENT SURVEYS AT AN AUSTRALIAN UNIVERSITY

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ABSTRACT

A temptation in institutional evaluation is to assume that common measures have a common meaning. This paper uses factor analysis to unpack significant disciplinary differences in a common measure of student experience: the Course Experience Questionnaire Good Teaching Scale (GTS).

Previous research has shown that when GTS data is analysed at a discipline level across different universities, students' ratings of their perceptions of teaching are strikingly different. These differences are between disciplines and programs, not between universities; in fact universities consistently achieve mean GTS scores close to the national average, given the disciplines they teach.

The present research, conducted within an Australian university, uses a discipline perspective to investigate a twenty-one item survey providing subject-level student feedback. Surveys were stratified into fifty disciplines, and categorical factor analysis was applied to ascertain common interpretable factors. These factors measured the subject learning experience based on the student perspective, without predefined factor structures.

As expected, results revealed differences in the student experience between disciplines. Further, the factor analysis identified, for each discipline, the pivotal aspects of students' experience: those where variation was most strongly correlated with their experience overall. Different items of importance emerged for different disciplines. While a good teaching factor did consistently emerge, it was not always the first factor, and correlations between it and other items varied.

We conclude that examining each discipline separately helps to make sense of students' ratings of their learning experience. Our approach should help staff use subtler data analysis to improve students' learning in their subjects.

Keywords: *Good Teaching, Disciplinary Analysis, Factor Analysis, Student Surveys*

INTRODUCTION

Student rating measures are a principal mode of evaluating teaching performance in higher education. Administered in universities worldwide, their use varies in importance: from simple descriptive information to a lecturer, to institutional indicators used for policy and planning as well as being used in staffing decisions. The results of such surveys are of importance in Australia, given that national funding in the millions is divided amongst high achieving universities based on scores for good teaching and overall satisfaction. Often, data are reported in simple aggregated fashion for each degree program. One highly important reported value is the GTS (Good Teaching Scale), a simple percentage measure of the positive responses from students for six questions (or items) framed around teaching practices. Notably, when the score for a degree is calculated, no stratification by subject is reported. Hence, subjects taken as electives (e.g. photographic design) and subjects taken as non-related core (e.g. statistics) are treated the

same as subjects students are expected to take (e.g. Physiology). At an institutional level such measures provide some guide to teaching performance, however, at a subject level, differences across disciplines can affect overall scores. Therefore, we argue that GTS scores only measure the overall teaching performance of a degree; whilst not providing a true reflection of the performance of individual subject areas. There are a number of studies that have exemplified the disciplinary differences in student opinion of good teaching and subject experience (Santhanam & Hicks, 2002). These studies coupled with the findings in initial research provide motivation for this research.

THEORETICAL BACKGROUND

Previous Study

The primary inspiration for this research was that conducted by Santhanam and Hicks (2002). They explored the differences in students' opinions in evaluating their lecturers and their subjects, across two principal discipline areas. Their work revealed a significant difference among disciplines, wherein sciences/mathematics students reported a higher satisfaction with their lecturers than arts/humanities/social sciences students. They argued that the teaching approaches differ among disciplines as different content is presented, thus, influencing student ratings of good teaching.

Becher (1994) emphasised the importance of evaluating disciplinary cultures in order to effectively conduct research and introduce policy in higher education. It was acknowledged that, despite the presence of fundamental principles of good teaching across all disciplines, there are significant differences between disciplines in teaching techniques, student learning needs, and curriculum designs. Specifically, Becher (1994) highlights the difference in student skill requirements in different disciplines. For example, rapid reading is important for history students but is less relevant for mathematic students. Further, disciplines differ in their curriculum design, as multiple choice questions may be more relevant in courses with high factual content rather than courses requiring extended justification of decisions based on competing theories. These disparities between disciplines emphasise the importance of conducting higher education research from a discipline perspective.

Research by Franklin and Theall (1995) also supports discipline-specific evaluation. They revealed significant differences in student ratings of lecturer effectiveness across discipline areas, and thus, discourage the comparison of teaching staff and courses across disciplines. Furthermore, Kwan (1999) found significant differences between disciplines. Specifically, these differences were found across a range of student-rated teaching dimensions, including learning outcome, class participation, availability of teacher for assistance, teacher's organisation and presentation of content, the teacher perceived as motivating, and teacher feedback.

RESEARCH METHODS

Sample Selection and Data Collection

The study population comprised students enrolled at an Australian university in semester one (March-June) of 2007. The primary level survey aims to gather information on subject experience, which is reported back to the lecturer and their supervisors. As each student in the university was invited to complete a survey evaluating their learning experience in each of their subjects, it is important to note that one student typically

completes four surveys (normal enrollment is four subjects per semester), although they may undertake reduced studies and therefore complete less. Furthermore, a lecturer may teach a number of subjects, therefore may have been rated more than once. Student ratings of teaching staff were collected for 1,444 courses across the university, covering 51 discipline areas. A total number of 46,637 surveys were completed for semester one of 2007. Below is a list of the research variables as presented in the survey, with a short title given in parentheses. Note that each student uses a 5-point Likert scale to respond to the questions, with five indicating '*strongly agree'* and one '*strongly disagree'*.

Research Variables

1. The learning objectives in this course are clear to me (Objectives)
2. I am learning what I expected to in this course (Expectations)
3. This course is well organised (Organisation)
4. The teaching staff are extremely good at explaining things (Explaining)**
5. The teaching staff normally give me helpful feedback on how I am going in this course (Feedback)**
6. This course contributes to my confidence in tackling unfamiliar problems (Problem-solving)
7. Assessment tasks in this course require me to demonstrate what I am learning (Assessment)
8. The amount of work required in this course is about right (Workload)
9. The teaching staff in this course motivate me to do my best work (Motivating)**
10. I enjoy doing the work for this course (Enjoyment)
11. I find the learning resources for this course useful (eg. notes, handouts, readings, AV materials) (Resources)
12. The web-based (online) materials for this course are effective in assisting my learning (Online materials)
13. There is effective use of other computer-based teaching materials in this course (Computer-materials)
14. The facilities (such as classrooms, lecture theatres, studios, labs) are adequate for this course (Facilities)
15. I feel I can actively participate in my classes (Participation)
16. There is good balance between theory and practice (Theory)
17. The teaching staff work hard to make this course interesting (Interesting)**
18. I can see how I'll be able to use what I am learning in this course in my career (Application)
19. The staff make a real effort to understand difficulties I might be having with my work (Understanding)**
20. The staff put a lot of time into commenting on my work (Commenting)**
21. Overall, I am satisfied with the quality of this course (Satisfaction)

**Items that frame the Good Teaching Scale (GTS)

This paper presents a unique way of identifying discipline differences in student opinion of subject experiences. It is this analysis by disciplines which will provide lecturers with an important focus on improvement. Further, this assists institutional policy makers with the opportunity for targeted change for improvement rather than broader degree based approaches, which may hide real problem areas. We begin our work with a focus on the analysis methods.

Data Analysis Technique

A range of quantitative analysis techniques were employed on this data to identify key indicators of good teaching. To best represent the data it was necessary to reduce the 21 items of the survey into common interpretable factors measuring teaching quality. Theoretically, five principal indicators of teaching quality have been established in the current literature (Ramsden, 1991; Richardson, 1994), thus, these were employed as an initial framework for analysis. The data reduction model, categorical principal component analysis (CATPCA), was employed to analyse students' perspectives on the survey data. CATPCA is a type of factor analysis adapted for use in social and behavioural science research due to the often nonnumeric nature of survey responses (Meulman, Van der Kooij, & Heiser, 2004). Due to the fact that items on the survey are rated on a five-point Likert scale, a traditional principal component analysis (PCA) was not suitable as it requires the analysis of variables at an interval or ratio level of measurement (Linting, Meulman, Groenen, & Van der Kooij, 2007). Notably, the present investigation is the first study to analyse course evaluations using this type of analysis. Previous Australian researchers have analysed data from the Course Experience Questionnaire (CEQ), an indicator of the quality of teaching for overall programs, using traditional PCA (Ramsden, 1991; Richardson, 1994). We couple the CATPCA technique with 95% confidence intervals (error bar analysis) to provide a more complete picture of course evaluation data.

Application of CATPCA

CATPCA is a non-trivial function of SPSS which commences analysis via optimal quantification, a process whereby categories of the categorical variables are appointed continuous numeric values (Linting et al., 2007; Meulman et al., 2004). This process is important since numeric values are essential for variance and Pearson correlation calculations (Linting et al., 2007). Importantly, the solution is iteratively computed from the ordinal data, as opposed to transpiring from a correlation matrix, as with traditional PCA (Gifi, 1990). Comparable to traditional PCA, CATPCA attempts to extract factors that can account for as much variance in the variables as possible, however, CATPCA typically accounts for more variance in the quantified variables, as a result of optimal quantification (Garson, 2007; Linting et al., 2007), hence its choice in this setting.

This method of analysis was conducted on each of the 51 subject areas within the university in which the student-rated survey was completed. Descriptive statistics (error bar analysis) were then conducted on international and local students, wherein differences were apparent. This prompted the subsequent application of the CATPCA to each sample of international and local students within each discipline area. We make note that analysis was conducted across a large variety of stratified variables, however our focus here is on a case-study of differences for international and local students by discipline.

RESULTS

Using CATPCA five key indicators were extracted for each portfolio and subject area. These indicators were not pre-specified in the analysis, as it was our objective to let the factor areas settle based on the data rather than any prescribed fit. Importantly, the factor structure and item loadings generally differed across the discipline areas within the university. These findings illustrate that to effectively quantify indicators of good teaching it is important to examine each discipline independently.

Case Study: Differences in International and Local Students Perceptions

To illustrate the specifics of our process, we look at three discipline areas: accounting, graphic design design, and electrical engineering. The first section of the report is a visual and analytical presentation of specific differences between disciplines by cohort. The second section portrays the CATPCA, which assists in determining the groupings of student responses, and how much variation the clustering explains, thereby providing a gauge to the opinion of students. Ultimately, a strategy can be formed to improve teaching practices using this directed approach. Ninety-five percent confidence intervals of the mean (error bar charts) on international and local students revealed differences in student ratings on the items of the survey across the university. Figure 1 displays an example of these differences for international and local students in the accounting discipline. Notably, the international student exhibits higher ratings for most items on the survey, with local students reporting lowest satisfaction. Even so, what is interesting is that the *pattern* of responses is similar, with items that are high on the international scale corresponding to high on the local scale. We contend that whilst opinions are different in scale, they are not dissimilar in direction of opinion. For example, items one to four are higher than five and six, and items six and ten are low on both groups. Results for another discipline, graphic design, are given in Figure 2. Note the contrast, with local students exhibiting higher mean satisfaction levels than their international counterparts.

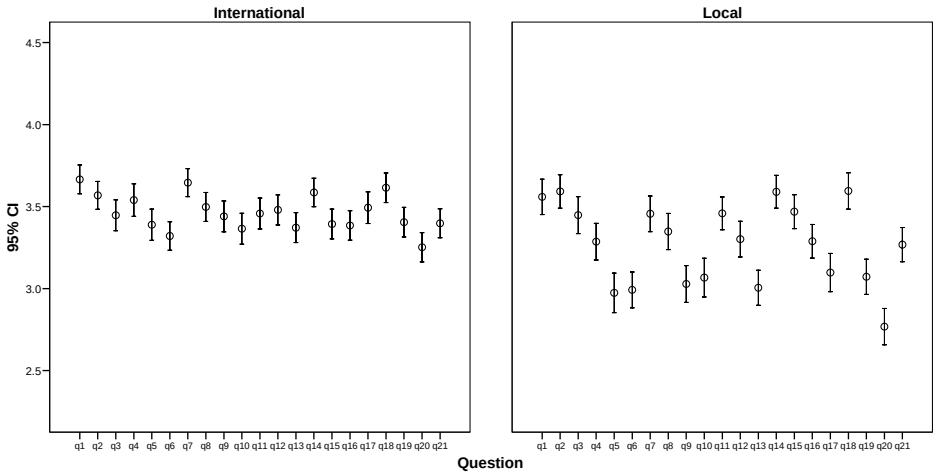

Figure 1. **A comparison of error bars between international and local accounting students.**

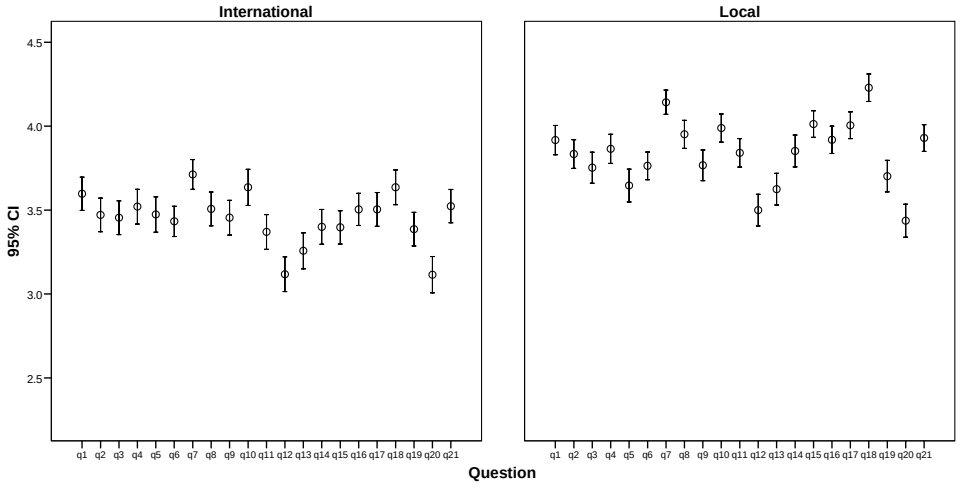

Figure 2. **A comparison of error bars between international and local graphic design students.**

To investigate statistical significance, a one-way ANOVA was conducted for each item of the survey by comparing mean scores of international and local accounting students. Of the 21 analyses conducted, a significant difference between international and local students was revealed for 13 of the questions, wherein international students reported significantly higher mean scores than local students. The significant differences were found for the following questions: Q4 (explaining), $p < .001$; Q5 (feedback), $p < .001$; Q6 (problem-solving), $p < .001$; Q7 (assessment), $p < .01$; Q8 (workload), $p < .05$; Q9 (motivating), $p < .001$; Q10 (enjoyment), $p < .001$; Q12 (online materials), $p < .05$; Q13 (computer-materials), $p < .001$; Q17 (interesting), $p < .001$; Q19 (understanding), $p < .001$; Q20 (commenting), $p < .001$; and Q21 (satisfaction), $p < .05$. Further one-way ANOVA analyses were conducted for electrical engineering and graphic design students. Electrical engineering results revealed that 7 of the 21 analyses established a significant difference between international and local students, including: 4 (explaining), $p < .001$; 5 (feedback), $p < .01$; 9 (motivating), $p < .001$; 10 (enjoyment), $p < .01$; 15 (participation), $p < .01$; 19 (understanding), $p < .01$; and 20 (commenting), $p < .001$. Interestingly, international students reported higher mean scores than local students on all of these items, excluding question 15, in which local students' mean scores were higher than international students. Conversely, results for graphic design students revealed that local students reported significantly higher mean scores than international students on all questions.

Table1.
An example comparison of CATPCA between overall, international, and local accounting students (N = 1452).

Overall (n = 1452)		International (n = 647)		Local (n = 604)	
Question	r	Question	r	Question	r
Factor 1 – Good teaching (r^2 = 23.27%)		**Factor 1 - Good teaching** (r^2 = 23.88%)		**Factor 1 – Good teaching** (r^2 = 22.92%)	
20. Commenting	.805	20. Commenting	.797	20. Commenting	.812
5. Feedback	.754	19. Understanding	.782	9. Motivating	.759
9. Motivating	.748	5. Feedback	.760	5. Feedback	.749
19. Understanding	.744	9. Motivating	.721	19. Understanding	.728
17. Interesting	.708	4. Explaining	.673	17. Interesting	.718
6. Problem-solving	.574	17. Interesting	.656	6. Problem-solving	.607
		21. Satisfaction	.607		
		6. Problem-solving	.504		
Factor 2 – Organisation & explanation (r^2 = 16.60%)		**Factor 2 – Organisation** (r^2 = 14.19%)		**Factor 2 – Organisation** (r^2 = 16.54%)	
2. Expectations	.757	1. Objectives	.778	3. Organisation	.793
3. Organisation	.750	2. Expectations	.742	2. Expectations	.771
1. Objectives	.737	3. Organisation	.623	1. Objectives	.708
				7. Assessment	.510
Factor 3 – Coursework/ course enjoyment (r^2 = 14.44%)		**Factor 3 – Materials & facilities** (r^2 = 13.64%)		**Factor 3 – Materials** (r^2 = 11.55%)	
16. Theory	.712	12. Online materials	.786	12. Online materials	.835
18. Application	.688	13. Computer-materials	.692	13. Computer-materials	.763
10. Enjoyment	.603	14. Facilities	.657	11. Resources	.703
		11. Resources	.586		
Factor 4 – Materials (r^2 = 11.39%)		**Factor 4 – Coursework/ course enjoyment** (r^2 = 13.42%)		**Factor 4 – Enjoyment & application** (r^2 = 10.53%)	
12. Online materials	.816	16. Theory	.716	10. Enjoyment	.690
13. Computer-materials	.742	8. Workload	.661	18. Application	.683
11. Resources	.616	10. Enjoyment	.605		
		7. Assessment	.588		
Factor 5 – Environment (r^2 = 6.33%)		**Factor 5 – Application** (r^2 = 7.81%)		**Factor 5 – Environment** (r^2 = 10.10%)	
14. Facilities	.797	18. Application	.725	14. Facilities	.786
				15. Participation	.488

Note: items that do not appear in this table are those that were complex – correlating with more than one factor.
r = the correlation of an item to the factor
r^2 = the percentage of total variance as accounted for by a given factor

As a result of these significant differences in student ratings between international and local students, the CATPCA was applied to each group within these subject areas to determine which items grouped together, and how much variation is attributed to each factor of items. Table 1 illustrates these differences in the CATPCA results for accounting, for total student population and split by student type.

As anticipated, Table 1 indicates that differences exist between the factor structures and item loadings for international and local students. Additionally, some disparities are evident between the overall accounting factor structure compared with the international and local students. Interestingly, the good teaching factor accounts for the most variation

in the data for all three cohorts. Moreover, question 20 (the staff put a lot of time into commenting on my work) is the item most highly correlated with good teaching across all accounting analyses conducted, indicating the importance of this aspect of teaching to accounting students, irrespective of cohort.

Table2.
An example comparison of CATPCA between overall, international, and local graphic design students (N = 2290).

Overall (n = 2290)		International (n = 768)		Local (n = 1314)	
Question	r	Question	r	Question	R
Factor 1 – Good teaching (r^2 = 20.70%)		**Factor 1 – Organisation & course enjoyment** (r^2 = 19.15%)		**Factor 1 – Good teaching** (r^2 = 22.44%)	
20. Commenting	.815	2. Expectation	.821	20. Commenting	.826
5. Feedback	.786	1. Objectives	.742	5. Feedback	.792
19. Understanding	.734	3. Organisation	.636	19. Understanding	.776
9. Motivating	.660	10. Enjoyment	.613	9. Motivating	.683
17. Interesting	.552	7. Assessment	.598	4. Explaining	.612
6. Problem-solving	.485			17. Interesting	.585
Factor 2 – Organisation & explanation (r^2 = 18.54%)		**Factor 2 – Good teaching** (r^2 = 17.44%)		**Factor 2 – Organisation** (r^2 = 18.71%)	
2. Expectations	.805	5. Feedback	.814	2. Expectation	.812
1. Objectives	.790	20. Commenting	.707	1. Objectives	.800
3. Organisation	.658	9. Motivating	.623	3. Organisation	.633
7. Assessment	.563	17. Interesting	.587		
Factor 3 – Materials (r^2 = 11.92%)		**Factor 3 – Application** (r^2 = 13.16%)		**Factor 3 – Materials** (r^2 = 11.68%)	
12. Online materials	.831	15. Participation	.674	12. Online materials	.840
13. Computer-materials	.802	18. Application	.669	13. Computer-materials	.794
11. Resources	.610			11. Resources	.609
Factor 4 – Coursework/ course enjoyment (r^2 = 10.64%)		**Factor 4 – Materials** (r^2 = 12.07%)		**Factor 4 – Workload** (r^2 = 9.10%)	
8. Workload	.705	12. Online materials	.852	8. Workload	.731
10. Enjoyment	.552	13. Computer-materials	.830		
		11. Resources	.598		
Factor 5 – Environment (r^2 = 8.88%)		**Factor 5 – Workload** (r^2 = 6.72%)		**Factor 5 – Environment** (r^2 = 8.45%)	
14. Facilities	.744	8. Workload	.796	14. Facilities	.777
15. Participation	.603			15. Participation	.649

Note: items that do not appear in this table are those that were complex – correlating with more than one factor.
r = the correlation of an item to the factor; r^2 = the percentage of total variance as accounted for by a given factor

This same comparison has been conducted for graphic design students' responses, which are presented in Table 2. As presented in Table 2, there are obvious differences in the factor structures and item loadings for the disciplines. Overall, good teaching explains the most variation, however, when split by cohort, organization and course enjoyment is factor 1, whereas good teaching is factor 1 for local students. The factors themselves also vary in their makeup.

CONCLUSIONS AND RECOMMENDATIONS

We have presented tailored examples of analysis by discipline for a specific demographic group. Notably, when considering findings from the same subject areas, differences exist in the clustering of item responses to form factors. This, along with other more exhaustive analysis conducted across the university, indicates that improvements must be tailored to the group of interest. The use of this snapshot of our research has been widely implemented to assist lecturers' strategy on implementing change. The combination of results from CATPCA and error bar analysis is necessary to focus reform in teaching practice. Factor analysis provides the target area of main variation (difference in opinion) whilst the error bar analysis defines the poor areas of performance.

From an institutional policy perspective the discipline differences are as important as the demographic differences when confronting issues regarding the student experience. Importantly, to focus improvement in degree programs, we should consider the differences in student experiences within and across different disciplines. Therefore we recommend a discipline focused approach to policy changes.

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STRENGTHENING CAPACITIES FOR GRADUATE RESEARCH

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ABSTRACT

The purpose of this position paper is to raise the issue of capacity in the resources needed to ensure quality research in higher degrees. The method is to consider the experience of a Master's programme in Assumption University, Bangkok, extracting issues which are of general concern to universities in the region. The author also draws on his experience of graduate research in universities in Australia, Malaysia, Singapore, and Thailand.

Most higher degrees include a mandatory research element. This is intended to be practical, to apply theories and knowledge to actual organizations, the research results being useful to the company investigated. This is learning by doing, and accords with various learning theories such as constructivism, andragogy, and experiential learning.

However, adequate skilled resources, especially human, are needed to turn research ideals into reality. This is the capacity issue. Universities need to build and maintain the resources needed. Primary and supportive capacities are involved. Primary capacities include research methodology teachers and advisers, links with industry and commerce, physical resources, libraries, and ICT. Supportive capacities include Administration, Registry and Finance departments, plus Management & Performance systems, an International culture, and academic journals.

Pressurised by a competitive globalisation, the quantitative expansion of higher degrees in Southeast Asia has led to qualitative problems. This is a worrying situation as it threatens the quality of research and thus the competitive ability of industry and commerce. Recognition of this resource capacity problem is the first step to dealing with it.

INTRODUCTION

Although traditionally most higher degrees consisted entirely of theses, most modern higher degrees consist almost entirely of coursework and examinations, almost an extension of undergraduate degrees. Perhaps this is because of the vast amounts of facts and knowledge graduates now have to acquire in this fast-moving turbulent time of growth in technology and global economics.

Fortunately, the trend now seems to be that higher degrees should include a mandatory research element. This is intended to be practical: to apply theories and knowledge to actual organizations, the resulting report being useful to the company being investigated and possibly of wider use. This is learning by doing, and accords with various learning theories such as constructivism, andragogy, and experiential learning. This type of learning has multiple goals: it increases the student's knowledge and understanding of specific issues and topics, provides them with methodologies which will enable them to investigate real-life problems in a disciplined logical manner, and developing generic skills of wide application. This personal development of graduate

students will enable them to make significant contributions to their employers and countries.

In the competitive economic race, within and between countries, research is an essential tool for countries, organizations, and universities. Many governments and universities have stated the value of such research and are committed to supporting it. Organizations also see the need, for research can reveal problems as well as suggest solutions, through the logical enquiry which is an essential feature of research.

However, the making of statements and commitments is not enough to produce quality research in our universities. Enough skilled resources, especially human, are needed to turn ideals into reality. This is the capacity issue: that universities need to build and maintain the resources needed. There are many capacities involved, both primary and support.

Of the four key elements of globalization as defined by UNESCO (2004), the first is the growing importance of the knowledge society. Singapore's strategy is to make its citizens become 'knowledge workers', and now has a fourth official university, UniSIM, which is a part-time university for working adults (Bahrawi, 2005). The emergence of the knowledge economy makes higher education of great importance, because of its educational function and its creation of new knowledge through research (Altbach,1998).

In a competitive global world, for universities and students, the quantitative expansion of higher degrees in Southeast Asia has led to qualitative problems. This is a worrying situation as it threatens the quality of research and thus the competitive ability of industry and commerce. "In general, the shift from prestige-driven to cost-competitive market forces will broaden the mission and capacity of many colleges and universities, but it will often do so at the expense of the quality of the nation's very best institutions" (Saenghiran, 2004, p.11).

This position paper first considers a Master's programme in Assumption University of Thailand, to extract capacity issues of general relevance to the research function of universities

An Overview of the MSc Programme in Supply Chain Management

As most research is intended to be practical, it is usually on a topic of importance to the student's employer. Empirical research forces students to think, assemble data, actively read published research, analyse, evaluate, discuss, summarise, innovate, and communicate: all within a disciplined methodological framework. Learning, through the medium of research, should have multiple goals of increasing students' knowledge and understanding of specific issues and topics, providing them with methodologies which will enable them to investigate real-life problems in a disciplined logical manner, and developing generic skills of wide application. Once experienced, under a tough superviser, the graduate's mind is significantly enhanced through having undergone a feat of endurance, rather like a wrestling match with the concepts, methodology and data. This struggle internalises a disciplined rational approach to problem-solving, which will be a constant personal benefit to the graduates, to their careers, and to their employers and nation (Puttibarncharoensri, 2008).

This type of research fits the aim of Assumption University of Thailand, to develop analytical and strategic thinking, to motivate people for lifelong learning, to teach abilities and skills which are needed by professionals, and to stimulate qualities of prime importance in a global knowledge society such as judgment and evaluation,

flexibility and adaptability, and the ability to communicate (Saenghiran, 2004). The context is the skills race, a consequence of globalization, intense competition, and ICT, which together force nations, companies and individuals to develop human capital. The key asset driving corporate value is no longer physical capital; instead it is intellectual and human capital (Saenghiran, 2005).

In Assumption University of Thailand (ABAC) there are currently 41 Masters' programmes (of which 10 are joint programmes with foreign universities), and 14 Doctoral programmes. This is in line with the university's strategic goals, which include maintaining 'an emphasis on research as an important component of the teaching mission of the university' (Assumption University, 2008, p.12). The Department of Industrial Management, with several years' experience in the field of supply chain management, decided to upgrade its academic and research contribution to Thailand by introducing a new MSc programme in Supply Chain Management (MSc in SCM). Increasingly, Thai organisations realise that to become proficient in SCM, they must have proficient people in charge of SCM.

The course design was approved by the Council of ABAC and then the Ministry of University Affairs. The practical objectives of the MSc course, as described in its descriptive brochure, are:

* to be strongly integrated with industry by producing practically skilled graduates
* to equip the graduates with theoretical and practical knowledge
* to educate and train middle to top managers.

21 of the applicants were selected for the first intake in 2005. There are two intakes each academic year, with an average cohort of 25 students. Entry requirements stress the need for work experience, a good first degree, and proficiency in English (all classes are in English). As the graduates are in employment, this is mostly a part-time programme, with classes at nights and weekends. The programme takes from one to one-and-a-half years. Of the 36 credits needed for completion, 12 can be earned by completing a Thesis, or, alternatively, 6 credits can be earned by completing a research project, and a further 6 by taking two elective courses. Each thesis or project is guided by an adviser (a lecturer in the SCM field), and there is tuition in research methodology. A thesis or project has to be approved by a defence committee (including an external examiner) at the proposal and completion stages.

Thus, in order to graduate, all students in this programme must undertake a methodologically sound research project, resulting in a report or thesis. Usually, the graduates choose a problem facing the company for which they work, with the agreement and encouragement and support of their employers.

Graduates students come from a range of organizations, including Supermarkets, Pharmaceutical, Logistics, Machinery Manufacturers, Oil, Electronics, and others. Many of these are long-established successful companies in Thailand, such as Big C and Tops supermarket chains, DHL Express, Diethelm, Esso/Exxon, Nestle, Philips, and Unilever. 27 projects/theses had been completed by the end of 2007.

Issues with Relevance to Capacity, 2005-2008

Observations over the period since the MSc programe began in mid-2005 are not methodologically sound: this is a position paper not a research paper. The programme is to be systematically reviewed this year. The purpose of this paper is to propose a list of capacities suggested by the following observations.

Students regard with fear the necessity to do academic research, in either a project or a full theses, and with one exception they have chosen the less demanding project (although their project reports actually bear favourable comparison with Master's, and even Doctor's, theses which the writer has experienced as a supervisor or external examiner for universities in Australia, Malaysia, Singapore, and Thailand). Students need reassurance about the benefits of a rigorous approach to problem-solving, attend classes in methodology, and have academic supervisors to help and encourage them. Their relief at finishing the final report is accompanied by a realization of how a disciplined approach to business is far more likely to achieve appropriate solutions than quick-answer lax methods.

However, there are some problems. The graduate students are sometimes late arriving for classes, want to leave early, or miss class. Assignments are sometimes completed after the deadline. These problems may be due to indiscipline, but it must be remembered that these students have full-time jobs in demanding companies, and then have to attend 3-hour classes at night and weekends, and do the essential reading writing plus empirical research involving surveys, interviews or questionnaires. Some have spouses and children. Another problem is that some are not fully proficient in English, especially written English. As a native English speaker I can only marvel at anyone else managing to learn such a tortuous second language. Each new cohort seems to have less work experience, which may be an indicator of the success of the programme becoming known or the increased demand by companies for their promising staff to become SCM competent. Nothing is stable in these turbulent times, and the syllabus may need adapting to this feature, although there are special foundation courses for such entrants.

In an international university, the first in Thailand, one would expect foreign students. So far these have come from China. Special efforts are made to welcome and support them in a strange country, and deal with the problems which arise because their employers (and the base for their empirical research topic) are far away.

The demands on research supervisors (lecturers) is also heavy. Most are also part-timers, having other jobs elsewhere. Sometimes they also are late for class or have to cancel one, and the likely explanation is their other job and commitments and the hazards of Bangkok traffic. Supervising research students totally new to research methodology is an onerous task if done well There have to be many sessions involving questions, suggestions and evaluation as the project develops, and it is essential that they are fully knowledgeable about various academic methodologies. Also there are defence committees to prepare for and attend. Plagiarism has to be explained and identified: not easy when so much is available through the internet. The writer's experience in four countries is that standards can slip because of the demands on time and brain. The quality of external examiners' input can also be questionable.

Library and computer access is important to these students, and the services are made available. Computer access is less of a problem as these students have their own plus access in their jobs. The original campus is now virtually a graduate campus, on the edge of the city, with facilities upgraded to meet expectations, although sometimes special events disrupt the schedule. Registration and other administrative necessities can be irritating to adults, although much is now done on-line. The university has modern Western management systems, operated in a Thai cultural context.

Financially, the programme is a success, with regular large intakes. This is a private university, therefore government funding is not relevant (although the Ministry does have to accredit programmes and appoint external examiners).

Additional issues relating to the wider aspects of a university can be derived from material in previous sections and have been added to the above observations to produce a list of types of capacity. These are presented in the following section.

Capacity Categories

This section lists various capacities which a university needs if it is to produce quality research. Some are obvious, some perhaps not. Many overlap and share common themes. This taxonomy is suggested as a checklist, and makes no claim to originality or finality.

STUDENT CAPACITY

This category refers to both the quantity and quality of graduate students engaged in research as part of higher degree programmes. Quantity means that there should be enough in each cohort to generate discussion and support, as propounded by the Russian innovative educationalist Vygotsky (1980) who stressed the importance to learning of a 'zone of proximal development' meaning the mutual help, encouragement, and stimulation gained from one's co-students. Quantity also has an obvious effect on the financial feasibility of a programme.

The quality of students is increasingly seen as an issue because of 'massification' of education, quality being seen as inversely proportional to quantity. Quality, here, obviously means having the necessary knowledge and learning skills to begin a programme, usually gained through lower degrees and/or appropriate job experience. It includes writing ability, self-discipline and self-responsibility. These used to be assumed, but there are increasing reports around the world that these qualities are lacking. Plagiarism is so easy now because of internet. It is widespread and difficult to control, and research supervisors now tend to ignore all but the most blatant (Garner, 2008).

TEACHER CAPACITY

Here, 'teacher' includes lecturers, research supervisors, examiners, and counsellors. Enough (quantity again) are needed, according to a progamme's needs and the number of students. Quality includes appropriate teaching, facilitating, and counselling skills, using appropriate adult pedagogy including constructivism, androgogy, and experiential learning.

Here, too, self-discipline and responsibility are needed, and here again there are many reports of a lack of these. An example from England is where a Professor in London warns of lowering standards because lecturers are required to mark 'positively' and turn a blind eye to plagiarism, because of league tables and the financial need for high student enrolments. Also in England, a professor resigned after his university ruled that 13 students which he and the examination board had failed should be deemed to have passed (Garner, 2008).

South-east Asian pedagogies tend to be of the banking type, whereby students are filled by their teachers with knowledge, and it is against the culture for students to question or discuss. A new important critical pedagogy, was created by the Italian Friere (Torres, 1990). Kolb (1983) was a pioneer of experiential learning, a pedagogy which is so relevant to many university research programmes (now often labeled 'constructivism').

Some think it is not appropriate to capitalist consumerist economies where large corporations want engineers rather than critical thinkers. “There is, therefore, little need for critical thinking skills; these not only have little market value, but may even serve to disrupt the workings of modern capitalism’ (Bahrawi,2005). However, the projects of the Assumption University graduate students in the MSc programme disprove this, as their project problems are of a problem-solving type, of great practical use to their employers, where critical thinking is needed to evaluate competing theories and solutions and to propose and defend and debate those chosen - to their employers (as well as to the university defence committees).

SYLLABUS CAPACITY

Syllabus design is the first formal step in gaining approval for a new programme from a university’s governing body and from the government (usually a ministry of higher education). It is not usually easy to design a new syllabus, and merely copying another institution is a sign of a low quality designer. Any syllabus has to be regularly reviewed and adapted in a continuous process.

FACILITIES CAPACITY

This is usually described as Resources Capacity, but that would include human resources. Here, facilities means the physical and technology resources, such as rooms, libraries, and ICT.

CULTURE CAPACITY

Two types of culture are relevant; organisational and national (or ethnic). There is a classical view of organisational culture (Ouchi and1985), a complex systems view (Prigogine and Stengers, 1984), and a process view (Seel, 2000). This aspect of culture is about how a university actually works in terms of behaviour and values (which are not always the same as its proclaimed values). A university’s Faculty of Management should be able to help a university secure this capacity.

A consequence of globalisation is the trend towards internalization of universities. Every year Thailand sends thousands of its students abroad for university studies, and thousands of foreign students enroll in Thai universities. That reflects world patterns. A report by UNESCO in 2006 stated that 2.5 million university students were studying overseas, an increase from 1.75 million in 1999 (Tan, 2006). Singapore, Malaysia, and Thailand seek to be educational hubs, concentrations of international students. A foreigner in a university will soon confront a different national culture and become confused.

The definition of national culture put forward by Hofstede, the best-known theorist of the diversity and significance of national cultures, is: "culture is the collective programming of the human mind that distinguishes the members of one human group from another. Culture in this sense is a system of collectively held values" (Hofstede,1981:24). By value he means a tendency to prefer certain states of affairs over others: these values in turn affect behaviour. The mental conditioning of a person through interaction with the family and the community causes that person to hold cultural values which affect his response to his environment. Hofstede, as recently as 2001, restated his original opinion that national cultures change only very slowly (Hosfstede, 2001).

‘Culture Shock’ became a popular concept in the 1970s. ‘Culture Shock in Thailand’ (Cooper, 1990) was jointly written by a Westerner and his Thai. wife, who define

it as "a state of mind in transition; he becomes aware that his behaviour … can be misinterpreted as odd, rude and even hostile. It is a period in which his experience of life does not relate to life around him" (Cooper, 1990, p6). This produces confusion, a continuous wondering why life is so different. The average stay of an expatriate in Indonesia is 2-3 years, the period of time psychologists suggest that it takes to really settle into a different culture (Draine and Hall, 1991).

In an international university, it is not just the general behaviour of the local populace that can be confusing, but also that of the local lecturers, students, and administrators with whom he is in daily contact. In a university of all places, devoted to learning and especially to learning how and why, this situation should be recognized and action taken. Cultural misunderstandings, if ignored, breed supposition and suspicion, and are a hindrance to effective communication and working together. They are a hindrance to education in an international context (Lawrence, 2008).

As an example of cultural differences, in the West it is expected that students will challenge their teachers, question their ideas, and ask for clarification. In many Asian countries such behaviour is considered to be disrespectful, rude, and crude. In an international university, students and teachers from several cultures will develop cultural confusion. The administration services in a university, such as human resource management, communication style, provision of equipment and its maintenance, quality evaluation, registration, and dress regulations, will be affected by culture, and could cause confusion and frustration to foreigners. Cultural diversity is a problem in international universities. It will increase. It is a challenge. However, it is possible to become bicultural, just as a person can become bilingual, acquiring essential skills to function well in another country, or with people from another country (Draine and Hall, 1991).

GOVERNMENT CAPACITY

In Thailand, the Ministry of University Affairs has been replaced by the Commission on Higher Education which produced a 15-year Plan for Higher Education, endorsed by the Thai government in December 2007. This is a wide-ranging document, and includes major areas of emphasis, one of which is Research, the quality of which will affect the Ministry's accreditation of universities. The Philippines also has a Commission on Higher Education (CHED), established in 1994 to upgrade quality (Guevarra 2007).

In the UK, an annual Research Assessment Exercise is undertaken to assess the quality of UK research, so that government research funds may be properly awarded (www.rae.ac.uk). There is also the UK Economic & Social Research Council which sets the strategy for allocating government funding. Its 2007-8 report includes 'Strengthening our Future Capacity – People and Disciplines', 'Providing Capacity – in Data and Ensuring Methods Development', and 'Engagement with Stakeholders and the Public' (www.esrc.ac.uk). Research assessment exercises usually involve bibliometric analysis (De Bakker et al, 2005), which relies on identifying the number of citations generated by each published research report.

Many countries have university league tables, often produced by the government, and universities also compare their own Departments. Ranking, Benchmarking, Quality Assessment are valuable and provide incentive, but they can be harmful. Another UK Professor publicly stated that there are universities which remind lecturers that awarding more top-class degrees will improve their position in the league tables, nationally and internationally (Garner, 2008).

ADMINISTRATION CAPACITY

Administration includes various departments in a university, such as Registry, Finance, HRM, Computer, and Physical Maintenance. These are vital support services, but there is often a communication gap between these departments and academics, and they have to upgrade their operations to meet the expectations of graduate students used to working for efficient companies.

EMPLOYER-STAKEHOLDER CAPACITY

For most graduate research, the recognition of employers as stakeholder has to be recognized. For undergraduates, their parents are the important stakeholders (though employers have to be carefully considered as they are the potential employers). Links have to be made and maintained. Often a university's alumni are an immensely valuable resource for this.

In the UK, Knowledge Transfer Partnerships, funded by the government, enable private and public research institutions to apply their research knowledge and skills to companies to help solve business problems (www.ktponline.org/uk/research).

Academic journals enable universities to disseminate their research results to other universities and to employers. They publicise the ability of universities to provide disciplined practical help to companies. In Assumption University graduate students as well as lecturers) are encouraged to publish their reports (condensed), in trade magazines and academic journals. In addition, the Department of Industrial Management publishes its own academic journal: the Journal of Supply Chain Management; Research & Practice, a title deliberately chosen to emphasise the relationship between research and practice, between ideas and their implementation, between university and companies. The first edition was in 2007 (Lawrence, 2007).

This journal is designed to contain articles from SCM researchers and practitioners around the world, but also selects graduate reports / theses from the MSc programme in SCM. Some articles are by ABAC graduates themselves, and some are jointly written with research supervisors. The majority of articles are about Thailand but with an international flavouring, and many of the companies involved in these articles are international organizations operating in Thailand.

The Assumption University Master's degree in Computing cannot be conferred unless the graduate has set up an email business and sold a minimum of Bt1mn. The university's Doctorate in Philosophy and Religion stipulates that in addition to the usual thesis, the graduate must have published four articles in refereed journals. In Singapore, the MBA has practical aspects which include foreign business visits.

FINANCIAL CAPACITY

There is a trend for countries to privatize state universities, and significantly reduce government subsidies. This forces such universities to improve management and be efficient, but it can also force them into a rigid business model, driven by market forces and accountants. It means a shift to demand-side financing. Thailand is reducing state funding over a period. Its privatization plans have met with strong opposition (although a few universities have wealthy land endowments).

Universities are thus enjoying a popularity unknown in history. Whether state or private, universities are increasingly made to work within stricter financial parameters, like any other business. Some would say that this business mould into which most universities are now forced attenuates their intellectual autonomy, once such a dearly held

value, and that thus they become more brainy in an economic sense but heartless in a wider human context.

These, then, are presented here as nine essential capacities for the university research function. As this author's university's strategic plan puts it: 'The foundation of success lies in our intangible assets of human capital, information capital and organisation capital, as this defines the competency and readiness of AU to use the core and support processes that represent our key resources (Assumption University, 2008, p.12). The key words are assets, competency, capital, key resources, which could be considered as synonyms for capacities, and the word which applies to them all is 'readiness', i.e. ensuring that the capacities are actual, ready-for-use.

CONCLUSION

The idea of a university has changed since their foundation at least a thousand years ago. Industrialism had a huge effect, and now the changes are due to the current forces of capitalistic globalisation and computer technology. The original idea was to produce a rounded man (no women students then!). Education for the elite was widened to accommodate the rising middle classes.

Probably most undergraduate courses are now vocational and technical, concerned more with techniques than principles. Such is the surging demand for skilled people to cope with burgeoning capitalism, and the ever changing nature of those skills because of turbulent economic markets, that national education policy is concerned with ensuring that enough places are made available for just about everybody who can benefit from tertiary education. The need in an insecure job market to have paper proof of learning, leads to credentialist societies (Ashton and Sung, 1994). This, in a curiously convergent way, accompanies the withdrawal of the State from funding and controlling universities, putting the pressure on them to market their product (degrees and diplomas) in such a manner that universities are now more factories than ivory towers. They should serve their age – but not be servile.

Thus, the previous exploration of various capacities has to be matched against role – the role of a university. A university's core function obviously has something to do with knowledge and learning, the transmission, elicitation, transformation, explication, clarification, even creation, of knowledge. Interestingly, this function (learning and knowledge) is increasingly seen to be the core competence necessary for firms to prosper or even survive in the corporate world, and for nations to compete in the economic Olympic games. Companies want it, nations want it, desperately. How fortunate that that ancient institution, the university, happens to be there to provide it! But beware! The university movement towards 'mass', the demands for immediate technical skills in competitive capitalist markets, can degrade the very education which is being opened to all because of its long-established quality reputation.

Higher Education institutions have evolved a compromise between the educational ruling forces, i.e. hierarchy, market, and community values. The turbulence resulting from globalization can be seen as a search for a new compromise. 'The current strong trend towards strengthening the market element in HE, primarily stresses a model of the university behaving like a firm selling a 'product', that product being higher education and research. But even within this market logic analogy there is a lot of room for nuance, the phenomenon of so-called market segmentation just being one of them" (Saenghiran, 2004, p11).

There is a danger that universities will treat such degrees as a mere product, responding only to short-term market forces to determine what is needed. Universities have to reconsider what their modern evolving role is – the ontology of universities. This will guide how the university designs the process (education) of producing the substance - the knowledgeable and skilled Master or Doctor. The process and the substance must be congruent.

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Biographical Note

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THE DRIVERS OF STUDENTS LOYALTY

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ABSTRACT

This study examines the relationship among service quality, facilities, university image, study program image, satisfaction and loyalty. This study employs structural equation modeling to test the hypothesis. Regarding the findings, this study found that service quality, study program image and satisfaction significantly influence university image. In addition, service quality and satisfaction become the antecedents of study program image. Interestingly, the antecedents of students satisfaction are service quality and facilities. Finally, this study found that the drivers of student loyalty are satisfaction, university image and study program image.

Keywords: *Service Quality, Satisfaction, Loyalty, Structural Equation Modelling*

INTRODUCTION

Like a business sector, education sector rely their sustainability and development on students as their recipients. Students contribute to university through tuition fee, strengthening university image through their achievement, and promoting the university through positive word-of-mouth. Inappropriate student relationship management will cause a crucial effect on the number and quality of students enrolled and marketing budget. As a consequence, a university will face a sustainability threat.

Loyalty has been regarded as one of important concept in marketing. Loyal customers provide repeat purchase and less likely to shop around for best price deal that non loyal customer (Bowen and Chen, 2001). Loyalty is referred to as the extent to which the customer to purchase again from the supplier who has created a certain level of satisfaction (Sonderlund, 1998). Based on Helgesen and Nesset (2007), loyalty in education refers to student's probability to recommend a university to friends or acquaintances, to attend the same university if starting anew and to attend new courses or further education at a university.

Higher education institutions in Indonesia can be categorized into two parts, public and private higher education institutions. Private higher education institutions, as a part of education service industry, has an advantage because it has specific market and some of them provide specific study programs that are not provided by public higher education institutions. Public higher education institutions are mostly main destination of students after graduated from senior high school while private higher education institutions are the second. Assuming that the quality of public and private higher education institutions is similar, the tuition fee for private higher education institutions is perceived higher than public higher education institutions.

In 1998 government of Indonesia enacted a Government Regulation No. 61 as the basis for public university to be converted into a state owned and autonomous legal entity, commonly known as BHMN (*Badan Hukum Milik Negara*). Because of this

status, public universities should maximize their resources to finance their operational expenses. Private universities' market share then decrease after public universities launch new program in student's recruitment. The less attractiveness of private universities than public universities in education service also make them in difficult position to be survival. Some private universities then close their operations due to financial problem but some take over other private universities due to financial strength. Now, National Education System Law No. 20, which was enacted in 2003 emphasize government Regulation No. 61. Under this law, all higher education institution, public as well as private, shall be establish as a legal entity (Djanali 2005).

As part of developing higher education institution autonomy, this paper examines the relationship between service qualities, facilities, image of University College, and image of study program, satisfaction and loyalty. The empirical result of this study regarding student loyalty drivers will provide a basis for creating strategy to develop higher education institutions in Indonesia.

Service Quality and Facilities

Designing service quality in education should be conceptualized differently with non educational sector. Adapting service quality in business to education model can be a mistake (Scrabec, 2000). According to Scrabec, student is not customer but recipient. As a recipient, a student is not allowed to set education specifications being sold. Allowing them to set the specification potentially could degrade the quality of education. On the contrary, customer in business setting defines the requirement for product (goods and services) quality. Thus, in business context, customer is more than just a purchaser.

Service quality can be measured using SERVQUAL which is developed by Parasuraman, Zeithaml and Berry (1988, 1994). According to this concept, there are five dimensions of service quality: tangibles, assurance, empathy, responsiveness, and reliability. The instruments consist of two sets of 22 statements and called as performance-minus-expectation basis. The first set of statements aim to determine customer's expectations of a service firm while the second aim to determine customer's perception of the firm's performance. Alternatively, service quality can be measured using SERPERF which is developed by Cronin and Taylor (1992). According to Cronin and Taylor (1992), performance-minus-expectation basis is an inappropriate for use in the measurement of service quality because service quality is only influenced by perception of performance. Thus, SERPERF instruments consist only 22 statements that aim to determine customer's perception of the firm's performance.

Service quality dimensions should be explored and confirm in varies service sector. According to Holdford and Patkar (2003) service quality dimensions vary across service sector. Moreover, by comparing three instruments to measure higher education service quality in Malaysia, Abdullah (2005) found that Higher Education PERFormance (HEdPERF) better measure service quality than SERvice PERFormance (SERPERF) and combination of HEdPERF- SERPERF instruments. In this paper, service quality measured using five items adapted from Helgesen and Nesset (2007).

Library, reading room, cleaning, location of lectures, indoor temperatures are among important facilities in education. Good facilities will support student's studying comfort and in turn increasing student satisfaction. Student perception of service quality and facilities are among the most antecedents of satisfaction and images Helgesen and Nesset (2007). This argument suggests the following hypothesis:

H1: Student perception of service quality has an influence on student's satisfaction
H2: Student perception of service quality has an influence on student's university image
H3: Student perception of service quality has an influence on student's study program image
H4: Student perception of facilities has an influence on student's satisfaction
H5: Student perception of facilities has an influence on student's university image
H6: Student perception of facilities has an influence on student's study program image

Satisfaction

Satisfaction has been widely used in marketing. It is not surprising since it was found that satisfaction affected repurchase intentions (Anderson and Sullivan, 1990; Tsiros and Mittal, 2000; Jones and Suh, 2000) and affected complaint intentions (Tsiros and Mittal, 2000). According to confirmation or disconfirmation paradigm, consumers compare their perceptions of product performance with some standard or reference point (Tsiros, 1998). When perceived performance meets the predetermined standard, confirmation occurs. Moreover, disconfirmation can be either positive or negative. Positive disconfirmation occurs when perceived performance exceeds the predetermined standard. In addition, negative disconfirmation occurs when perceived performance falls short of the predetermined standard.

There is a consensus that disconfirmation is an antecedent of satisfaction (Anderson and Sullivan, 1990). Moreover, disconfirmation construct has been redefined as having both a negative and positive component with separate effects on satisfaction (Anderson and Sullivan, 1990). By conducting an experiment, Tsiros (1998) support that disconfirmation affects satisfaction.

In the context of education, student satisfaction remains important as well as in business. Helgesen and Nesset (2007) found that satisfaction has positive influence on university image, study program image and student loyalty. These findings lead to two hypotheses as follows:

H7: Student's satisfaction an influence on student university image
H8: Student's satisfaction has an influence on student study program image
H9: Student's satisfaction has an influence on student loyalty

Loyalty

Loyalty can be measured by three approaches. Firstly, according to behavioral approach, loyalty refers to consistent and repetitious purchase behavior (Bowen and Chen, 2001). One problem of the approach is that consistent and repetitious purchase might not result from psychological commitment toward a brand, but result from, for example, convenience of finding the brand or unavailability of alternative product. Thus, repetitious purchase behavior can be an indicator of loyalty. The repetitious should be supported with commitment toward the brand. Such loyalty called spurious loyalty.

Secondly, attitudinal approach, measures loyalty based on emotional and psychological attachment (Bowen and Chen, 2001). According to this approach, a people might have positive attitude toward a brand and recommend it to others but he/she wouldn't choose the brand when making decision since the product, for example, is perceived very expensive. Thirdly, composite measurement, combine the first two approach and measure

loyalty based on product preferences, propensity to brand-switching, frequency of purchase, recency of purchase and total amount of purchase (Bowen and Chen, 2001).

Image

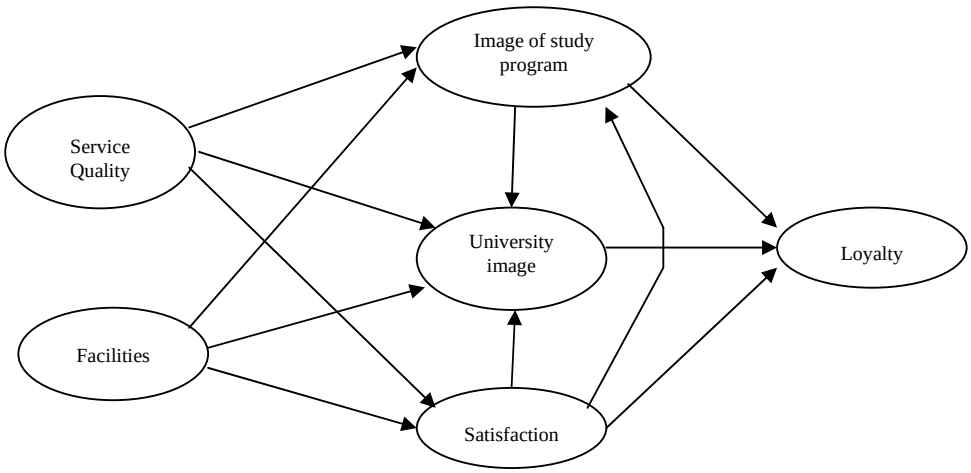
Building a good corporate/university image is essential for attracting and retaining students. Corporate reputation is overall perception of a company, what it stands for, what it is associated with and what individuals may expect when buying the products or using the company's services (Fombrun and Shanley, 1990; MacMillan, Money, Downing, Hillenbrand, 2005). In addition, there are factors predicting university image. Study conducted by Arpan, Raney and Zivnuska (2003) found that different groups used different criteria when rating ten major United States universities. According to this study, there were three factors that predict university image among a sample of current university students: academic factors, athletic factors, and the extent of news coverage of the university. Moreover, among an adult, non-student sample, there were four factors that predict the same university image: a combined factor including all university attributes (including academic and athletic); the extent of news coverage; the education level of respondents; and the respondents' level of sports fanship.

Students can form images about various entities, for example university and study program images. Helgesen and Nesset (2007) found image of study program has a positive influence on university image. Moreover, Helgesen and Nesset (2007) also found that university image and study program image are also has influence on student loyalty. The findings lead to the following hypothesis:

H 10: Study program image an influence on university image
H11: Study program image an influence on student loyalty
H12: University image an influence on student loyalty

Based on the above hypothesis, the conceptual model of this study is as appear in Fig. 1.

Fig. 1. Conceptual Model



Source: elgesen, O and Nesset, E., 2007. Images, satisfaction and antecedents: Drivers of student's loyalty? A case study of Norwegian university college, Corporate Reputation Review, (10), 1:38-59.

METHODS

This study use convenience sampling technique to collect the data. Among 500 questionnaires distributed to state university students in Surabaya, 432 questionnaires filled but only 398 questionnaires are feasible for further analysis due to complete responses. Among those feasible for further analysis, 51.8% are male and 48.2% are female. Regarding their studies group, 37.9% comes from natural and engineering studies, 25.9% from Islamic studies, 21.1% from economics and business studies and finally 15.1% comes from social and behavioral studies.

Instruments of this study were adapted from Helgesen and Nesset (2007). Facilities was measured using six items, service quality five items, satisfaction four items, loyalty three items, university image and study program image each was measured using four items. All of the items used were in the scale of five
ranging from strongly agree to strongly disagree.

RESULTS AND DISCUSSION

To test the hypothesis, this study employs two stage structural equation modeling. At the first stage, this study performs confirmatory factor analysis to assess validity and performs structural model to test the hypothesis. The result of confirmatory factor analysis appears in Table 1. Table 1 shows that all factor loading are above 0.4 as suggested by Hair, Anderson, Babin, Tatham, and Black (2006). Thus, all items are valid. Moreover, to assess the reliability, this study uses construct reliability. As appear in Table 2, all construct reliability are above 0.7 indicating that all construct are reliable.

Table 1. Confirmatory Factor Analysis

			Estimate	Std. Est.	S.E.	C.R.	P
SQ1	<--	Service Quality	1,00	0.56			
SQ2	<--	Service Quality	1,06	0.57	0,14	7,49	0,00
SQ3	<--	Service Quality	0,77	0.43	0,12	6,21	0,00
SQ4	<--	Service Quality	1,12	0.54	0,15	7,26	0,00
SQ5	<--	Service Quality	1,02	0.47	0,15	6,64	0,00
FC1	<--	Facilities		1,00	0.68		
FC2	<--	Facilities		0,91	0.65	0,08	10,82	0,00
FC3	<--	Facilities		0,67	0.56	0,07	9,62	0,00
FC4	<--	Facilities		0,88	0.60	0,09	10,11	0,00
FC5	<--	Facilities		0,95	0.67	0,09	11,16	0,00
FC6	<--	Facilities		0,84	0.53	0,09	9,14	0,00
UI1	<--	University Image	1,00	0.70			
UI2	<--	University Image	1,03	0.77	0,08	13,34	0,00
UI3	<--	University Image	1,02	0.78	0,08	13,52	0,00
UI4	<--	University Image	0,94	0.70	0,08	12,30	0,00
SPI1	<--	Study Program Image		1,00	0.69		
SPI2	<--	Study Program Image		1,07	0.75	0,08	12,81	0,00
SPI3	<--	Study Program Image		1,19	0.78	0,09	13,12	0,00
SPI4	<--	Study Program Image		1,07	0.72	0,09	12,43	0,00
SAT1	<--	Satisfaction	1,00	0.87			
SAT2	<--	Satisfaction	1,03	0.87	0,04	23,29	0,00
SAT3	<--	Satisfaction	0,98	0.77	0,05	18,91	0,00
SAT4	<--	Satisfaction	0,89	0.82	0,04	20,98	0,00
LOYAL1	<--	Loyalty	1,00	0.74			
LOYAL2	<--	Loyalty	1,16	0.68	0,10	12,23	0,00
LOYAL3	<--	Loyalty	0,88	0.64	0,08	11,57	0,00
LOYAL4	<--	Loyalty	1,07	0.70	0,08	12,64	0,00

Goodness-of-Fit			
Chi-square	836,515	GFI	0.86
Df	309	AGFI	0.83
Probability	0.00	TLI0.	0.87
CMIN/df	2.71	CFI	0.88
RMSEA	0.07		

Table 2. Construct Reliability

Service quality	0.809	Facilities	0.849
University image	0.917	Study program image	0.885
Satisfaction	0.905	Loyalty	0.834

Table 3. Structural Model

	Estimate	Std Est.	S.E.	C.R.	P	Conclusion
H1 Satisfaction <-- Service Quality	0,55	0.14	0,25	2,26	0,02	Supported
H2 University Image <-- Service Quality	-2.68	-1.27	0.49	-5.45	0.00	Supported
H3 Study Program Image <-- Service Quality	-2.53	-1.12	0.49	-5.21	0.00	Supported
H4 Satisfaction <-- Facilities	0.53	0.46	0.08	6.55	0.00	Supported
H5 University Image <-- Facilities	0,02	0.02	0,09	0,26	0,80	Not supported
H6 Study Program Image <-- Facilities	-0,03	-0.04	0,08	-0,34	0,73	Not supported
H7 University Image <-- Satisfaction	0,01	0.01	0,06	0,18	0,86	Not supported
H8 Study Program Image <-- Satisfaction	0,13	0.25	0,05	2,47	0,01	Supported
H9 Loyalty <-- Satisfaction	0,49	0.57	0,05	10,19	0,00	Supported
H10 University Image<--Study Program Image	0,79	0.56	0,10	7,84	0,00	Supported
H11 Loyalty <-- Study Program Image	-0.55	-0.46	0.10	-5.63	0.00	Supported
H12 Loyalty <-- University Image	**-0,29**	**-0.24**	0,07	-4,04	0,00	Supported

Goodness-of-Fit			
Chi-square	950,423	GFI	0.85
Df	315	AGFI	0.82
Probability	0.00	TLI0.	0.85
CMIN/df	3.02	CFI	0.86
RMSEA	0.07		

Based on Table 3, there are nine hypothesis supported and three hypothesis were not supported by the data. Interestingly, among those supported, the influence of university image on student loyalty (H12) was in the opposite direction with Helgesen and Nesset (2007). Thus, although university image consistently influence student loyalty, the direction of the influence is remain debatable. Moreover, this study found that study program image significantly influence student loyalty. This finding is different with Helgesen and Nesset (2007). The two findings which are different with Helgesen and Nesset (2007) lead to conclusion that image are still inconsistent as driver of student loyalty. Finally, this study concludes that only student satisfaction as consistent driver of student loyalty.

CONCLUSION

As an important concept in marketing, testing the drivers of student loyalty will provide a basis in creating strategies to attract and retain university students. Moreover, this study found that the drivers of student's loyalty are university image, study program image and satisfaction. However, since the influence of university image and study program image is still inconsistent with pre4vious research, this study concludes that the consistent driver of student loyalty is only satisfaction.

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STRATEGIC ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN HIGHER EDUCATION INSTITUTION (HEI): ICT AS TRANSACTION AND INTERACTION ENABLER

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ABSTRACT

The objective of the research is to explore the ICT role in HEI as the transaction and interaction enabler. The transaction values provided by ICT includes: online registration, study plan, evaluation and assessment grade, class management, documentation management system, human resources management, library management, marketing function, administration, finance and accounting, asset management, research management, services management, and information portal. The interaction values provided by ICT includes: lecturer and lecturer interaction, student and lecturer interaction, lecturer and staff interaction, and staff and student interaction.

The research is conducted at University of Ciputra in Surabaya, Indonesia. The method used is descriptive and survey research whereas data used are primary and secondary data. The data sampling method used is purposive sampling. The secondary data are obtained from the organization documents and existing condition data while the primary data are obtained by using questionnaire. They are analyzed by using quantitative and descriptive method.

The result shows that the ICT significantly supports the process and operational activities which are the transactions and interaction among lecturers, staffs and students. This shows the strategic role of ICT in HEI to sustain the competitive advantage of the institution.

Keywords: *Information And Communication Technology, Transaction, Interaction*

INTRODUCTION

Information and communication technologies (ICT) have become significant entities in all aspects of life. With the world moving rapidly into digital media and information, the role of ICT in education is becoming more important and this importance will continue to develop.

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"Technology has fundamentally altered how we live and work as well as how we learn. In the world of higher education, for example, virtually every aspect of scholarship—from conducting research to communicating ideas—has been influenced by technology. Not only has the nature of classroom learning been changed, but also the very concept of the classroom itself has been redefined by the proliferation of distance education and e-learning. As a result, higher education's reach now extends far beyond what was once possible or even imaginable." (Gregorian, 2002)

The objective of this study is to investigate the ICT role in HEI as the transaction and interaction enabler in University of Ciputra Surabaya. The perception of the lecturers, students and staffs on the role of ICT as transaction and interaction enabler is discussed in this paper The method used is descriptive and survey research whereas data used are primary and secondary data.

"Computers enhance teaching and learning via: Presentations, more opportunities to practice and analyse, and more access to source material via Internet. Computers and Internet connectivity has been found to enhance communication and interaction between colleagues within faculties, between classmates, and between faculties and students"(Brown, 2002)

ICT enhances H.E. in a number of ways: (Roswell, 1999)

- It enables the effective storing/sorting of information, and can offer new fast ways of communication.
- It enables the reduction of information quantity towards a higher quality and better structure.
- It can be integrated into teaching and learning strategies – and used to support relative learning theories.

Indrajit and Djokopranoto discussed the role of ICT as enabler or tool which enables the HEI to create cheaper, better, and faster education process. There are two types of ICT function which are recognized in this case, i.e. back office and front office. Back office function is the use of ICT to support HEI administration process or operational activity.

Furthermore, Indrajit and Djokopranoto also discussed, there are seven strategic role of Information and Communication Technology in elementary and high school education. We found that five of them are relevant with the strategic role of ICT in HEI discussed in our paper:

1. ICT as Knowledge Warehouse.
   The curriculum used and developed in the HEI must consider the state of the art of the science and knowledge. In addition, a qualified and up to date material must be used in the course material taught to the students. By using ICT, especially Internet, the Lecturers will easily explore and access the materials from knowledge warehouse in the world to get the best materials.
2. ICT as the learning tool.
   Interactive learning concept needs to be supported by a tool or reliable learning media. ICT development yields a number of products that capable of overcoming this challenge. Some examples are multimedia devices for simulation, application program for independent learning, etc.
3. ICT as educational facility.
   A good education institution surely needs a number of reliable facilities such as classrooms, laboratories, library, etc. For example, by using the ICT, an institution

will gain a significant benefit, because just in a very short time the user can be connected faster and cheaper with electronic library around the world.

4. ICT as competence standard.
   The whole usage of the ICT will only be done well when the lecturers and students have competence, expertise and skill to use the technology. Therefore, it is said that they must have particular competence standard in ICT. As examples, a lecturer must be able to operate word processor application program, statistical program, data analysis, electronic document etc, while a student at least must be able to operate presentation software and multimedia to do the homework.
5. ICT as educational administration support.
   In order to manage a huge number of students and lecturers effectively, integrated information system is needed. Its function is not only to manage lecturer and student administration, but also to support various teaching and learning process and activities.

In this paper, the values provided by ICT are investigated in the case of University of Ciputra in Surabaya, Indonesia.

METHODOLOGY

The research is conducted at University of Ciputra in Surabaya, Indonesia. The method used is descriptive and survey research whereas data used are primary and secondary data. The data sampling method used is purposive sampling. The secondary data are obtained from the organization documents and existing condition data while the primary data are obtained by using questionnaire.

The questionnaires were distributed to the lecturers, students and staffs. The data were then analyzed by using quantitative and descriptive method. The questionnaire was addressing 3 types of respondent: the lecturers, the students and the staffs. The indicators and statements used in it are designed to address the perception of respondent on the transaction values and interaction values. The perception is according to the function of each type of respondent in HEI.

The transaction values and information values provided by ICT in University of Ciputra in Surabaya, Indonesia.

1. The transaction values:

a. Online registration.
   This value is used to help and support the marketing and admission department in students enrollment and organize the admission and registration process of new students. The students can enroll via the university website and do the registration online from any place provided that it has internet connection without using hardcopy of forms.

b. Study plan.
   The academic administration department uses this value to help and support its function in organizing the subjects taken by the students in each semester. The students can choose the subjects and register to a class via the online form and approved by the academic advisor digitally.

c. Evaluation and assessment grade.
The lecturers use this system to organize the grading system of the students registered in each class, including the final result which determine the passing grade of the students. The evaluation system includes the assignment, mid test, final test and other evaluation form applied by the lecturers. The students use this system to check the score of each evaluation form and find out the final result of the subject they have undertaken.

d. Class management.
The administration officers and anyone who needs to book a room get an advantage from using this value. The administration officers use this system to book rooms to be used for lectures in each department. This also used by anyone who needs to use a room for other purposes such as meetings, consultation, presentation and any incidental purpose.

e. Documentation management system.
This value is used by the lecturers, students as well as staffs to search and find any material, file or information reference they need. Examples of these include course presentation, software, meeting presentation, and other materials that need to be shared to many people in campus.

f. Human resources management.
The HR department supported by this value to organize and develop the human resource in the campus. Some examples of the system are leave and permission system of the lecturers and staffs, training and development program of the lecturers and staffs, and other development program organized by the HR department.

g. Library management.
The library department use this system to organize the classification of library materials, circulation of the material, information provision of the materials, and material development. The students, lecturers and staffs can use this system to search for a material, and find the right library material to support their need such as assignment, lectures or conducting research.

h. Marketing function.
This helps the marketing department to provide information for the student candidates or high schools and parents to search for information they need regarding the university. These are needed by the student candidates or parents to gain information before deciding to enroll.

i. Administration.
The academic administration department functions are supported by the system to manage the student's record and provide some administration services to the students.

j. Finance and accounting.
By using this value, the Finance and Accounting department manages the tuition fee of the students, salary of the lecturers and staff, operational budget and other financial and accounting stuffs.

k. Asset management.
The property management department uses this system to manage the asset of the university such as rooms, furniture, electronic devices and other assets.

l. Research management.
This value helps and supports the Research and Publication Center to manage the useful information for the lecturers and record the publication of the lecturers for further references.

2. The interaction values:

a. Email.
As electronic mail, this is used as interaction media among lecturers, students and staffs, beside interaction with other people outside the university.
b. UC Forum.
This value is used as discussion forum on a number of specific usergroups by the lecturers, students and staffs.
a. People directory.
This system is used to search and find people in the university.

As an enabler, ICT enables the lecturers, students and staffs to do academic and administration transactions, and enables the interaction among them and with people outside the university. The transaction means all the processes in academic and administration needed to run the operational process. Without ICT, these were undertaken manually which generate several drawbacks such as: time consuming, inefficient and ineffective. The same drawbacks apply to the interaction. By using ICT, those drawbacks can be eliminated so that the process can be done fast, efficiently and effectively.

The indicators used for the Lecturers are:

I. Transaction values:
1. The use of ICT in enhancing the lecturer's teaching
2. How the lecturer use ICT to help their teaching
3. The perception on satisfaction on using ICT, new technology in ICT, validity and ease of use of ICT.
4. The perception on whether ICT is cheaper, better and faster.
5. The perception on the level of ICT support provided by your institution

II. Interaction values:
1. The frequency of using ICT to interact with others.
2. The enhancement driven by ICT to interact with others

The indicators used for the students are:

I. Transaction values:
   1. The use of ICT to enhance the student's learning
   2. How the students use ICT to help their learning
   3. The perception on satisfaction on using ICT, new technology in ICT, validity and ease of use of ICT.
   4. The perception on whether ICT is cheaper, better and faster.
   5. The perception on the level of ICT support provided by the institution

II. Interaction values:
   1. The frequency of using ICT to interact with others.
   2. The enhancement driven by ICT to interact with others

The indicators used for the staffs are:

I. Transaction values:
   1. The use of ICT to enhance the staff's department function
   2. How the staffs use ICT to help their work
   3. The perception on satisfaction on using ICT, new technology in ICT, validity and ease of use of ICT.
   4. The perception on whether ICT is cheaper, better and faster.
   5. The perception on the level of ICT support provided by the institution

II. Interaction values:
   1. The frequency of using ICT to interact with others.
   2. The enhancement driven by ICT to interact with others

The questionnaire consists of 2 parts, the first part is used to obtain the data on transaction values, and the second part is used to obtain data on interaction values. Each sub-question comprises of indicators were ranked.

In the first part, each sub-question in indicator 1 was ranked in 1 – 4 scale where 1 represents Not at all Useful, 2 for Not Very Useful, 3 for Fairly Useful, and 4 for Very Useful. Sub question 2 is used to identify how ICT is used to help the respondent. Each sub-question in indicator 3 was ranked in 1 – 5 scale where 1 represents Strongly Agree, 2 for tend to Agree, 3 for Neither Agree nor Disagree, 4 for tend to Disagree, and 5 for Strongly Disagree. Each sub-question in indicator 4 was ranked in 1 – 4 scale where 4 for Very Good, 3 for Fairly Good, 2 for Neither Good nor Poor, 1 for Fairly Poor / Very Poor.

In the second part, each sub-question in indicator 1 was ranked in 1 – 4 scale where 1 represents Regularly, 2 for Sometimes, 3 for Rarely, 4 for Never. Question in indicator 2 was ranked in the same scale.

RESULT AND DISCUSSION

The result is presented in Table 1 for Lecturer's Perception, Table 2 for Student's perception and Table 3 for Staff's perception.

Table 1.
Lecturer's Perception On Ict

I	TRANSACTION VALUES	SCORE
1	The use of ICT in enhancing the lecturer's teaching.	3.0000
2	How the lecturer use ICT to help their teaching.	2.1667
3	The perception on satisfaction on using ICT, new technology in ICT, validity and ease of use of ICT.	2.1875
4	The perception on whether ICT is cheaper, better and faster.	2.3333
5	The perception on the level of ICT support provided by your institution.	2.6111
II	INTERACTION VALUES	
1	The frequency of using ICT to interact with others.	2.1875
2	The enhancement driven by ICT to interact with others	1.5833

Table 2.
Student's Perception On Ict

I	TRANSACTION VALUES	SCORE
1	The use of ICT in enhancing the student's learning.	3.0455
2	How the lecturer use ICT to help their learning.	1.8523
3	The perception on satisfaction on using ICT, new technology in ICT, validity and ease of use of ICT.	2.4119
4	The perception on whether ICT is cheaper, better and faster.	2.5227
5	The perception on the level of ICT support provided by your institution.	2.6288
II	INTERACTION VALUES	
1	The frequency of using ICT to interact with others.	2.429
2	The enhancement driven by ICT to interact with others	2.1591

Table 3.
Staff's Perception On Ict

I	TRANSACTION VALUES	SCORE
1	The use of ICT in enhancing their department function.	3.4833
2	How the lecturer use ICT to help their work.	1.8
3	The perception on satisfaction on using ICT, new technology in ICT, validity and ease of use of ICT.	1.7
4	The perception on whether ICT is cheaper, better and faster.	1.8333
5	The perception on the level of ICT support provided by your institution.	2.9667
II	INTERACTION VALUES	
1	The frequency of using ICT to interact with others.	2.225
2	The enhancement driven by ICT to interact with others	1.7

The Lecturer's Perception on ICT

Based on the result presented in Table 1, it can be seen that the lecturer's perception on the use of ICT is fairly useful in enhancing their teaching. Some of them generally only use the ICT that is required by their course to help their teaching and some others use a mixture of ICT that they require to use and some that they choose to use.

They are satisfied with the level of internet access provided by the university and like to look for new technologies that will help them with their teaching. They also like to check the validity of information taken from the internet.

They find the university's electronic systems easy to use. The lecturer also agree that it is faster, better and cheaper to use the university ICT system. On the level of ICT support, their perception on hardware/software queries, guidance on how best to use ICT to help their teaching, and using the university's systems is good.

The lecturers sometimes use ICT to interact with others and tend to regularly use it in enhancing their interaction with others.

The Student's Perception on ICT

Based on the result presented in Table 2, it is obvious that the student's perception on the use of ICT is fairly useful in enhancing their learning. Some of them generally only use the ICT that is required by their course to help their learning and some use a mixture of ICT that they require to use and some that they choose to use.

They tend to be satisfied with the level of internet access provided by the university and like to look for new technologies that will help them with their learning. They also like to check the validity of information taken from the internet.

They find the university's electronic systems easy to use. The student also agree that it is faster, better and cheaper to use the university ICT system.

On the level of ICT support, their perception on hardware/software queries, guidance on how best to use ICT to help their learning, and using the university's systems is good.

The students sometimes use ICT to interact with others and use it in enhancing their interaction with others.

The Staff's Perception on ICT

Based on the result presented in Table 3, the staff's perception on the use of ICT is fairly useful in enhancing their department function. Some of them generally only use the ICT that is required by their course to help their learning and some use a mixture of ICT that they require to use and some that they choose to use.

They tend to be satisfied with the level of internet access provided by the university and like to look for new technologies that will help them with their work. They also like to check the validity of information taken from the internet.

They find the university's electronic systems easy to use. The staff also agree that it is faster, better and cheaper to use the university ICT system.

On the level of ICT support, their perception on hardware/software queries, guidance on how best to use ICT to help their work, and using the university's systems is good.

The Staffs sometimes use ICT to interact with others and tend to regularly use it in enhancing their interaction with others.

CONCLUSION

The transaction values and the interaction values provided by ICT in University of Ciputra are well perceived by the lecturer, student and staff. The result shows that the ICT significantly supports the process and operational activities which are the transactions and interaction among lecturers, staffs and students. From the discussion, it can be concluded that the ICT role in HEI as the transaction and interaction enabler is significant. This shows the strategic role of ICT in the HEI to sustain the competitive advantage of the institution.

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BUILDING MULTIPLE EXPERIENCES AS HIGHER EDUCATION COMPETITIVE ADVANTAGE

(***Marketing View***)

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ABSTRACT

In supply side, there is advance competition among higher education institution to attract potential student, to keep the student loyal and to give better output for society. The competition increase when Peraturan Presiden (President's Decree/Regulation) No 77/2007 gives opportunity for investment abroad to invest in education.

The article's purpose is to give the argumentation that building multiple experiences can create differentiation and competitive advantage to keep survive or even winning in higher education competition. As part of experience business, Higher education is a unique service industry because students have to live in it in several years study, and they still being part of it after they graduate as alumni. That makes justification for higher education to commit on experiential marketing. They have to create and build positive multiple experiences through paradigm change, strategy and programs such as academic atmosphere, facilities, environment, teaching-learning process, staff, etc. Positive experience will enhance loyalty to their institution. State owned higher educations, domestic private higher educations and abroad higher educations can offer different experience to marketing themselves.

This article trying to analyze and explore the role of experience marketing in higher education institution through literature study and interview about what is experience marketing and what elements that can be used to give positive experiences in higher education. The results show that implementing experiential marketing in higher education is a must. Building and creating multiple experiences can enhance student loyalty and institution image. So it has to be maintained and sustained as competitive advantage and differentiation strategy

Keywords: *Experiential Marketing, Higher Education, Competitive Advantage*

"You fill all my senses, come fill me again....."
(John Denver, *Annie's Song*)

INTRODUCTION

The condition of higher education competition becomes advanced by the growing of education institutions in Indonesia. On 1998, there were about 77 state owned higher education (SOHE) nowadays, and the higher educations held by societies/private higher educations, are 1.293 which consists of 407 academies, 9 polytechniques, 571 high schools, 44 institutes, and 262 universities (www.pts.co.id, 1998). On 2007, higher education in Indonesia comprise of 2684 institutions including 82 public higher educations institutions (Burhanuddin 2007). They must compete to win limited resources, both human resources and funds. The low ability of any institutions to absorb the new students' interest means reducing their chance to get the funds from the students, as a results, this condition threats the existence of the institutions themselves (Darsono 2007).

There are about 30 % or 800s private higher education in Indonesia that become collapse because they cannot compete with other higher educations. (www.kompas.com August 1st 2008).

The competition is not only for higher educations at the same level and types but also for those at the different level and types. For example: the universities compete with not only universities but also academies, colleges, and institutions. The competition is not only between SOHE or private ones, but also SOHE with private ones.

The competition is getting tighter after the announcement of the President Decree no. 77/207 about closed and opened business activity with capital invest as the requirements. In the President Decree, the government gives a chance for foreign investor to invest, at most 49%, in the national education sector, from basic education to higher educations and non-formal education.

One of the ways to survive and even win in this high and complex competition condition is by doing differentiation strategy. This strategy focus on excavating different internal resources and efforts from its competitors. The different offers can be seen in the form of various aspects such as product, personnel, channel, and image (Kotler and Keller 2006, pp. 296-298).

This article tries to explore the aspects of experience to offer from higher education institution which are able to give differentiation to compete. Higher educations are able to offer their students different experiences in various aspects, which can give multiple experiences for the students. The writing will especially focus on creating experiences for students as the customers.

The discussion will be started by describing the position of higher education as a conceptually unique service industry. The description then is followed by explanation about experiential marketing, related with higher education service industry, support from qualitative information, and closing.

THEORETICAL BACKGROUND

Higher Education as Unique Service Industry

Stated by Kotler and Keller (2006, p.372) that a service is any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product. From the description is clear that university is a service industry. It also has service characteristics, they are, intangibility, inseparability, variability and perishability.

As a service institution, higher educations have uniqueness. The first is there is an ambiguity about the position of higher educations as profit industry or non-profit one. National education is purposed not for seeking material profit and education institutions are not commercial business. But, on the other side, as *Badan Hukum Pendidikan* (Law Organization of Education), higher educations are expected to have autonomy in academic, finance, and employer. Higher educations must be able to manage their finance and make profit to help the operational of their institutions. The two statements sound contradictive. For these, the Minister of National Education, Bambang Sudibyo, said that higher educations should be able to seek fund, by the spirit of profit making, but the most of the fund must be used for operational and the rest should be invested. The result of investment can be re-used to support the activities of the university, not individually or government (Kompas, 25 February 2008). But this statement is still arising question: All

commercially businesses out of higher educations service also do the same thing, don't they?

The second is that costumers of these institutions are from multi direct, they are, students, public society, and benefactors. Moreover, the students are both the costumers and also the products for the higher education service. As the costumers, students' needs and expectations must be understood and satisfied As the products, students must be prepared to be able to fulfill public's need and expectation generally. Higher educations must be able to accommodate the need and expectation of students, society and other stakeholders, and then make it to be appropriate activities for them.

Other uniqueness of education service industry is that costumers will be part of the institution for long-term. Length of time to spend to study, more or less 1 – 4 years, must be followed by the costumers of university service industry. If the students decide to quit before the time, they must be responsible for switching cost, both financially and non-financially cost. After the students finish the study, they are still part of the institution, as the alumni. And the name of the education institution will always exist in their life especially when they are applying for a job. The length of time to spend by the students at the university causes the university must be able to create conducive atmosphere to make and maintain the costumers' satisfaction and loyalty during those time. Loyalty, in this case is in the form of still continuing their study after finish, giving positive word of mouth about the institution, invite other people to join with the institutions, even continuing the study to the higher level education in the same institution.

The next uniqueness is in certain time being at university institutions, the students interact with other people, like lecturers, staff, stakeholders, other students, extracurricular organization, practical world, and society. Interaction can be direct (face-to-face interaction, teleconference, etc), and indirect (Short message service, e-mail, letter, proposal, etc.). Those things make this service industry different from other service industries, exploring the needs of marketing experiential application at all aspects of students' activities become real and urgent. The experiences offered by each university will be different depend on the resources. With other word, it can give differentiation for each university.

Higher Education and Experiential Marketing

Traditional marketing basically has four key characteristics, which are: 1) focused on features and benefits; 2) product category and competition are narrowly defined; 3) customers are viewed as rational decision maker; and 4) methods and tools are analytical, quantitative and verbal (Schmitt 1999). In a contrary, experiential marketing state that product and service not just by communicating its features and benefits, but also by connecting it with unique and interesting experiences. It has four keys characteristics which are: 1) a focus on customer experiences; 2) a focus on consumption as a holistic experience; 3) customers are rational and emotional, and 4) methods and tools are eclectic (Schmitt 1999). The idea is not to sell something, but to demonstrate how a brand can enrich a customer's life (Kotler and Keller 2006, p.228). By orchestrating several services and goods, a firm can create, stage, and market experiences (Kotler and Keller 2006, p.8).

Pine and Gilmore (in Kotler and Keller 2006, p 229), who are pioneers on the topic, have argued that we are on the threshold of the "Experience Economy', a new economic era in which all businesses must orchestrate memorable events for their customers. They assert that if you charge for the time customers spend with the institution, then and only

then are the institution in the experience business. And salable experiences come in four varieties; they are entertainment, education, aesthetic, and escapist.

From the description above, no doubt that university service industry is kind of industry that sell experiences for their customers, because higher educations are purposed to increase their students' quality of life and that the students must spend their much time with higher education institution, even if they are no at the campus.

Building Multiple Experiences on Higher Education

The CEM (Customer Experience Management) framework is made up of five basic steps which are 1) analyzing the experiential world of the customer; 2) building the experiential platforms; 3) designing the brand experiences; 4) structuring the customer interface and 5) engaging in continuous innovation (Kotler and Keller 2006, p.229). According to the steps suggested, it can specifically describe the application in higher education below,

1. Analyzing the experiential world of the customer.
   The institution has to gain insight into the socio-cultural context of customers or the business context of business customers. So higher education management must be able to understand the needs and expectations of the prospective students, students, alumni, and the other stakeholders. And what aspects that can create positive experiences for them.
2. Building the experiential platforms.
   The next step after we have information about the customer, the institution have to develop a strategy that includes the positioning for the kind of experience the brand stands for ('what'), the value propositions of what relevant experience to deliver ('why'), and the overall implementation theme that will be communicated ('how'). This step is a step to formulate differentiation strategy for higher education institutions.
3. Designing the brand experiences.
   The implementation of higher educations experiential platforms have to be applied in the look and feel of logos and signage, packaging, and retail spaces, in advertising, collaterals, and online. All visible packages must associate or describe the existence of positive experience that can be seen, heard and felt by the prospective costumers/students when they become part of the institution, because the higher educations service industry is kind of industry that can be valued after the customers have become part of them.
4. Structuring the customer interface.
   The implementation of higher educations experiential platforms have to be applied in the dynamic and interactive interfaces. In the case of university, all possible interactions with lecturers, staff, stakeholders, and society must be packaged in a process which gives positive impression to the students.
5. Engaging in continuous innovation.
   The implementation of higher educations experiential platforms have to be applied in new product development, creative marketing events for customers, and fine-tuning the experience at every point of contact in a continuous form. Innovation at higher educations can be executed in the aspects of curriculum composing and teaching-learning process. But it also needs evaluation in periodic time line to see the alignment with external and internal change, so it will be the sustainability competitive advantage for the institution.

Moreover, related to the strategy and tactical program, Schmitt (1999) proposed SEMs and ExPros approach. The discussion about Schmitt approach will be translated in the context of university.

Experiences involve all human sense and brain. According to Schmitt (1999), experiential marketers view costumers as rational and emotional human beings who are concerned with achieving pleasurable experiences. Five different types of experiences, or strategic experiential modules (SEMs), that marketers can create for customers are distinguished: sensory experiences (SENSE); affective experiences (FEEL); creative cognitive experiences (THINK); physical experiences, behaviors and lifestyles (ACT); and social-identity experiences that result from relating to a reference group or culture (RELATE). SEMs are strategic experiential modules that managers can use to create differentiation for their customers.

Specifically, Schmitt (1999) also proposed a range of activity programs by using the term of experience providers (ExPros) which are: 1) communications, 2) visual/verbal identity, 3) product presence, 4) co-branding, 5) environment, 6) web site and electronic media, and 7) people. University management can provide experiences for customers through a set of ExPros as follow:

1. Communications: advertising, public relations, annual reports, brochures, newsletters, and magalogs.
   Communication given not only giving standard information about the way and time to register, the number of faculty, address, facility, etc., but more than those. Combination between emotional and rational approach can be served to enable the prospective customers to imagine how interesting to be a part of the institution. The description of vision and mission for the students, testimony of the students, and elegant design and language representing the description of interesting experience which will be happened if they become the students of the institution.
2. Visual/verbal identity: names, logos, signage, and transportation.
   Those are identity and reminder for higher education image. Therefore, it is a must for higher educations to keep the institution's brand image. To be a part of positive reputable institutions is a wish of the prospective customer.
3. Product presence.
   The main product to offer to the student customers is knowledge. In order to transfer knowledge, the useful tool to arise the experience is in formulating curriculum and learning method.
   For this, curriculum offered and innovation in learning teaching process is important aspects to deliver knowledge to the students. Faculty and university are able to give differentiation through the curriculum oriented to a special aspect, for example, curriculum which accommodates globalization/internationalization, or *syari'ah* based curriculum, entrepreneurship based, local culture based, etc.
   Basically, in the aspect of learning teaching process also appears paradigm change from teaching paradigm into learning paradigm (Sulasmi, 2008). Classical and one way learning process do not support to increase motivation and performance. It is crucial to make innovation of these matters to make the students more motivated. It supported by Armstrong (1977) which state that experiential learning can increase interest in the subject and there were more attitude changes. On the other side, it is an effective media to transfer of knowledge. In this case, the lecturers are demanded to be more open minded to various methods and multimedia available.

4. Co-branding: event marketing and sponsorships, alliances and partnerships, licensing, and product placements in movies or TV.
   Higher educations can have co-operation with other institutions to serve students customer, and it can be in the form of cooperation inter higher educations (domestic and international), cooperation with non-profit institutions, with profit institutions or even cooperation with students organization. The seminar activities, symposium, national and international conference which are held can involve students as the executor and speaker who can give valuable experience for students. Besides, it is useful to build good image to make the students feel proud.
5. Environment.
   The environment like building, classroom, main office, and campus facilities are the factors to impress the students. Architecture design, both interior and exterior, must be synchronized with the differentiation which is built by the higher educations.
6. Web sites and electronic media: corporate sites, product or services site, CD-ROMs, automated e-mails, online advertising, and intranets.
   Internet era requires all higher educations to provide various facilities to facilitate information access, especially to access scientific journals. The experience to apply technology needed easily for to work give positive impression for the students.
7. People: Lecturers, employees, students, groups of students, graduates, and leader/ rector
   People play important roles in higher educations world to give valuable experiences to students. There should be strong effort to improve their technical skills, emotional intelligence and spiritual intelligence, thus it will satisfy their need and hope in order that they are able to give positive effect to their students. The important role of higher educations marketing lies on the effort of the lecturers. Investment to improve ability and skills therefore should be the main priority meanwhile investment for other people would not be the major priority.

The key point of the process development of getting multiple experiences for students' candidate and recent students is to pay full attention on rational and emotional aspects for customers' candidate and recent customers. That is one of the most important aspects in university industry in order to be world class university (www.dikti.go.id, February 19th 2008).

SUPPORTING RESEARCH

Qualitative Research

Qualitative data are gained from some state university alumni. The acquired data are intended to obtain empirical support and more detail information. Most information is collected through discussing or interviewing among students via email or SMS. The information contains students' experiences either positive or negative during their study on higher education. They asked about what makes them impressed and loyal on higher education activity. Some comments are;

a. The curriculum development and teaching innovation gives better teaching-learning process and more experiences to students.

   "When I was a university student, the teaching method which was used is only one-way lecture. I called it lecturer - centered. The lecturer lectured by presenting economics theory to his students. I thought it would be much better if the lecturer could provide case

study about economic matters which was actual and factual then it was combined with economics theory. The students in that case were motivated to discuss about the problem in order that their creativity and imagination arouse…. There should be good link and match between educational world and industry, hence the students were being lectured by applicative sciences which are badly needed by industry." (Rachmad, 33 years old, state university alumnus, HRD staff).

"When I studied at Social Sciences and Politics Faculty in X University, I felt disappointed because the university was not qualified… For this reason, I resigned. The worst thing happened to me was that when I did examination. Most types of the test were in the form of multiple choices whereas in fact the text books presented lots of matter which were needed to be analyzed by students. The students needed to discuss about the problem to look for the best solution…. According to my humble opinion, the students should be elicited to improve and up grade themselves through searching as much info as they could from many sources to gain optimum knowledge. Students were supposed to be directed to search more info, read more books, not only depend on the indoor sourcing but also they should search outdoor sourcing. Students should take an opportunity when they came to their campuses to gain and improve as much knowledge as they could. During my study at universities, students were tended to come just to have fun with their friends and to fulfill the minimum requirement to be present in each class." (Iwan, 33 years old, state university alumnus).

b. The supply of supporting facilities

"*Positive experiences and things I got when I was a university student were that the campus provided a lot of books and references in the library even some were up to date. The negative things were the parking lot was not large enough."* (Gloria, 21 years old, fresh graduate of State University).

"…positive impressive during my study at the university was that I liked the library most. There were a lot of interesting and rare references as well as books. Unfortunately, I could not take my best opportunity to make use of it." (Iwan, 33 years old, state university alumnus).

c. People

Experiences related to Stakeholders, Lecturers, and Employees.

"During my study at the university, the Dean at that time was Mr. S,….there was a project work, then when I handed the proposal in…he directly approved it, I was so happy. Even he offered to use Faculty Economics' hall if I needed to use it…. The dean also taught research methodology….he was a great lecturer. The lecturer who lectured marketing was an excellent one. He was an ideal person and he trained us to be tough and qualified students. Then Mr. X…. he was a fine lecturer….. I adored him because he presented his class in such a way so the condition of the class was alive, we discussed lots of matters. I could express my opinion freely. I did like it! The reason why I resigned from Faculty of Social Sciences and Politics was….there were some other lecturers who tended to give more theoretical method, less discussion. The students had poor experience to discuss on something, convey and express their ideas as well as explore on something." (Iwan, 33 years old, state university alumnus).

"Affirmative results that I found were the stakeholders supported student's activities, some lecturers were helpful, and they had good and close relation to their students. The negative experience was when some of the academic staffs could not serve the students well; they were unfriendly and sometimes treat us rude…." (Gloria, 21 years old, state university alumnus).

Experiences dealing with internal students

"…..we should build good relationship among friends as students. We had to respect not only to our junior but also our senior in order that if we needed help, they would be pleased to lend their hands. We should be able to share another's trials and tribulations among students." (Iwan, 33 years old, state university alumnus).

Experiences dealing with alumni and institution

"… I doubted whether my old institution would inform its alumni if there were job vacancies or if we needed help, would it be pleased to assist us to inform any kind of information? (Dhian, 33 years old, state university alumnus, an entrepreneur).

"The negative point of the University X was that the relation among students and alumni were not harmonious. (Rudi, 34 years old, state university alumnus, HRD staff in Administration Department).

Experiences dealing with students' organization

"I was so impressed with my expression during my study at university when I joined Students' Activities Unit. The name of the unit was bridge. I got valuable experiences beyond campus activities. I learned to enter into organization campus, got along with rector, deans, administration staff (which all were new experience for me), got in with other students from other faculties, took part in some sports competition to compete with other universities. I felt unhappy at first but I enjoyed those activities then." (Iowan, 33 years old, state university alumnus).

d. Other conditions

"Supposed I had an opportunity to continue my study at postgraduate, I preferred studying at Yogyakarta for some reasons, first it is popular as student city therefore its ambient is conducive to study, besides the cost of living there is low, the temperature of the city is moderate unlike Surabaya, the city where I live in which temperature was often hot." (Iwan, 33 years old, state university alumnus).

The Effects of Positive Experience

Basically, experiential marketing plays an important role for marketer. It is so effective to build brand awareness, brand perception, brand equity, brand loyalty, and purchasing decision for customers (Andreani 2007). Experiential marketing can also induce customer satisfaction through emotional and functional values provided by feel perception, think perception, and service quality (Yuan and Wu 2008).

The study on the effects of positive experience among university students in which the theory is important but what students learn into practice is just as valuable. The study was conducted by Gentry, Peters, and Mann (2007). The research was about students' perception toward traditional high school, career, and technical education. The study result showed that schools which give more chances for students to do practical matters would give more positive effect especially for qualified students rather than traditional schools which emphasize more on theoretical matters. Gentry, Peters, and Mann (2007) convinced that if students are given more chances to do positive experience and practical matters would have high motivation to study. Consequently, the drop-out students would decrease.

Other study done by Fillion, et. al. (2007) about educational institution which proved that if the institution gave more experience to students, it would provide positive

effect on students' behavior. Fillion, et. al. (2007) on his article states that in today's global economy, organizations (including universities) who want to survive and strive to stay highly competitive must continually innovate at the human, material, and technological levels. Thus, universities, faculties, and professors are currently looking for ways to improve teaching and curricula, as well as develop new modes capable of satisfying the actual and future needs of organizations and societies. The study result done by Fillion, et. al. (2007) showed that groups of university students who got various lecturing method would show better performance rather than those who got classical and monotonous lecturing method.

From employers view, based on the research from Data Center and Tempo Analysis in 2004, the most wanted fresh graduates were considered not only from their grade point average but also their activities and interactions with others. The high values were considered on their activities on organizations, fluent in English, information seeker, having wide connections and friends, and computer friendly (Tempo, May 20th 2007). The study showed that students who were active or have good socialization would have more value that those who were passive, consequently the active students would have more chances to find job. In other words, student with more experience will be easy to find job.

DISCUSSION

Implication for Future Research

Research on how to give chance for students to have more experience during their study toward attitude and behavior variable could be conducted by other researchers since the article was still on exploration step. To test all aspects which give positive effect of experience for customers could be conducted by doing survey. The specific method meanwhile could be done to test each experience aspect by doing experiment. Research can be developed by qualitative method as conducted by Smith (1999).

Subjects of the research can be High School Graduates who are in the process of looking for and searching Higher educations, university students, university alumni who desired to continue their study to the higher level, or groups of society as customers.

Practical Implication

Association of Islamic Private Higher educations from all over Indonesia once worried about the interference of foreigners in national education because they may bring negative effect on Indonesian moral (Kompas, February 4th 2008). It states that moral education would be the key factor to maintain Indonesian unity and identity. Western educational model does not always bring good and positive effect to Indonesian; they might not give good norm or wisdom which is suitable to Indonesian custom. The different perspective should be underlined. Domestic higher educations should thrust local culture and value in order that they have special characteristics compare with western higher educations. Kai Ming Cheng, University of Hong Kong professor states that if non western universities which try to be world class university should not eliminates its national identity and culture. Local identity and culture of each nation should be conspicuous in competition because the special characteristic of each higher education will only be recognized and understood by local institution.

Competition will present value added differentiation for university students specifically and for society generally. In marketing views, experience is one of entities

that can be offered to customer. It means that, offering different experience from other higher educations/ colleges can be competitive advantage tools and differentiation tools to attract new students, to satisfy students, to create better output, to increase loyalty and to win the competition. State owned higher educations, domestic private higher educations and abroad higher educations can offer different experience. This is the challenge that academic people have to deal.

'World Class Higher educations are not built overnight, but if we do not start today, they would never come by' that is the statement of Professor Kai Ming Cheng (www.dikti.go.id, February 19th, 2008). The stakeholder of the university therefore should start looking for the best and appropriate way to realize it by recognizing students' candidate and recent students. The first step is as the main factor to determine the success of the university to keep surviving and winning the competition in front of its students' candidate and recent students.

Kotler and Keller (2006, p 313) state that the key competitive advantage is product differentiation. The step to be handled by higher educations/ colleges service is that the differentiation could be gained by doing innovation, developing and giving various offer to its students to give multiple experience to students' candidate and recent students through paradigm change, strategy and programs such as academic atmosphere, facilities, environment, teaching-learning process, etc.

Spiritual Implication

> *"Say it: 'Hi My fellow, do your best for I do my best also. You will find out later, who will get the best in the world. The cruel man will not get good luck at last."* (Al An'aam 135).

The verse above is one of the number of verses printed on Al-Quran that invites human being, in their competitive world, to do their best in life, therefore they will received the consequences. For those who do good things, they will get multiple good things as a result, meanwhile for those who do bad things; they will receive bad things either. The article shows us that if higher educations could give chances for their students to have positive experience, they will have the positive effect for their own self. It's in line with religion rule that we must do good things in all aspects of life. That's *sunnatullah.*

We can share enjoyment not only on one aspect but on many aspects, thus we can give maximum satisfaction to our customer. It just likes John Denver's song:

> *"You fill all my senses, like a night in the forest, like a mountain in spring time, like a walk in the rain, like a storm in the dessert, like a sleepy blue ocean, you fill all my senses, come fill me again …..."*

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VALUES EDUCATION PROGRAM AT UNION CHRISTIAN COLLEGE, CITY OF SAN FERNANDO, LA UNION: AN INPUT TO A FOUR- YEAR DEVELOPMENT PROGRAM

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ABSTRACT

Values Education Program (VEP) is a set of deeply rooted convictions of our behaviour as individuals/ organizations (Hunt, et al, 1997). Values are interrelated with one another as norms or practices around a core cultural concept or theme (Panopio, et al, 1995). Similarities as well as diversities in values exist among faculty members and staff of Union Christian College (UCC), one of the six higher educational institutions (HEI) in Northern Luzon with a deregulated status awarded by the Commission on Higher Education. All its collegiate programs are accredited Level II by the Association of Christian Schools, Colleges, and Universities- Accrediting Agency Incorporated.

The study assesses the current values education program at Union Christian College, SY 2006- 2007 in the areas of (1) Physical Development, (2) Intellectual Development, (3) Moral Development, (4) Spiritual Development, (5) Social Development, (6) Economic Development and (7) Student Development. Likewise, this study seeks the relationship between the profile of the respondents and the level of implementation of Values Education Program by the institution, the extent of effectiveness of the program, the extent of productivity, and the extent of administrative support to the program. This study is hoped to help improve the services which the UCC community extends to its clientele.

This research uses the questionnaire survey (Appendix A) method to gather the primary data. The major components of the questionnaire are: Current profile of the respondents; The level of implementation of the Program; (3) The extent of productivity of the program; (4) The extent of effectiveness of the program;(5) and The extent of administrative support to the program. The survey instrument was pretested to Lorma Colleges, San Fernando City, La Union, another higher educational institution (HEI) within the city. Kuder- Richardson formula 20 is used to determine the coefficient of reliability which is 0.98 (Subong, 2005). Moreover, the researchers used informal and unstructured interview to elucidate / substantiate information not contained in the questionnaire, perused reading materials from the library, and surfed the internet to gather insights from other countries. Frequency and percentage tools are used to describe the profile of the respondents. The weighted mean formula is utilized to determine the extent of implementation of the program. In addition, the Pearson's r is used to determine the

correlation between the profile of the respondents and the extent of implementation, effectiveness, productivity of the program and the extent of administrative support to the program (Downie, 1974). There are 150 respondents of the study which included the administrators, fulltime faculty members and staff of the College. Generally, Values Education Program is highly implemented, productive, effective and supported by the school administration.

The results of this study serve as a basis in the formulation of a four-year development plan to address the weak areas of the Values Education Program.

Keywords: *Values Education Program, Physical Development Program, Economic Development Program, Moral Development Program, Social Development Program, Spiritual Development Program, Student Development Program*

INTRODUCTION

Generally, Values Education Program is a set of projects/ activities aimed at improving the behaviour, characteristics, motivations, etc. of an individual or an organization.. Some regard it as a process by which teachers transmit values to pupils. Others consider it as an activity that can take place in *any* organization during which people are assisted by others, who may be older, in authority or more experienced.

Ul-Haque suggests that "values act as a powerful leaven in the life of people – the life which today is fraught with conflict-and-dissension-ridden situations in which the hearts are stricken by the canker of greed, corruption and incompetence; and its remedy, under the existing conditions, is in noose; the more it tugs, the more it chokes. It is because no system of human organization that is false in its very principle, in its very foundations, can save itself by any amount of cleverness and efficiency in the means by which that falsehood is carried out and maintained by any amount of superficial adjustment and tinkering. Only education based on permanent values can withstand the test of time. The broad objective of Values Education for the primary and secondary schools, to begin with, is the development of an individual who recognizes, accepts and internalizes his/her role as a responsible decision maker in accordance with permanent values in a democratic society to the extent that his/her actions are governed within the boundary walls of these values".

The above setting signifies that values education can take place at schools, colleges, universities, other institutions and voluntary youth organizations. There are two main but opposing approaches to values education. Some consider it as inculcating or transmitting a set of values which often comes from societal or religious rules. Others see it as a type of Socratic dialogue where people are gradually brought to their own realization of what is good behaviour for themselves and for `their community.

Very little research has been done on values education and fewer attempts have been made to train teachers and youth workers to facilitate values education activities. In the Philippines more than twenty years ago, when the EDSA Revolution sparked a worldwide interest in us as a country and as a people, the Department of Education, Culture and Sports now Department of Education (DepEd) made values education a primary thrust (Revised DepEd Manual).

The DepEd aims to provide and promote values education in all levels of the educational system and aims to develop a citizenry committed to the building of "a just and humane society". It also envisions an independent and democratic nation whose

proper implementation of values education programs would nurture and develop Filipinos who: (a) are self-actualized, integrally developed human beings imbued with a sense of human dignity; (b) are social beings with a sense of responsibility for their community and environment; (c) productively contribute to the economic security and development of the family and of the nation; (d) are citizens with a deep sense of nationalism and are committed to the progress of the nation and of the entire world community through global solidarity; and (e) manifest in actual life an abiding faith in God as a reflection of their spiritual being.(Tan, 2008)

Tan defines values as the bases of judging what attitudes and behavior are correct and desirable and what are not. She stresses that values education is about learning our values and living by them, a means of helping learners build virtues, strong character and life's meaning. It helps us make our unconscious values conscious, encourages us to state our values clearly and to develop integrity and confidence in life by getting to know and state the values that dictate our actions and helps us close the gap between what we say and what we do.

The Legal Basis of Values Education in the Philippines

The 1986 Constitution of the Philippines requires all educational institutions to inculcate the values of patriotism, nationalism, love of humanity and respect for human rights, to strengthen ethical and spiritual values and to develop good moral character, personal discipline and critical and creative thinking.(de Leon, 2005)

During the First Biennial National Congress on Education 2007, the Main Education Highway was created in response to prevailing issues and concerns that hinder the stakeholders from providing the future generation with the appropriate education needed in order that they may identify their purpose and consequently maximize their potential.

The Philippine education is expected to produce well-rounded individuals who have the skills and ethics to work, the personal capabilities to manage their emotions, the social skills to adapt to culture and nurture relationships and good Filipino values and critical thinking abilities to solve problems and successfully cope with change, may it be environmental, industrial or social (First Biennial National Congress on Education, 2007).

THEORETICAL BACKGROUND

Aspy (eValues education) of the University of Oklahoma reiterates that there is a "need for a strong values education program in public education. It is expressed forthrightly by Coles that, "The fundamental tragedy of American Education is not that we are turning out ignoramuses but that we are turning out savages" (Elam, Rose, & Gallup,1994). This statement is supported by by Ryan (loc cit 49) who called schools "morally dangerous places." (Journal of Invitational Theory and Practice, 1996, Vol. 4, No. 1)

The writer further emphasizes the public's awareness of the values crisis as reflected by Cal Thomas (1994) who wrote, "Suddenly, like a tornado that approaches unexpectedly, values are the hottest political issue" and quoted George Washington: "Let us with caution indulge the supposition that morality can be maintained without religion. Whatever may be conceded to the influence of refined education on minds of peculiar structure, reason, and experience forbid us to expect that national morality can prevail in exclusion of religious principle".

This view is supported by Barone (1994) who wrote, "The conflict between the values of the feminist left and the religious right frames the political discussion". The tornado that Thomas cited can be seen in writings all around us. The Brookings Institution issued Values and Public Policy (Aaron, Mann, & Taylor, 1994). Newsweek (Fineman, 1994) published a major article on virtues as did U.S. News and World Report (August 1, 1994). Similarly, The Futurist listed Kidder's (1994) eight universal human values.

In education, The American School Board Journal (May, 1994) featured an article on character education (Thomas & Roberts,1994). Educational Leadership (November,1993) devoted an entire edition to character education as it had done in December 1985. Counseling and Values presented a series of articles on values in February, 1979 (Nordberg), October 1984 (Russo), April 1985 (Bergin), October 1991 (Haugen, Tyler, & Clark), and April 1993 Mitchell).There is also values-related action at the Federal level. On July 29-30, there was a White House Conference on Character Education Building (9 Journal of Invitational Theory and Practice, 1996, Vol. 4, No. 1 for a Democratic, Civil Society). In preparation for that conference, Etzioni (1994) wrote, "Without character, merely knowing what is right is no assurance that we shall live up to it. At the same time, character without values grafted upon it lacks content". In short, things are happening in the values area. The nation is stirred. A major question is just how deep that renewal reaches. There is a need to generate enthusiasm for a profound look at this nation's basic values.(www.valueseducation.au)

Another study conducted by Titus focused on values education in American secondary schools. The author zeroed in to trends in values education in public secondary schools, crucial issues in both religious and secular values education, and effective strategies for teaching values in formal and invisible curricula. A review of the history of values education in the public schools is accompanied by relevant research pertaining to the "establishment clause" of the First mendment and Supreme Court cases. The current debate over values education is updated with specific cases in Pennsylvania schools. The strategies for teaching values education include: (1) educating the whole person by focusing on student knowledge, behavior and feeling; (2) choosing content that honors and rewards virtue in exemplars, and encouraging reflection on values; (3) using quotes, pledges, codes, and guideline; (4) communicating clearly, consistently and incerely, with high expectation for all students; (5) developing student skills in resisting peer pressure, maintaining self-respect, and resolving conflicts in nonviolent ways; (6) being a good role model through positive personal example; (7) using and requiring respectful language; (8) creating an even-handed enforcement of just classroom rules to teach core values (compassion, courage, courtesy, fairness, honesty, kindness, loyalty, perseverance, respect and responsibility); (9) reinforcing the diligent work and virtuous behavior of students with praise and appreciation; (10) correcting unethical, immoral, and disrespectful behavior (11) having students work together cooperatively in heterogeneous groups; (12) involving peers, parents and community; (13) encouraging student involvement in community service; and (14) teaching, not preaching.

Corollary to the above authors, Pacheco made some observations in Mexico. In the last decades, values and civics education reemerged in the Mexican educational system. The revival of civics and Values education brought to the National College for Professional Technical Education (CONALEP), among other institutional reforms, the implementation of the Values and Human Development Program. This study dwellt on the efficacy of the CONALEP Values program to transmit and inculcate vocational

students with non-profitable values and the extent to which different academic aspirations and demographic factors affect values. Primary data were collected by administering a 20- item questionnaire to 100 12th grade CONALEP students. It evaluated how vocational students embraced or resisted Values education as part of the curricula. The findings show a homogenization of values among CONALEP students in most of the cases, in spite of different academic aspirations or gender. A longstanding debate of teaching values and civics education in the context of vocational educational level was discussed.

Finally, a local study was conducted by Quiniones (1998) among public high school students covering the core values as prescribed by the Department of Education, Culture and Sports as follows: physical development activities, intellectual values, political values, social values, and moral /spiritual values. The findings reveal that the values mentioned are highly accepted or practiced by the high school students.

Union Christian College and its role in the Value Education Program

It is a clear policy of the College that all activities and programs approved by the Board of Trustees are to be implemented subject to the principles of effectiveness, efficiency and economy without sacrificing the quality of service to the students. It is understood that with quality, the product of education can survive for a long time. The specific concepts, practices and guidelines for effectiveness, efficiency and economy should be well understood by all the faculty members, staff and students in the College in order to avoid any conflict or misunderstanding.

RESEARCH METHODS

Sample Selection and Data Collection

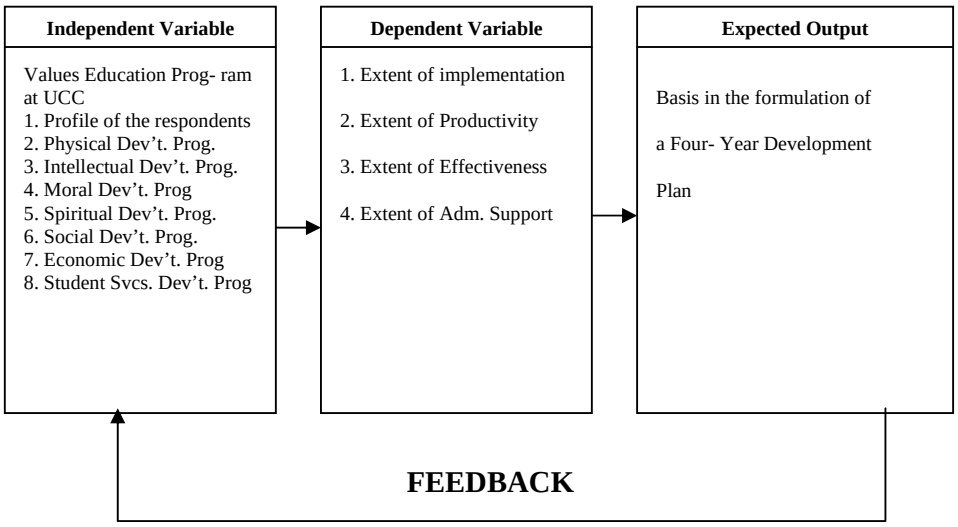
This research used the descriptive design to analyze the survey as well as informal interviews to generate data. The data gathered were processed and analyzed using the appropriate statistical tools. There were 150 respondents of the study which included the administrators, fulltime faculty members and staff of the College. Table 1 shows the breakdown of the respondents.

Table 1.
Summary of Respondents

No.	Respondents	Total	Percentage (%)
1.	Administrators	15	10.00
2.	Faculty	115	76.67
3.	Staff	20	13.33
	Total	**150**	**100**

Research Variables

The figure below shows the variables in this study.



As shown on the preceding page, the independent variables utilized in this research are: Profile of the respondents, and the Physical, Intellectual, Moral, Spiritual, Social, Economic, and Student Services Development Programs. The dependent variables are: the level of implementation, extent of productivity, level of effectiveness, and the extent of administrative support to the program. The four -year development plan to enhance the program is the output of the study.

Data Analysis Technique

Data were collected, presented in tabular form and analyzed to draw conclusions upon which recommendations were formulated. The descriptive analysis is done in two ways.

THE FINDINGS:

The findings of this study are as follows:

As to the profile of respondents, majority are females (57.3%); majority belong to 21- 35 age bracket (50%) while the least number belongs to 61-65 age bracket or (1.45%). Likewise, majority are Roman Catholics (56%), others are Protestants or other religious groups (24%); In addition, majority are AB/ BS graduates (34%) followed by those with MA/ MS units (32%); the least are those with post graduate degrees (3.33%). Majority (44.67%) of the respondents have less than 5 years but a good number have 6-20 years of service.

Table 2.
Summary Table of Findings: Level of Implementation of the Program

No.	The Level of Implementation of the Values Education Program at U C C	Weighted Mean	Interpretation
1.	Physical development program	3.40	H.I.
2.	Intellectual development program	3.89	H.I.
3.	Moral development program	3.64	H.I.
4.	Spiritual development program	3.84	H.I.
5.	Social development program	3.82	H.I.
6.	Economic services development program	3.57	H.I.
7	Student services development program	3.81	H.I.
	Overall Weighted Mean	**3.71**	**H.I.**

As shown in Table 2, the level of implementation of the values education program at Union Christian College has a descriptive rating of "highly implemented" with an overall weighted mean of 3.71. This means that the activities that fall under each program is carried out or effected beyond the expectation of the faculty members. Intellectual and spiritual development programs are evaluated at 3.89 and 3.84 respectively, a reflection of the vision/ mission of the school regarding intellectual competence and spiritual soundness. Physical development and economic programs, on other hand, appear low. This could be due to limited financial resources or income generating projects/ activities of the faculty members and staff.

Table 3.
Summary Table of Findings: Extent of Effectiveness of the Program

No.	The Extent of Effectiveness of the Program at U C C	Weighted Mean	Interpretation
1.	Physical development program	3.76	H.E.
2.	Intellectual development program	3.82	H.E.
3.	Moral development program	3.80	H.E.
4.	Spiritual development program	3.93	H.E.
5.	Social development program	3.85	H.E.
6.	Economic services development program	3.59	H.E.
7	Student services development program	3.86	H.E.
.	**Overall Weighted Mean**	**3.79**	**H.E.**

As indicated in Table 3, the extent of effectiveness of the program has an overall mean of 3.79 and an overall descriptive rating of "highly effective". Effectiveness in this area signifies a special effect on the life of a faculty considering that UCC is a Christian-oriented institution. Spiritual program has the highest mean of 3.93; economic program is evaluated with the lowest mean of 3.59; Obviously, spiritual program is considered as the core activity of the college. All students, regardless of religious affiliation, are required to take Bible subjects.

Table 4.
Summary Table of Findings: Extent of Productivity of the Program

No.	The Extent of Productivity of the Program at U C C	Weighted Mean	Interpretation
1.	Physical development program	3.72	H>P.
2.	Intellectual development program	3.74	H.P.
3.	Moral development program	3.70	H.P.
4.	Spiritual development program	3..80	H.P.
5.	Social development program	3.73	H.P.
6.	Economic services development program	3.59	H.P.
7	Student services development program	3.80	H.P.
.	**Overall Weighted Mean**	**3.73**	**H.P.**

Regarding the extent of productivity of the program, student development and spiritual development programs are evaluated with the highest mean of 3.80. This could be due to the fact that all programs or activities in the college formally open with religious convocations/ devotions. Economic program, however, is evaluated with the lowest mean of 3.59. Seemingly, economic activities are the least among the priorities of the institution. In a nutshell, the overall weighted mean for productivity is 3.73, which means that the values education program is highly productive.

Table 5.
Summary Table of Findings: Extent of Administrative Support to the Program

No.	The Extent of Administrative Support to the Program at U C C	Weighted Mean	Interpretation
1.	Physical development program	3.79	H.A.S.
2.	Intellectual development program	3.70	H.A.S
3.	Moral development program	3.79	H.A.S.
4.	Spiritual development program	3.88	H.A.S.
5.	Social development program	3.76	H.A.S.
6.	Economic services development program	3.64	H.A.S.
7	Student services development program	3.89	H.A.S.
.	**Overall Weighted Mean**	**3.78**	**H.A.S.**

As shown in Table 5, the extent of administrative support to the program has the weighted mean of 3.78 which means that the values education program is highly supported by the school administration. Administrative support varies depending on the need, financial or material assistance. The spiritual development and the student development services programs are evaluated at 3.88 and 3.89 respectively while the economic activities are evaluated at 3.64, which means that the programs are supported by the school administration. Apparently, the school administration strongly supports the religious and student development services.

It is also noted that there is no significant relationship between the profile of the respondents and the extent of implementation of the values education program, the level of effectiveness, the extent of productivity, and the extent of administrative support.

CONCLUSIONS AND RECOMMENDATIONS

Based on the above findings, the following conclusions are drawn:

1. Considering that the faculty and staff of Union Christian College are composed of men and women with different religious affiliations, educational qualifications, and years of service to the school, the values education program is carried out in various ways and procedures.
2. Since the values education program is evaluated as highly implemented, effective, productive and supported by the school administration, school administrators should continue to reach out to the level of excellence.
3. There is no significant relationship between the profile of the respondents and the extent of implementation of the values education program, the level of effectiveness, the extent of productivity, and administrative support.

In the light of the above conclusions, the following are recommended:

Desirous of becoming a center of excellence in the Region, UCC needs to enhance the educational qualifications of the faculty members and staff through scholarship programs, grants and continuing program on seminars, workshops and conferences.

Improving / upgrading the physical facilities of the college be placed on "top of the line" so that students may enjoy their studies and others may be encouraged to enroll at UCC.

Considering the rapid increase in the prices of prime commodities, the school needs to initiate income- generating programs/ activities to help uplift the economic status of the faculty.

Finally, it is highly recommended that a follow up research be conducted to have a deeper analysis of all the activities of the college.

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Appendix A

QUESTIONNAIRE CHECKLIST ON VALUES EDUCATION PROGRAM

Part 1. Current Profile of the Respondents at Union Christian College
Please check the appropriate number provided after each item.

Name (Optional)_____

Address_____

a. Gender: ___Male __Female

b. Age bracket: __Below 20 yrs. old
__21- 25 yrs. old
__26-30 yrs. old
__31-35 yrs. old
__36-40 yrs. old
__41-45 yrs. old
__46-50 yrs. old
__51-55 yrs. old
__56-60 yrs. old
__61-65 yrs. old
__66 yrs. old and above

c. Religious Affiliation:
__Roman Catholic
__Aglipayan
__Methodist
__UCCP
__Jehovah's Witness
__Others, pls specify_____
__Baptist
__Wesleyan
__Muslim
__Buddhist

d. Highest Educational Attainment:
__ AB / BS graduate
__BS with MA / MS units
__Finished all academic requirements (Masteral)
__MA / MS graduate
__MA/MS with doctoral Units
__Finished all academic requirements (Doctoral)
__Ph.D/ Ed. D. graduate
__Others, pls. specify_____

e. Number of years at UCC:
__Less than 5 yrs
__6- 10 yrs
__11-15 yrs
__30 yrs above
__16-20 yrs
__21-25 yrs
__26 -30 yrs

Part 2. Level of Implementation of the Values Education Program at Union Christian College. Please encircle the appropriate number provided below by using the scale from 5 to 1.

Extent	Description	Interpretation
5	VHI	Very Highly Implemented
4	HI	Highly Implemented
3	MI	Moderately implemented
2	FI	Fairly Implemented.
1	NI	Not Implemented

A. Extent of implementation of the Physical Development Program:

	5 4 3 2 1
Campus fogging activities	5 4 3 2 1
Making the surroundings clean	5 4 3 2 1
Having the drainage clear from solid wastes	5 4 3 2 1
Restroom maintenance	5 4 3 2 1
Maintenance and cleaning of classrooms	5 4 3 2 1
Maintenance of the electric facilities/ fixtures	5 4 3 2 1
Conducting sports / recreation activities	5 4 3 2 1
Conducting orientation program on waste disposal/ garbage system	5 4 3 2 1
Supporting the Clean and Green program of the government	5 4 3 2 1
Others, please specify_____	5 4 3 2 1

B. Intellectual Development Program:

Procurement of additional books and magazines for the library	5 4 3 2 1
Encouraging student seminars/ workshops/ conferences	5 4 3 2 1
Conducting student orientations	5 4 3 2 1
Updating of course syllabi by the faculty members	5 4 3 2 1
Upgrading laboratory equipment and computers	5 4 3 2 1
Providing scholarships to poor but deserving students	5 4 3 2 1
Student's assistance program	5 4 3 2 1
Others please specify_____	5 4 3 2 1

C. Moral Development Program:

Hospital visitation by any school administrator / Chaplain	5 4 3 2 1
Conducting Bible studies inside the campus	5 4 3 2 1
Promoting spiritual counseling for students	5 4 3 2 1
Conducting Vacation Bible School in the barangay	5 4 3 2 1
Bible distribution to faculty members and students	5 4 3 2 1
Conducting religious convocations	5 4 3 2 1

Conducting student retreats	5 4 3 2 1
Conducting student recollections	5 4 3 2 1
Others, please specify_____	5 4 3 2 1

D. Spiritual Development Program:

Prayer meetings	5 4 3 2 1
Bible quizzes inside the classrooms	5 4 3 2 1
Departmental convocations	5 4 3 2 1
Joint Student-Personnel convocations	5 4 3 2 1
Academic conferences and seminars	5 4 3 2 1
Others, please specify_____	5 4 3 2 1

E. Social Development Program:

Inculcating respect and love for one's family	5 4 3 2 1
Promoting family solidarity inside the campus	5 4 3 2 1
Encouraging responsible parenthood among students	5 4 3 2 1
Respecting individual human rights inside the campus	5 4 3 2 1
Promoting the common good for the students	5 4 3 2 1
Inculcating cooperation in social organizations	5 4 3 2 1
Encouraging social responsibility and accountability	5 4 3 2 1
Promoting creative goodwill among the students	5 4 3 2 1
Encouraging equality and fairness in social activities	5 4 3 2 1
Appreciating diversity in opinion and culture in classes	5 4 3 2 1
Promoting active non-violent activities	5 4 3 2 1
Others, please specify_____	5 4 3 2 1

F. Economic Development Program

Encouraging entrepreneurial activities and skills	5 4 3 2 1
Promoting wise use of resources like electricity	5 4 3 2 1
Reiterating the energy conservation in the classrooms.	5 4 3 2 1
Discouraging vandalism of school facilities and equipment	5 4 3 2 1
Others, please specify_____	5 4 3 2 1

G. Student Services Development Program:

A. Nationalism

Encouraging love of country	5 4 3 2 1
Inculcating heroism and appreciation of heroes	5 4 3 2 1
Promoting the appreciation of cultural heritage	5 4 3 2 1
Inculcating democratic ideas inside the campus	5 4 3 2 1
Encouraging freedom of expression and responsibility	5 4 3 2 1
Promoting active participation in school organizations	5 4 3 2 1

Encouraging students to participate in civic organizations	5 4 3 2 1
Inculcating leadership commitment among student leaders	5 4 3 2 1
B. Globalism	
Adherence to global competency and technical skills	5 4 3 2 1
Discouraging racial and ethnic discrimination among students	5 4 3 2 1
Showing understanding of group interrelations	5 4 3 2 1
Promoting tolerance and respect diversity of culture	5 4 3 2 1
Encouraging the understanding on global issues	5 4 3 2 1
Participating in regional and national activities	5 4 3 2 1
Others, please specify_____	5 4 3 2 1

Part 3- The Extent of Productivity of the Values Education Program at Union Christian College. Please encircle the appropriate number provided below by using the scale from 5 to 1.

Extent	Description	Interpretation
5	VHP	Very High Productivity
4	HP	High Productivity
3	MP	Moderate Productivity
2	FP	Fair Productivity
1	NP	No Productivity

	Extent of Productivity
	5 4 3 2 1
A. Physical Development Program	5 4 3 2 1
B. Intellectual Development Program	5 4 3 2 1
C. Moral Development Program	5 4 3 2 1
D. Spiritual Development Program	5 4 3 2 1
E. Social Development Program	5 4 3 2 1
F. Economic Development Program	5 4 3 2 1
G. Student Services Development Program	5 4 3 2 1

Part 4- The Level of Effectiveness of the Values Education Program at Union Christian College. Please encircle the appropriate number provided below by using the scale from 5 to 1.

Extent	Description	Interpretation
5	VHE	Very Highly Effective
4	HE	Highly Effective
3	ME	Moderately Effective
2.	FE	Fairly Effective
1.	NE	Not Effective.

	Level of Effectiveness				
	5	**4**	**3**	**2**	**1**
A. Physical Development Program	5	4	3	2	1
B. Intellectual Development Program	5	4	3	2	1
C. Moral Development Program	5	4	3	2	1
D. Spiritual Development Programs	5	4	3	2	1
E. Social Development Program	5	4	3	2	1
F. Economic Development Program	5	4	3	2	1
G. Student Services Development Program	5	4	3	2	1

Part 5- The Extent of Administrative Support of the Values Education Program at Union Christian College. Please encircle the appropriate number provided below by using the scale from 5 to 1.

Extent	**Description**	**Interpretation**
5	VHAS	Very High Administrative support
4	HAS	High Administrative Support
3	MAS	Moderate Administrative Support
2	FAS	Fair Administrative Support
1	NAS	No Administrative Support

	Extent of Admin. Support				
	5	4	3	2	1
A. Physical Development Program	5	4	3	2	1
B. Intellectual Development Program	5	4	3	2	1
C. Moral Development Program	5	4	3	2	1
D. Spiritual Development Program	5	4	3	2	1
E. Social Development Program	5	4	3	2	1
F. Economic Development Program	5	4	3	2	1
G. Student Services Development Program	5	4	3	2	1

Thank you very much for your cooperation.

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PROBLEMS AND OBSTRUCTIONS ON KNOWLEDGE MANAGEMENT OF HIGHER EDUCATION INSTITUTION: A CASE STUDY OF RAMKHAMHAENG UNIVERSITY, THAILAND

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ABSTRACT

Higher institutions usually manage knowledge for effective teaching process and administration purposes. Knowledge for the teaching process is systematically organized especially under the regulations of governmental controlling units. Teaching in different sections, although by different teachers, should maintain similar contents and standards. Many documents must be filed, copied, and reported and shared. Knowledge in the administrative system is documented and usually directed to particular respondents but not shared much to other departments. This study investigated the process of knowledge management at Ramkhamhaeng (RU) University, a large open-admission public university in Thailand by synthesizing frameworks proposed by (Demarest, 1997; Marquardt 1996; Probst, Raub, & Romhardt, 2000; and Turban & Aronson, 2001) that included knowledge acquisition and creation, storing and retrieval, distribution, and application. The knowledge management system involves gathering implicit and explicit knowledge in the organization, combining, storing, and disseminating the knowledge throughout the organization. Delphi technique was used in three rounds of interview with eighteen experts in the university. Results suggested 10 major problems and obstructions of knowledge management of the university i.e., the understanding of knowledge management, ability to employ new information technology systems, resistant to change, inability to utilize electronic gadgets, information inadequacy, relationship among units in the university, systems for learning, the misunderstanding of the significance of knowledge sharing, the organization culture, and motivation to learn.

INTRODUCTION

Organizations in the globalization era are fueled by the utilization of quality and productivity of knowledge (Drucker, 2007). The industrial-based society is transforming into the information or innovation-based society (Toffler & Toffler, 2006). Information and knowledge are becoming more important than tangible assets such as land, building, machine, and etc. as essential tools to compete in the market (Kaplan & Norton, 2004). Knowledge residing in each employee should be utilized and shared so that organizations would be able to respond and deliver values to consumers. Many organizations, including Ramkhamhaeng University (RU), are introducing Knowledge Management (KM) processes into their operations. Knowledge Management process is an important tool to develop knowledge, skills, and capability of people in organizations (Nonaka, 1994). These processes aim at discovering and capturing tacit knowledge and make them explicit to be shared and applied in organizations (Fernandez, Gonzalez, & Sabherwal, 2004). It is a social interaction process that can create a knowledge community (Raza, Kausar, & Paul, 2007).

This paper investigated problems and obstructions of the KM process at RU both in the academic and administrative parts. The identification of problems and obstructions against the implementation of KM would provide an insight regarding the barriers and lead to the development of appropriate strategies to promote KM in RU and similar kinds of organizations. It will become the basis for RU to conduct further research in KM and relevant issues.

LITERATURE REVIEW

Davenport and Prusak (2000) maintained that knowledge is the integration of experience, values, understanding of context, and wisdom. This integration becomes the frame of reference that people use to appraise new experience and information. Knowledge in organizations is accumulated in employees, documents, work processes, and norms. It should be shared among personnel. Davenport and Prusak (1998) suggested that KM offered several benefits to organizations including leveraging core competencies, accelerating innovation, improving cycle times, strengthening organizational commitment, and building sustainable competitive advantage. KM focuses on organizing and making important knowledge available when and where it is needed. In order to obtain such benefits, organization should devise a process to tap the knowledge residing in the minds of employees or leaders and share it to others.

Knowledge can be classified into tacit and explicit knowledge (Awad & Ghaziri 2004; Choo, 2000). Tacit knowledge refers to personal insights, experience, and intuitions (Duffy, 2000), that is not organized so it is difficult to express and formalize. This kind of knowledge is personal and is difficult to delineate to others. Explicit knowledge refers to knowledge that is structured and documented (Duffy, 2000). This type of knowledge can be readily read or shared with others. Much knowledge for academic purposes is compiled into explicit forms such as books, video tapes, audio tapes, and others while some knowledge among the administrators were exchanged through face-to-face communication basis and were not recorded in an explicit form. Markus (2001) argued that only explicit knowledge could be processed by information technology. Hence, an important step in KM is to make tacit knowledge explicit.

Knowledge Management

Gordon (2005) and Smith, Collins, and Clark (2005) agreed that KM was related to the creation of a learning culture where organizational members gather knowledge and share it with others. Freeze and Kulkarni (2007) supported that expertise, lessons learned, policies, procedures, data, and knowledge documented are important intangible knowledge assets that organizations could leverage upon. KM is a cultural and organizational issue rather than a technological issue (Brand, 1998). For example, Ardichvili et al., (2006) found that cultures high on power distance tend to share less knowledge, in spite of available technology. Fernandez, Gonzalez, and Sabjerwal (2004) defined KM as "doing what is needed to get the most out of knowledge resources" (p. 2). KM aims at tapping and utilizing tacit knowledge of all employees in the collective level. Dyer and McDonnough (2001) provided empirical evidence suggesting that KM influenced the improvements in the individuals, processes, products, and organizational performance level. They also found that top three reasons US firms use KM were (a) to retain expertise of employees, (b) to enhance customer's satisfaction, and (c) to increase profits.

Nonaka and Takeuchi (1995) suggested a model to transfer tacit knowledge into explicit knowledge. This model is named the SECI-Knowledge Conversion Process Model. The model describes that an individual employee captures explicit knowledge from his/her exposure to external sources such as customers, suppliers, competitors, the public, and etc. This knowledge is linked and combined with current personal frame of reference to create personal understanding of the issue or know-what. After practicing the knowledge learned, that knowledge is internalized into personal experience and wisdom, i.e. tacit knowledge or know-how. The new tacit knowledge, then, is socialized through dialogue with others and organized into explicit knowledge for further externalization.

Previous research suggested various steps for the management of knowledge. Marquardt (1996) suggested knowledge acquisition, creation, storage, and transfer. Demarest (1997) suggested knowledge construction, embodiment, dissemination, and utilization. Probst, Raub, and Romhardt (2000) suggested knowledge identification, acquisition, development, transfer, storing, and utilization. And lastly, Turban and Aronson (2001) suggested knowledge acquisition and creation, organization and storage, distribution, and application. These steps help converting knowledge from external sources to be internal. In this paper, the said KM steps were combined into 4 steps, i.e. knowledge acquisition and creation, storing, distribution, and application. Greiner, Bohmann, and Krcmar (2007) suggested there are relationships between the implementation of KM programs and business strategy. The KM processes should have a strategic focus in order to have a scope on selective information and knowledge that are relevant to the strategic decisions.

Knowledge acquisition and creation

Knowledge acquisition and creation is a dynamic social process through the interaction between tacit and explicit knowledge (Nonaka et al., 2000). Tacit or explicit knowledge can be captured from external sources or across departmental sources through activities such as benchmarking, conferences and seminars, meetings, mass media, etc. This knowledge is learned and synthesized with existing knowledge to create new sets of knowledge, which are later organized into new sets of explicit knowledge in the organization or department. This process includes the transfer of tacit knowledge from one person to tacit knowledge of others as in case of apprenticeship. It can be the transfer of tacit to explicit (externalization), explicit to tacit (internalization), and explicit to explicit knowledge. The acquisition and creation of knowledge is a social construct resulted from the interaction among data, information, knowledge, wisdom of personnel, and environment (Faucher, Everett, & Lawson, 2008).

Knowledge storing

Knowledge created or acquired should be organized into categories. These categories can be either memorized among staff or documented. The storing of knowledge should take into consideration the accuracy and convenience in retrieval. Electronic devices can be of great help in this process as Fernandez, Gonzalez, and Sabjerwal (2004) had described that modern technology enables the KM process. Information Technology enables the implementation of KM in sorting, storing, and retrieval of large amount of information as well as to distribute them. Hall (2000) emphasized the need to use codes that personnel are able to interpret, the ability of personnel to decode stored knowledge is crucial for transferability of knowledge.

Williams (2006) argued that knowledge is dynamic and is subject to change. Knowledge stored should receive periodical review and updated. KM is not simply about recoding knowledge but needs to address which piece of knowledge is implicit and the way to derive benefits from such knowledge, hence, the process is more important than the content (Gao, Li, & Clarke, 2008).

Knowledge distribution

Organizations should devise methods to disseminate information to relevant personnel in an appropriate and timely manner. Planning for communication system is essential, for example, internal memo, reports, bulletin board, training, briefing, or grapevine, etc. The organization should distribute knowledge rather than recommendations based on the knowledge across individuals, groups, departments, or organizations in an effective manner to enhance creativity and innovation (Alavi & Leidner, 2001). Socialization facilitates the dissemination of tacit knowledge while formal communication facilitates the exchange of explicit knowledge. Knowledge distribution might become a power play in organization (King, Kruger, & Pretorius, 2007). Those who possess information or knowledge might choose to withhold some in order to increase their power in the organization. The organization culture is an important factor in smoothing the process of knowledge distribution.

Knowledge application

Knowledge distributed should be utilized else it becomes useless, if not bothersome. Personnel in organization should infuse knowledge received into their normal operations and decision processes so it becomes their tacit knowledge. The application of knowledge might come in the form of giving direction or routines in operation (Grant, 1996). Persons who have knowledge might direct the action of others without transferring the knowledge underlying the direction. Moreover, knowledge can be formed into procedures, rules, and norms that guide behaviors in the future. The attaining of competitive advantage is through competent knowledge application based on good judgment and decisions (Gronhaug & Ottesen, 2007). Competencies could be developed through knowledge application process (Lustri, Miura, & Takahashi, 2007).

A Case Study of Ramkhamhaeng University

Ramkhamhaeng University (RU) is an open-admission public university established in 1971 in Bangkok. Entrance examination is not required. Applicants who possess grade 12 or high school certificate can apply to the university with no restriction. Hence, a large number of students turn from other universities that admit limited number of students, to RU. The university has to facilitate the teaching of more than 600,000 students as of 2006 (Saengsook, 2006b) with 4,465 personnel (as of February, 9, 2006, Saengsook, 2006a). Two options were created: students can choose either to attend classes at the campuses or study by themselves. Students who can not attend classes can purchase texts and study by via television or radio broadcast but they have to take exams at the university with other students. Furthermore, RU started long distance video conference system teaching via satellite signal relay in 1995 to regional campuses and broadcasted to television in the following year (Ramkhamhaeng, 2007). In 2007, RU has 22 regional campuses, 36 regional examination centers and 47 regional academic services centers for special programs throughout Thailand. Moreover, RU offers programs of study in 28 foreign countries with 37 examination centers to facilitate undergraduate and

graduate programs for Thai people living abroad. In 2007, the university offers 194 programs of study in 9 faculties and one graduate school including students from over 50 countries in the Institute of International Studies. Apart from an e-University project, RU initiated a "Mobile University" project that have 2 sets of IT coaches and satellite trucks equipped with computer and satellite hook-up to bring computers and the internet to remote areas in nearly 70 provinces for education purpose. More than 60,000 learners have joined this project (Office of the President, 2008).

Activities in RU can be generally divided into the academic part and the administration part (Saengsook, 2007). This is equivalent to the division between line and staff functions in businesses (Kreitner, 2004). The academic operations are closely supervised by two governmental offices namely, The Commission of Higher Education (CHE) and The Office of National Education Standards and Quality Assessment (ONESQA). Education institutions in Thailand are regulated by many authorities but these two offices have direct jurisdiction over education in the country (National Education Act, 1999; and Royal Decree, 2000). Periodical reports must be submitted and regular visits from the offices are mandated. ONESQA requires that Key Performance Indicators (KPIs) be established to maintain academic quality. Hence, activities in the academic parts are usually well organized into explicit form in term of books, reports, and etc. for reporting purpose. The teaching and learning process are documented in details and shared. Teachers can pass their texts and teaching notes to others. The administrative activities are left to the university's management with less scrutiny by the government. Knowledge in the administrative part is managed in less stringent manner and many of them are discussed and exchanged only among a handful of personnel. Only some of the knowledge is shared to others in the form of internal orders, memorandum, policies, etc. Hence, it is interesting to study the KM process in RU. Researches regarding the administration of KM process in RU are rare and have narrow focus. This project is the first research project that examines KM process in the bird-eye level of the entire university.

METHODOLOGY

This research was designed as an exploratory research to explore problems and obstructions in the practices of KM steps among personnel in RU using Delphi technique to obtain information. Informants were long time veterans in the university who had witnessed the development of RU throughout their tenures.

The researchers recruited personnel who were involved with the management of knowledge in RU from three levels: administrators, faculties, and staff, in order to gain information from different perspectives. Six informants in each group were selected based on their tenures, knowledge about the implementation of KM at RU, and their willingness to participate in the project. The administrator group included president, vice president, dean, and directors to provide information in the overall level. Information in the operational level was collected from the faculty, for the academic part, and the staff, for the administration part. The faculty group was composed of six instructors whose tenure were more than 10 years from major departments because they knew historical background and were exposed to various KM activities. The staff group was composed of six staffs whose tenures were more than 10 years from various departments.

The researchers collected information from documents and non-directive, in-depth interviews with the aforesaid experts regarding the knowledge management of both academic and non-academic activities in RU classified into four categories, i.e.,

knowledge acquisition and creation, knowledge storing, knowledge distribution, and knowledge application. The results were content analyzed based on their meanings and organized into a 5-point Likert scale instrument. Part one of the instrument elicited information regarding KM activities of the university classified into four categories. Part two included problems and obstructions of the activities. This questionnaire was commented by 5 specialists in KM field of study for the content and external validity. The revised questionnaire was submitted to 18 experts to complete. Median and Inter Quartile Range (IQR) were calculated for each question. These statistical results were included into the questionnaire and returned to the experts for the second round questionnaire administration. The experts were exposed to the statistical results and had opportunity to reconsider and change their answers.

RESULTS

Major KM activities performed in RU during 1971-2007 were summarized in order of appearance as follow:

Knowledge acquisition and creation

1. Many instructors were recruited so the teaching activities could be performed during the early period of operation. These instructors brought with them a lot of tacit knowledge to the university.
2. Teachings were performed to large numbers of students sectioned into many classes. Closed-circuit television was introduced to allow a small number of teachers to teach many classes at the same time. This paved the foundation of tele-teaching knowledge to RU.
3. The use of computer system for student registration process. RU recruited a lot of computer personnel to handle the tasks, hence adding technicians to the university.
4. Grading of multiple choice questions were done by computer. Suppliers of computer systems transferred knowledge to RU.
5. Consultants were hired to set up the administration and management system to handle a large number of students.
6. Trainings were organized for personnel who had to pose at regional centers so they could relay university's information to applicants and students, and to solve administrative problems at the centers.
7. The university started programs to develop various skills for personnel such as English as well as career training and others.
8. A committee was established to develop work practices to handle work problems.
9. Research knowledge development program was established.
10. Bar code system was introduced to collect information about students' records and profile.
11. Satellite broadcasting and fiber optic systems were established to create two-way communication system between students and the university.
12. On-line library network that could connect to other libraries was established.
13. The internet was utilized in tele-teaching and video conference. Hence, personnel needed to learn this knowledge from external consultants.
14. The information and technology center was established to provide academic and research services.

15. Collaborations with foreign university were arranged to support and promote research projects among personnel.
16. CD-Rom and e-Book texts were purchased and upload onto RU's "Netlibrary."
17. Scholarships were commissioned for personnel to pursue their studies abroad.

Knowledge storing

1. Teachings were recorded in video tape to be broadcasted in purchased time slot in public television.
2. Teachings were audio recorded so that students could borrow tapes for self-studying at home.
3. RU motivated instructors to publish texts for use in the university.
4. Regulations and policies regarding registration as well as semester schedules were documented.
5. Microfilms were introduced to record students' profile and other statistics.
6. An emphasis was given to speed and effectiveness of document storage.
7. Database and on-line system of RU were established.
8. Manuals for work practices in various departments were published.
9. Various departments started their periodicals.
10. Several investment projects in technology and teaching media were approved.
11. The computer center started to create the main database and collected information from all departments.
12. Research projects were published in RU's journals and documented in the library.

Knowledge distribution

1. Meetings were organized rather often because the university was newly opened with limited numbers of personnel. These personnel should be capable to replace others when necessary. Circulations and announcement boards were used to pose news and regulations.
2. Internal voice-cable broadcasting was implemented to announce information in the open space in the main campus.
3. Trainings were organized for personnel to unite practices at the main campus and provincial centers.
4. Publications were distributed both internally and externally in the form of academic articles, information, and news.
5. Academic and policy trainings and seminars were organized among departments.
6. Mass media were used to distribute knowledge to personnel.
7. Brochures containing university information and programs were produced and distributed.
8. More activities were performed through satellite system.
9. Database could be accessed on-line through the internet in the main campus and provincial centers.
10. RU collaborated with the Foreign Affairs Ministry to set up examination centers in various cities such as Washington, D.C., New York, Stockholm, Sydney, Tokyo, and etc.

11. Activities among personnel from different departments were organized to create trust and willingness to share knowledge among them.

Knowledge application

1. Personnel were allowed to participate in the design of work practices.
2. The use of computer enabled personnel to work more effectively.
3. Personnel who went to serve at provincial centers requested for information in their jobs.
4. Allied universities and education institutions in the provinces provided assistance and guided RU personnel's activities in the provinces.
5. New technologies were utilized in RU activities.
6. Activities were broadcast to motivate personnel to use knowledge in their works.
7. Academic titles were rewarded to stimulate personnel to utilize knowledge.
8. Applied research projects regarding problems in works were promoted to improve the efficiency.
9. More budgets and resources were allocated to utilize knowledge among personnel.
10. Personnel possessed more knowledge and had higher education and they could utilize knowledge in their works.
11. Research grants and awards were budgeted to stimulate the application of knowledge.
12. Supports in many forms were provided for personnel to write articles and texts.

Problems and obstructions

The experts agreed that problems and obstructions in the implementation of KM process at RU were as follows:

1. Personnel lacked knowledge regarding the processes and practices in KM.
2. Many personnel, especially those with long tenures, resist to changes.
3. Personnel did not realize the significance of sharing knowledge but wanted to protect their territories from others.
4. Interpersonal relationship across departments was at low level.
5. KM was not immersed into the organization's culture.
6. While IT infrastructure was sufficiently provided, some personnel did not have sufficient capability in using modern them while some did not utilize it despite their existing capability.

DISCUSSION AND RECOMMENDATION

During the first decade of the university (1971-1982), budgets and human resources were limited. The university started to establish the university-wide management and operation systems. The administrators spent much of their time solving operational problems. The most evident KM activity at the time was the acquisition of knowledge from outsiders. Much knowledge was obtained from the suppliers of equipment to the university and invited consultants and teachers. Personnel's work focused in forming up work systems in their departments. There were little exchange of information and knowledge across functional areas. During the following decade (1983-1993), the operations were more settled and there were less operational problems. The

university started to expand and recruit more students. There was a need to manage the vast amount of information regarding registration and teaching process. Hence, RU started to purchase and utilize IT system to organize information. Knowledge from various departments and individuals was collected and input into the system. In this decade, RU emphasized more on the storing of knowledge. Much tacit knowledge was converted into explicit knowledge to be stored. Knowledge during this period was organized and codified. The following period (1994-2007) marked a huge advancement in KM at RU. The university was well established. The university could generate sufficient revenues to invest in computer infrastructure, for example, wi-fi system was installed throughout the main campus. Knowledge codified in the previous periods could be integrated. Policies based on explicit knowledge were made. The expansion, in number of students and locations, led to the need for better standardization of knowledge or to share explicit knowledge among personnel. KM activities in all areas had increased many folds.

The knowledge acquisition and storing activities were much in orders with rules and procedures governing these activities. Budgets were allocated to build knowledge for people in the forms of allowances for scholarships, research grants, conferences, meetings, workshops, and etc. with accompanying rules and procedures. Multiple means for storing knowledge were created. Information and knowledge could be retrieved from the extensive database network installed and internal communication system. The most evident problem, at the time of study, was regard to the application of knowledge. This problem was mostly centered on people.

Although much knowledge was openly distributed, many personnel do not incorporate it into their arsenals. Many personnel kept performing their work in the way they were used to. Many did not know or understand the reasons why they have to switch to report on-line or should participate in KM activities. Some thought KM was an extra burden hence they were unlikely to accept it. Many problems regarding KM implementation occurred at the individual level because the personnel resisted change. Considerations and plans should be made to initiate a change process in the institution.

Robbins and Coulter (2007) suggested seven actions to deal with resistance to change. These actions included providing education and communication, allowing for participation, facilitation and support, negotiation, manipulation, focusing on people who accept change, and lastly, coercion. Moreover, the change should be implemented gradually, starting from the smallest units and expand later. Change agent should be recruited to catalyze the change. Opinion leaders among personnel should be identified to focus the change attempts upon.

Education and communication

Many personnel did not understand KM and the reasons to use it. Attempts should be made, especially for opinion leaders, to create a better understanding about KM process. Personnel should learn the relevancy of KM to their jobs and career. Opinion leaders would help clarifying KM concepts and steps to implement it among colleagues. An understanding in the importance of KM to the individual and the organization would help decreasing the territorial problem. Once personnel accepted KM, they would learn the ways their jobs were related to others. Allowing others to assist in their jobs could not take the jobs, or positions, from them but to increase their productivity and to make the jobs flow more smoothly. Individuals would gain benefits from accepting KM.

Allowing for participation

Allowing for participation has two benefits, i.e. ideas generated and motivation. If incumbents are allowed to participate in the KM process, they would learn it more thoroughly. They have hand-on experience in their jobs so they could contribute relevant ideas and opinions for the process. Moreover, participation helps increasing commitment. Personnel who participate in the planning for implementation process, personnel would feel obligated and motivated to help pushing the project.

Facilitation and support

One of the problems was that while IT system and database were readily available but some personnel lacked skills to use them effectively. Supports and policies should be made to help personnel learn about IT system and especially on how to use them to facilitate their works. Personnel who lacked IT proficiency would find it difficult to use and hence would be unlikely to utilize it. Knowledge in the information system is important for KM. Apart from published documents, a large amount of knowledge were stored and distributed through IT system. Without proper knowledge and skills in using the IT and equipment, personnel cannot utilize knowledge stored in the database system for research or work practices to its full potentials and they would find it difficult to share information with others. Moreover, the database should be organized in a user-friendly format. Documents, texts, journals, and other printed media should be sufficiently available for reference.

Negotiation

Negotiations should be made with personnel and rewards should be provided to stimulate the acceptance of KM. Administrators should listen to personnel's objections against KM and act accordingly. Reward is a good motivator to generate the acceptance of KM. Moreover, by offering rewards to certain behaviors, the university could communicate to personnel that these behaviors are preferred and valued. This would help establishing to culture in RU for KM.

Manipulation

RU should find some ways to manipulate the works so personnel would need to contribute knowledge learned from external sources to the organization as well as to use knowledge stored in the database in their works. Work structures should be designed in the way that requires personnel to retrieve and apply knowledge stored rather than making decisions based on personal experience and habit. Since all departments were mandated to participate in the Quality Assurance (QA) process, it can be used as a tool to acquire tacit knowledge from personnel and turn them into explicit knowledge. Moreover, non-work activities such as sport days or outings should be organized so that personnel from different departments would get to know each other. This would reduce the barriers among departments and help to develop cooperation among personnel.

Focusing on people who accept change

People had various traits and characteristics. Some were more readily to adopt new things rather than others. Roger (1983) classified people into innovators, early adopters, early majority, late majority, and laggards. Change agents and opinion leaders should help to identify innovators and early adopters. Attempts for KM should be first applied among personnel who are innovators and early adopters. They are willing to try new

things. Other people do not want to make the first move and change, attempts toward them would yield little result.

Coercion

Coercion is one of the methods to create change. However, in the context of a university, this should be avoided at all costs because it would create long term negative consequences. Especially for KM, the emphasis should be on creating understanding rather than coercing people to follow without knowledge about it.

CONCLUSION

In conclusion, the major obstacle to KM implementation at RU was the resistance to change. Human resources department should be more proactive in leading the change process. This research focused on the KM implementation in the university-wide level. Future research should be performed at departmental level and results could be compared to identify factors that would assist the process among departments. Moreover, different methods to promote KM among personnel in different hierarchy might be needed. An investigation among personnel in each level might provide a good insight into the KM implementation of the university. A research project regarding KM process in other organization would also provide more insights into the utilization of KM concepts in Thailand.

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ATTRIBUTES OF ENTREPRENEURIAL VENTURES: A GUIDE FOR CURRICULUM DEVELOPMENT IN ENTREPRENEURIAL EDUCATION

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ABSTRACT

According to Hisrich and Peters, "there is no such thing as a "true entrepreneurial profile". This statement provides us no common denominator that would describe an entrepreneur. With this, it is deemed necessary to conduct study on the attributes of entrepreneurs and factors that make them successful. Findings of the study may help entrepreneurship educators in their curriculum development. It will help them determine which entrepreneurial attributes needed greater emphasis. The results of the study will guide entrepreneurship curriculum designers determine areas that may be included in the syllabus or curriculum.

The study focused on the association between the attributes of selected micro-entrepreneurs in Baguio City and Benguet Province and the indicators of enterprise success. The attributes of micro-entrepreneurial ventures were: personal factors, marketing factor and management factors.

The personal attributes were limited to age when business started, gender, educational attainment, and birth order. Marketing was studied through the marketing variable, promotion. Management was studied through the management functions of planning, organizing, leading and controlling.

The result disclosed that the association between the promotional tools and sales and expenditures as indicators of enterprise success is high. Furthermore, planning function proved to be significantly associated with sales and expenditures.

INTRODUCTION

The earliest usage of the term entrepreneurship is recorded in the 17th century. It is generally acknowledge that Richard Cantillon (1680-1734), an Irish Banker who lived in France, coined the term entrepreneur. Cantillon described the entrepreneur as someone who buys goods and services at certain prices with a view to selling them at uncertain prices in the future. By the latter part of the 20th century, the idea of innovation and newness were attributed to the entrepreneurs. Indeed, the act of introducing something new is one of the most difficult tasks for the entrepreneur. The innovation can be demonstrated in many ways; an introduction of a new product, new distribution system, or new process in producing goods. Indeed, entrepreneurship has made a significant impact in the lives of the people all over the world—then and now.

In the Philippines, entrepreneurship is a recognized program/approach for economic development. As to the 2003 National Statistics Office (NSO) data, 70% of the employment was contributed by the micro, small and medium enterprises. Thus, the government through its agencies encourages more people to engage in entrepreneurship. The Bureau of Small and Medium Enterprise Development is mandated to develop and promote micro, small and

medium enterprises in the country by advocating policies, programs, and projects. The R.A. 9178 or the Barangay Micro Business Enterprise Act of 2002 was also enacted to encourage the formation and growth of micro enterprises. The Commission on Higher Education (CHED) also believes that it will benefit the country if a large percentage of enrollees pursue studies in entrepreneurship and eventually start their own business. Moreover, it considered the need to provide formal education and training for entrepreneurship. In fact, it approved the BS Entrepreneurship programs. With the collective effort of these government agencies, more and more people are hoped to engage in entrepreneurship. Data shows that in 2004 there are a total of 4,489 businesses registered at the Department of Trade and Industry in Baguio City and Benguet Province.

Well, people today envision themselves becoming successful entrepreneurs. However, making an enterprise successful requires a high degree of effort in an environment where consumers are becoming more and more difficult to satisfy (Edralin, 1998, p.01). Nevertheless, Kanungo (1998) said that entrepreneurial success is often highly correlated with entrepreneurial characteristics, managerial processes and effective support system. He further said that these are the three dimensions deemed to collectively determine business success. Similarly, many management researchers believe that it requires a certain special type of personality to be successful entrepreneur (Dollinger, 1998, p.209).

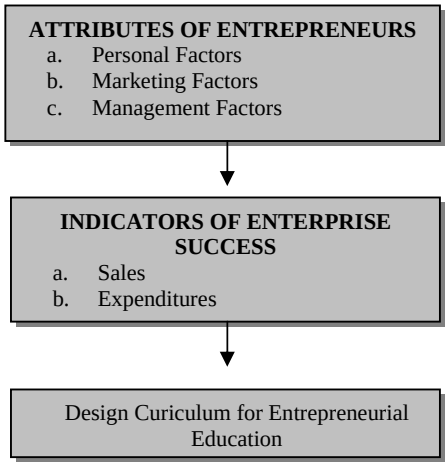
Primarily, the study aimed to recognize the attributes that are instrumental to the success of micro-entrepreneurial ventures in Baguio City and Benguet Province. Further, it sought to know if there is significant association of the entrepreneurial venture's success among the Baguio-Benguet micro-enterprises as to entrepreneurial venture's attributes.

The results of the study will guide entrepreneurship curriculum designers determine areas that may be included in the syllabus or curriculum.

METHODOLOGY

2.1. A Framework Analysis

Figure 1 Expected association between attributes of entrepreneurial ventures and indicators of enterprise success.



The framework utilized the input-process-output model. It shows the association of the attributes of entrepreneurs and indicators of enterprise success. The inputs signified by the attributes of the entrepreneurs focus more on the personal factors, marketing factor and management factors. The processes observed in this study are the sales generated and expenditures incurred by the selected entrepreneurs. It is expected that the attributes of entrepreneurs can explain the enterprise's success in order to attain the desired output. In this study, the desired output is to come up with development on entrepreneurship curriculum.

The framework provides a checklist for which entrepreneurial attributes can contribute to the success of the enterprise.

This research was inspired by the study of Kanungo (1998) that the success of entrepreneurs could be attributed to the entrepreneurial characteristics, managerial processes and effective support system. The characteristics identified for this study were limited to age when business started, gender, educational attainment, and birth order, marketing which was studied through the marketing variable, promotion, and management factor was studied through the management functions of planning, organizing, leading and controlling.

Certainly, everyone would agree that there is no one best way of preparing oneself to become innovative entrepreneur than to be well-educated, well-knowledgeable, and well trained on this field. That is why, heeding the call for a paradigm shift in some of our colleges and universities all over the world who have greatly expanded their courses on entrepreneurship and small business management in recent years. While some people believe that entrepreneurs are born not made, most entrepreneurs themselves and professional educators believe that most people benefit a great deal from formal courses on how to start and operate a small business (Cunningham, Aldag, and Stone, 1996, p. 211).

2.2. Hypothesis test

The study was guided by the following hypothesis: There is no significant association in the entrepreneurial venture's success among Baguio micro-enterprises as to: personal, marketing and management factors.

2.3. Statement of the Problem

The study postulates that micro-entrepreneurial venture's success is dependent on the personal characteristics, marketing and management factors.

Generally, the study aimed to recognize the attributes that are instrumental to the success of micro-entrepreneurial ventures in Baguio City and Benguet Province. Specifically, the study sought to disclose answers to the following problems: (1) What are the characteristics of an entrepreneurial venture as to: personal, marketing, and management factors?; (2) What are the indicators of enterprise success brought about by the characteristics along: sales and expenditures? And (3) is there significant association of the entrepreneurial venture success among Baguio-Benguet micro-enterprises as to: personal, marketing, and management factors?.

2.4. Population and Sample size of the Study

The respondents were the micro-entrepreneurs of Baguio City and Benguet Province who started their business not beyond the year 2002. This is to make sure that the respondents were experiencing success of business.

The purposive non-random sampling was used to choose the entrepreneurs included in the sample. Non-random sampling is a methodology where not all members of the population are given equal chances to be chosen. It makes use of judgment in the selection of items to be put into the sample. The purposive sampling is based on the criteria set by the researcher (Pagoso, Garcia, and Guerrero De Leon, 1992, pp. 47-48). In this study, the criteria set to screen the respondents were: (1) if entrepreneur's initial capitalization was not above Php 150,000.00; and (2) if he/she started business not beyond year 2002. Based on the set criteria, a sample of 45 respondents was selected from the 90 questionnaires distributed to potential respondents in Baguio City and Benguet Province.

2.5. Research Design

The questionnaire, key informants' interview and Focus Individual Discussion provided the information for the data analysis. The data gathered were presented in tabular and textual forms to facilitate meaningful description, analysis and interpretation. Further, the data were subjected to statistical tests, like the Gamma (γ) and Lambda (λ) measures of association. The Gamma (γ) coefficient was also tested to determine whether the observed proportions exhibit a real association.

The measures of association were versatile tool because they could provide directional measures of association. The Lambda (λ) was used to measure the association of nominal variables. Where, the Gamma (γ) was used to measure association of the ordered categorical variables. Gamma provided a directional measure of association taking on the values of -1 to 1.

2.4. Methodological Limitations

The basic limitation of this study is that the result was based on the responses of the selected 45 respondents. The number of the respondents may not give a general view on attributes of entrepreneurs. Thus, the application of the result is applicable on the area where the research was conducted. This needs further research.

Another limitation is that the results may not be applicable in all situations considering that test of association was used in the study. Further, may not be appropriate to other educational institutions. The results may only be applicable in the local area where the research was conducted. This needs further research and be extended to other areas.

Finally, the study focused on the attributes of entrepreneurial ventures and did not seek data on curriculum development.

FINDINGS

Table 1 presents the association between promotion variable and the indicators of enterprise success.

Table 1
Result of Association between Promotional Tool and Indicators of Enterprise Success

Attributes of Entrepreneurial venture and Indicators of Enterprise Success	λ value	Interpretation
Promotion and Sales	**0.50**	High association
Promotion and Expenditures	**0.51**	High Association

If there is one thing that an entrepreneur must embrace on a lifetime when he engages in business, it has to be the concept of marketing. Orcullo (2000) contends that for a true and blue-blooded entrepreneur, the market aspect should always be given due importance. This postulation is for the simple reason that: "no matter how good or excellent the product is technically, it is nothing if there is no buyer in the market".

The result confirms the argument stated above. The Lambda coefficient of λ=0.50 shows a high association between the sales and the promotion. The result shows that promotional tools are high boosters of sales. Further, it supports the assumption that with promotional tool, product is better known. No matter how small the operation of the business is, promotion is an important tool to be competitive in the market.

This runs parallel with Hatten (2003), who pointed that advertising and personal selling are used on continuous basis, whereas sales promotions are intermittent. A strategy that combines all these can produce a ratchet effect on sales. Advertising is used to increase customer interest, whereas personal selling is used to increase sales. Sales promotions at the point of purchase are usually used to increase sales over a short period of time.

Entrepreneurs can employ a wide variety of basic and inexpensive promotional tools. In her study, Ebes (1994) recommended that small entrepreneurs who cannot afford to advertise in more expensive medium like print and television should join trade fairs to help promote their products and therefore boost their sales. Similarly, Hatten (2003), and Cornwall, Vang, and Hartman (2004) believe that business cards are a good way for the small business to promote itself and are often one of the first marketing tools for any entrepreneur. Further, Cornwall, Vang, and Hartman (2004) said that discounts help move the customer to action. In the same light, Orcullo (2000) said that with the advent of computers and mobile phones, more and more entrepreneurs are relying on the use of these global gadgets to promote their products.

Entrepreneurs take hard work to promote their products to increase sales. Promotion is not limited to high-end businessmen, an interview with the respondents reveal that they believe in promoting their products at least once a year.

It is also known that promotional tools add up to the firm's total expenditures. The Lambda coefficient of λ=0.51 shows a high association between the promotional tools and expenditures as an indicator of enterprise success. This means that entrepreneurs are likely to incur any of the expenditures levels as they utilize more promotional tools. Ebes (1994) pointed out in her study that most of the entrepreneurs have limited geographical coverage due to lack of promotional mechanisms. Half of her respondents do not attend trade fairs held outside of Metro Manila where although it allows them the value to meet foreign institutional buyers. To the entrepreneurs, they see trade fairs as expensive particularly when they cannot negotiate good prices for their products.

Table 2
Result of Association between Planning and Indicators of Enterprise Success

Attributes of Entrepreneurial Ventures and Indicators of Enterprise Success	**γ value**	**Interpretation**	**P value**	**Findings**
Planning and Sales	0.38	Moderate positive association	0.01	Significant
Planning and Expenditures	0.35	Moderate positive association	0.01	Significant

Table 2 above shows the test of association between the management function of planning and sales and expenditures as indicators of enterprise success.

The result runs parallel to Kanungo's (1998) study that the success of entrepreneurs could be brought by managerial processes.

All managers in daily events must have the capabilities to recognize performance problems and opportunities, make good decisions and take appropriate action; they do these through the process of management (Schermerhorn, 2002, p. 20). Also according to Hatten (2003), a good management or adequate management brings about success and that the first function of good management is planning.

Undeniably, planning is a vital factor in an enterprise's success. The statistical result of Gamma test shows a computed coefficient of 0.38 indicating a moderate positive association. Though the Gamma test predicts only 38% of the association, the *p*-value of 0.01, which is lesser than the 0.05 level of significance, permits the acceptance of the hypothesis. This suggests that sales are dependent on planning function of management. The more the entrepreneurs exercise planning is an indicative of higher sales.

Getting a small business started and keeping it successful does not happen by accident. Planning is required in order to gather the resources needed and to allocate them wisely. While some successful businesses have been formed without a formal plan, none was created without planning. The most important thing about business planning is not the written plan that is produced; it is the strategic thinking that goes into the writing (Hatten, 2003, p. 69).

Likewise, Siropolis (1997) claimed that one of the reasons of business failure or success is planning. He further said that businesses that do prepare business plans have a

greater chance of success. On the other hand, businesses that do not prepare business plans have a greater chance of business failure.

Furthermore, the data reveals that there exists a significant association of expenditures by the micro-enterprises as to planning function of management. The study confirmed that majority of the entrepreneurs carefully plan to keep their expenses within calculated risk.

Planning is visualizing the future before action has begun. If the entrepreneur is able to plan well, he will be able to foresee and therefore cope up with uncertainty and change. Planning minimizes cost because errors in production and other areas of your business can be very expensive (Serdef, 1997, p. 99).

According to Jan King, one of the key success factors applicable for any start-up small businesses is to continuing to reduce overhead costs. A lower overhead costs should be continuing objective for any business.

DISCUSSIONS ON CURRICULUM DEVELOPMENT

The focus of this study is to develop/enhance curriculum on entrepreneurship based on the findings. So far in this paper, the following two areas discussed below needed attention in the curriculum development/enhancement for training future entrepreneurs.

4. 1. Promotional tools

The findings on this paper could be said that promotional tools, particularly the inexpensive promotions, are deemed necessary in the success of micro-entrepreneurs. Though discussions on promotional tools are incorporated in the marketing subject, there still a need to improve the syllabus to enhance the promotional skills of students training for entrepreneurship. One of the introductions could be institutionalizing a promotional competition and exhibit among students as an academic requirement. Also, an immersion activity for students could be requiring them to develop promotion activities for existing entrepreneurs.

4.2. Planning function.

Planning function of management proved to be significantly associated with sales and expenditures. It is concluded that micro-entrepreneurs need to carry out the planning function to generate sales and to lower expenditures. With this result, the students may be required to make business plans for themselves or for the local entrepreneurs. Preparing business plans for the local entrepreneurs is an immersion activity for the students. The educational institutions may also cement linkages with the DTI in order to create a library of feasibility studies or *business* plans. The library is where the students' business plans and feasibility studies be filed. The students may be responsible for planning and promoting the library for them to sharpen their planning and promoting skills.

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LOGISTIC REGRESSION FOR DETERMINING FACTORS INFLUENCING STUDENTS' PERCEPTION OF REPUTATION OF AN ODL INSTITUTION

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ABSTRACT

In today's competitive higher education environment, an institution needs to be pro-active in generating higher revenue and also to remain ahead of its competitors. There are basically two ways to increase revenue, that is, to increase new intakes and to retain a maximum number of existing students. In the case of the former, one of the best strategies to adopt is to utilise the institution's own students to attract others to enroll. The strategy will be successful if the students believe very strongly in the reputation of their university. The objective of this study is to determine the satisfaction factors that contribute positively to students' perception of reputation in OUM, the first ODL institution in Malaysia. The study employs logistic regression technique. Based on a sample of 2,662 students in 2007, the study found that the significant predictors for institution's reputation were "Teaching and Learning", "Learner Centredness" and "Student Affairs Management"; the odds ratio indicated that "Teaching and Learning" has the highest impact on the outcome variable, followed by "Learner-Centredness" and "Student Affairs Management". However, the logistic regression model adopted in this study explained only 19.0% of the variation in the outcome variable, indicating that there is a need to identify other variables in future research in this area.

INTRODUCTION

In the last two decades, Higher Education Institutions (HEI) have experienced quite a number of profound changes. The higher education environment is now very competitive, and it threatens the survival of some existing institutions; the institutions are forced to compete with scarce resources for a greater number of students, and even worse to face stiff competition from other institutions to recruit students from the same education market. In the future, as the mobility and employability improve for students, professors, researchers and technicians, the less competitive universities may face the risk of losing a good proportion of their students and human capital. Given this situation, many universities may not be able to sustain or survive.

In order to remain ahead of its competitors, an institution needs to be pro-active in generating higher revenue. There are basically two ways to increase revenue, that is, to increase new intakes and to retain a maximum number of existing students. In the case of the former, one of the best strategies to adopt is to utilize the institution's own students to attract others to enroll. The strategy will be successful if the students believe very strongly in the reputation of their university.

What does reputation mean? According to Selnes (1993) reputation refers to the customer's attitude towards the service provider or brand. It can also be interpreted as the overall perception of a company, what it stands for, what it is associated with, and what

may be supposed to get when buying the products or using the services of the company (MacMillan et al., 2005). Thus, a company's reputation reflects the history of its past actions (Yoon et al., 1993). Reputation is presumably established and developed in the consumers' mind through communication and experience. It is claimed that when customers are satisfied with the services rendered, their attitude toward the company is improved.

What about satisfaction? Satisfaction measurement is difficult to obtain as it is similar to attitude (Attiyaman 1997) and so is quality (Sureshchandar et al 2002). Customers are satisfied when they can get value and quality out of all the products and services provided to them. The correlation between the quality of goods and services and customer satisfaction has led many organizations to continuously upgrade their quality and measure their customer's satisfaction.

Past studies have shown that students' satisfaction is positively related to perception of the institution's reputation (Oyvind Helgesen & Erik Nesset; 2007); however, they have been carried out under traditional campus-based environment, and therefore the findings may not necessarily reflect that of an ODL setting in Malaysia. For this reason, another study was needed for an ODL institution in Malaysia. Therefore, this paper looks at the factors that influence students' perception of reputation of their institution, taking Open University Malaysia (OUM) as a case study.

OPEN UNIVERSITY MALAYSIA (OUM)

OUM was established in 2000 as the seventh private university in Malaysia. It is the first ODL University and the main Open and Distance Learning (ODL) provider in the country. Its cumulative intake at the end of July 2008 was at 70,378 and current enrolment stands at 56,027 of which 95.5% are undergraduates and the remaining 4.5% are post-graduates. About 59% of students are teachers under the special Ministry of Education-OUM education programmes, and 41% are students in the open market programmes.

As an institution that puts quality as top priority, OUM through its quality management process has successfully obtained ISO9001:2000 certification from SIRIM in four of its support services departments, namely the Digital Library, Admission and Records, Centre for Instructional Design and Technology and Centre for Student Management. OUM also conducts regular surveys to determine students' satisfaction with the quality of services provided during their learning period.

In OUM, the impressive increase in student population from year to year poses a tremendous challenge, particularly in catering to the needs of its diverse students, who appear to be quite demanding for quality services, and who are particularly concerned about degree acceptance and the university's reputation. They have chosen to study at OUM mainly because of its flexibility in its delivery mode, convenience of time and place of study, relevance of curriculum to career, accessibility of digital reading materials and many other factors.

OBJECTIVE OF STUDY

The primary purpose of this paper is to identify the satisfaction factors that influence students' perception of the reputation of the institution in which they study. Having identified the satisfaction factors, the institution will be able to focus its efforts in improving on areas that are associated with each service item defined in the factors. It is hypothesized that improvement in students' satisfaction will benefit the institution,

because the satisfied students will most likely recommend the institution to prospective students.

METHODOLOGY

Statistical Technique and Data Source

An exploratory analysis was carried out using logistic regression to determine the factors that influence students' perception of reputation of OUM. This study was actually an off- shoot of the Importance-Satisfaction (IS) study to identify areas of strengths and weaknesses and gaps in the services provided to OUM's students. The data source for the present study is the IS survey of students carried out in all the learning centres of OUM in 2007. A total of 2,662 students enrolled in both the degree and diploma programmes were represented in the sample. The survey provided data on students' satisfaction ratings for 70 types of services, and responses to the question as to whether the students would encourage other people to study in OUM. These responses were used as a proxy to "students' perception of the reputation of OUM".

Equations and evaluation of model

For logistic regression analysis, the 70 service items covered in the survey were classified into six satisfaction dimensions or factors: Student Record Management (SRM); Student Affairs Management (SAM); Registration and Orientation (R&O); Learner Centeredness (LC), Assessment (A) and Teaching and Learning (T&L). These six satisfaction factors served as the independent variables, while the proxy to "students' perception of OUM's reputation" was treated as the dependent dichotomous variable.

The statistical package SPSS was used to identify the regression model that 'best' fits the data, and to estimate the regression coefficients, using the following estimating equations (Kleinbaum, Kupper, Muller and Nizamm, 1998; Marija J. Norusis/SPSS Inc, 1997):

$$Z = \beta_o + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_6 X_6 \quad \ldots\ldots\ldots\ldots\ldots (1)$$

Where $Z = \ln \left(\frac{P_{eventA}}{1 - P_{eventA}} \right)$

P_{eventA} = the probability of the event A: 'positive perception of OUM's reputation

X_1 = satisfaction ratings for student record management (SRM)

X_2 = satisfaction ratings for student affairs management (SAM)

X_3 = satisfaction ratings for registration and orientation (R&O)

X_4 = satisfaction ratings for student centredness (LC)

X_5 = satisfaction ratings for assessment (A),

X_6 = satisfaction ratings for teaching and learning (T&L).

(β_o = constant; $\beta_1, \beta_2 ..... \beta_6$ = logistic regression coefficients)

$$P_{eventA} = \frac{1}{1+\exp^{-z}} \quad \text{.....(2)}$$

$$\text{Odds}_{eventA} = \left(\frac{P_{eventA}}{1-P_{eventA}}\right) \quad \text{..... (3)}$$

$$\text{Odds ratio} = \frac{odd_{eventA})}{odds_{eventB})} \quad \text{..... (4)}$$

A series of tests was conducted to measure how well the estimated model fits the data. First, the value of -2LL (-2 times the log of likelihood) was evaluated for every new independent variable added to the constant in the logistic regression model. For the study data, it was found that the value of 952 for -2LL was least for Model 4 with three independent variables and a constant, suggesting that this model 'best' fits the data (Table 1). The three independent variables that were found to be significant predictors were Learner Centredness, Student Affairs Management and Teaching & Learning.

Next, the value of Nagelkerke R^2 was evaluated. With a value of 19.3% (Table 1), it suggests that about 19% of the variation in the outcome variable (perception of OUM's reputation) is explained by the 'best' logistic regression model 4, and that about 81% of the variation were unaccounted for by variables not included in the model.

Table 1: Model summary – goodness of fit statistics

Model No	-2LL	Cox & Snell R^2	Nagelkerke R^2
Model 1 :Constant	1,137	-	-
Model 2: Constant and T&L	969	0.611	0.177
Model 3: Constant, T&L & LC	957	0.656	0.189
Model 4: Constant, T&L, LC & SAM	952	0.671	0.193

Finally, the 'best' model was evaluated by reviewing the classification table as shown in Table 2. The classification table reveals that the 'best' model produced a high rate of 99.8% (or 2,511) of correct predictions out of a total of 2,515 students for 'Yes' to the question: "Would you encourage other people to study in OUM?" However, only 6.1% (or 9) were correctly predicted out of 147 students for 'No' to the question: "Would you encourage other people to study in OUM?" Overall, the correct prediction rate was 94.7%, indicating that the model is still useful for the study.

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Table 2: Classification 'Table'

Observed	Prediction			% correct
	No	Yes	Total	
No	9	138	147	6.1
Yes	4	2,511	2,515	99.8
Total	13	2,649	2,662	94.7

RESULTS

The study finds that the logistic regression model accounts for only 19% of the variation in the outcome variable. Thus, research effort should continue to search for other predictor variables to improve the prediction model.

As shown in Table 3, the study identifies three significant predictors for students' perception of OUM's reputation and these are: Teaching and Learning (T&L), Learner Centredness (LC), and Student Affairs Management (SAM). The remaining three factors: Student Record Management (SRM), Registration & Orientation (R&O), and Assessment (A) were found to be insignificant.

The prediction equation is estimated using the coefficients (B) provided in Table 3 and from this equation the probability, odds and odds ratio for students' perception of OUM's reputation are derived for any given set of satisfaction ratings. The prediction equation is estimated to be as follows:

$$\ln\left(\frac{P_{eventA}}{1-P_{eventA}}\right) = Z = -3.035 + 0.434*LC + 0.290*SAM + 0.626*T\&L$$

Table 3: Variables in the logistic regression equation

Variables	B	S.E.	Wald	df	Sig.	Odds ratio: Exp(B)
Learner centredness (LC)	0.434	0.158	7.546	1	0.006	1.544
Student Affairs Management (SAM)	0.290	0.142	4.183	1	0.041	1.337
Teaching & learning (T&L)	0.626	0.186	11.377	1	0.001	1.870
Constant	-3.035	0.452	45.021	1	0.000	0.048

Let us illustrate how to use the logistic regression equation to compute probability, odds and odds ratio for students' perception of OUM's reputation. As given in Table 4, let us assume that in Scenario A, a student rates his satisfaction for each of the three significant predictors as: LC = 5; SAM = 6; and T&L = 4. From equation (1) and as shown in Table 4, the value of Z is computed as 3.379. Next, using equation (2), the value of probability is computed as 0.967. We would therefore predict that this particular student is likely to have a positive perception of OUM's reputation since the probability

exceeds 0.5. As indicated by equation (3), the odds of an event occurring is defined as the ratio of the probability that it will occur over the probability that it will not occur. The same example, therefore, would yield a value of 29.3 (0.967/1-0.967) for the odds of having a positive perception of OUM's reputation.

Now, let us assume that the rating for LC increases from 5 to 6 while the ratings for the other two variables remain the same (Scenario B). In this situation, the probability of having a positive perception of OUM's reputation is increased to 0.978. Accordingly, the impact is that the odds are increased to 45.3, which is equivalent to 1.544 times larger than the odds (29.3) before the one point increment in Scenario A. Similarly, we can assess the impacts on the odds and probability when the SAM's rating (Scenario C) and the T&L's rating (Scenario D) are increased by one point, respectively.

The impact of an incremental point was greatest for T&L (Scenario D), with 0.982 (probability), 54.9 (odds) and 1.870 (odds ratio). This was followed by LC with 0.978 (probability), 45.3 (odds) and 1.544 (odds ratio) and finally by SAM with 0.975 (probability), 39.2 (odds) and 1.337 (odds ratio).

Table 4: Probability, odds and odds ratio

Variable	Coefficient (B)	Scenario			
		A	B	C	D
LC'	0.434	5	6	5	5
SAM	0.290	6	6	7	6
T&L	0.626	4	4	4	5
constant	-3.035	-3.035	-3.035	-3.035	-3.035
Z		3.379	3.813	3.669	4.005
Probability		.967	0.978	0.975	0.982
Odds		29.3	45.3	39.2	54.9
Odds ratio (odd2/odds1)			1.544	1.337	1.870

DISCUSSION

The study identifies that the significant factors for predicting students' perception of OUM's reputation are "*teaching and learning*", "s*tudent affairs managemen*t" and "*learner centredness*". This implies that in order to improve students' perception of OUM's reputation, due attention should be given to the service items defined in the three satisfaction factors. In this connection, OUM has actually taken a number of pro-active initiatives to target for continuous service quality improvement. These initiatives are discussed in the following sections.

Teaching and Learning: Among the 6 factors of service items, Teaching and Learning has been given highest priority and serious attention. Students have come on board with definite goals of achieving their degrees and diplomas for career advancement. To cater to this, the curriculum and the syllabus for the courses have been carefully

developed to ensure its relevance to the various industries. In order to provide a conducive learning environment, OUM has invested heavily in both its owned and rented learning centres and equipping them with appropriate facilities for teaching and learning. OUM's ICT infrastructure caters to all the ICT needs of the university, both for administrative and teaching and learning purposes, for example, providing the e-learning platform.

Faculties and the Centre for Instructional Design and Technology have worked hand in hand to review, revise and improve on the quality of modules. Good modules will make it easier for students to self manage their studies, and to further enhance their learning. CD-ROMs, learning objects, power-point slides and VCD are also provided to students to enhance their understanding of the courses. Most faculties introduce project-based course works, with the objective of giving greater exposure to our adult students on "real world" learning. The Digital Library is accessible to students anywhere, anytime, and for those who cannot access Internet, physical libraries are made available at the learning centres.

Tutoring is a major and most important activity to OUM students, thus tutor training is regularly enhanced to ensure more effective facilitation. Besides covering course contents, tutors are trained to provide the relevant pastoral care to adult students through the e-counseling platform. Students value the online discussion forum they have with their tutors; much of what they need to understand emanates from this online discussion.

Learner Centredness: OUM is a learner-centred institution which strives to remove administrative barriers and reduce bureaucracy in order to provide convenient, seamless, and "one-stop" service. Students must be given fair, prompt, responsible, user-friendly and caring services making them feel that OUM truly values the privilege of serving their needs. These needs include a vibrant and healthy environment that nurtures their personal growth, appropriate activities that can increase learning in various dimensions and personal experience that enhances sense of belonging to the institution.

Items such as "I am proud of being an OUM student; phone enquiries are handled well; OUM staff is caring and helpful and my problems are resolved immediately" reflect the degree or "learner-centredness" that is practiced in the day-to-day management of students at OUM. These results reveal that OUM will have to remove barriers and departmental bureaucracy to maximize student convenience and adopt the philosophy of "when you receive a problem, you own it until it is resolved". OUM continuously provides additional study support, improve the call centre and sharing the caring culture among all staff, particularly the front-liners, tutors, and administrators in ensuring that our students are served in the best manner possible.

Student Affairs Management: The main role of this unit is to coordinate programmes and services that will assist students in their learning journey at OUM. It does not only cater for students with specific problems; its role also covers all that students need starting from the time a new student steps in until they complete their study. An orientation program, for example, is vitally important to the new students: it provides an array of information that allows students to make informed decisions and establish realistic goals and assess their own circumstances. Good academic advising and counseling is a cornerstone to academic success. It calls for both tutor and counselor immediacy, that is prompt response to students' needs to sustain motivation, particularly

in the early part of the study. Guidance and counseling are being brought to students; tutors initiate contact instead of expecting the students to come and discuss with them. Workshops, seminars, peer support groups are conducted in the learning centres to serve as a natural forum for follow-up contact right through to finishing their studies and preparing for graduation. These are some of the initiatives taken by the different segments of OUM to meet the needs and expectations of the students, in ensuring a high level of satisfaction.

CONCLUSION

In conclusion, we wish to stress that this study is an off-shoot of the Importance-Satisfaction survey, and that the data used for the analysis serve as a close proxy to students' perception of institution's reputation. Thus, there may be a need to conduct a more comprehensive study to obtain further insights into the promotion of institution's reputation for the purpose of improving student enrolment. Despite the limitation, the present study demonstrates that logistic regression is a useful tool for predicting dichotomous outcome. There is scope to use this technique for more detailed analysis in the area of student retention and registration, beyond the mere reviews of percentages of dichotomous variables. In addition, the study suggests that students' satisfaction is a goal worthy of pursuing for OUM in particular and all other higher education institutions in general, and that it is central to shaping students' perception of their institution's reputation; the more satisfied they are, the better they will be as agents in promoting their own university by encouraging others to study in the same institution. Taking into consideration these findings, OUM would continue to manage effectively the three areas discussed above in order to bring further benefits in terms of increasing enrolment and retaining existing students in the institution.

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THE CONSTRUCTIVISTIC COMPETENCE BASED LEARNING DEVELOPMENT OF ENTREPRENEURSHIP CLASS

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ABSTRACT

The development of constructivisticism-based Entrepreneurship learning method in fact can help achieve the academic competence and motoric skill in Entrepreneurship. Besides, the constructivisticism-based learning (project) bases on the constructivistic perspective, where learning is not purely stimulus-response phenomenon as the perception of the behaviorists. Then the project assignment selected and determinded by the students is likely based on the conceptual knowledge they have had. In this context, the real activity done in the constructivisticism provides a learning experience that helps the reflection/abstraction and put the real life activities close to the underlying conceptual knowledge so that the academic knowledge develops more widely and deeply.

The advantages of constructivistic learning can also explained from the Constructive Learning theory. Thus, constructivisticism-based learning has more opportunities to develop the students' efforts to build the complex and rich memory representation and develop a strong relationship between semantic, episodic and action knowledge. This finding is line with the researches done by some researchers: Wataon, Prieto & Dillon (1995), concluding that the concept comprehension on the discussion of the students learning through constructivisticism is better than those wo learn traditionally. Spinger, Sanne & Donovan (1999) and Johson, Johnson & Stanne (2000) studied some subjects, concluding that the learning collaboratively in small groups in constructivisticism with projects may improve the academic competence. Bragg & Reger IV (2000) conclude that the integration of the academic and technical (vocational) learning may improve the academic and technical competences. Thomas (2000) concludes that the constructivisticism-based learning improves the academic competence.

I. Introduction

Entrepreneurship is an integrative subject of three domains *knowledge, skill & attitude.* The learning strategy for this subject, therefore, can combine theoretical understanding, attitude and skill of an entrepreneurship. The objective of the learning is to prepare students to be entrepreneurs because the constructivistic learning is the most suitable approach, allowing students to see, experience directly and give meanings independently and practically to what and how the existing entrepreneurship in the society. However, so far the learning method applied in the university teaching and learning tends to lead to the classical one. The students are only exposed to subjects based on the Entrepreneurship Module, allowing them to obtain the learning materials only theoretically. Thus, the application of the Entrepreneurship for the last two years has not yet shown a significant impact on the alumni of the Business Administration Department of State Polytechnic of Malang.

1.1. The Statement of the Problem

a. How is the learning model development process of Constructive-Constructivistic-based Entrepreneurship Subject for the students of Business Administration Department - State Polytechnic of Malang?
b. How is the effectiveness of the learning model development process of Constructive-Constructivistic-based Entrepreneurship Subject able to increase the affective and psychomotoric domains of the students of Business Administration Department - State Polytechnic of Malang?

1.2. The Objectives

a. To improve the learning model development process of Constructive-Constructivistic-based Entrepreneurship Subject in order that it becomes attractive and facilitating as it applies an approach emphasizing on the active, cooperative, participative and reactive students.
b. To increase the acquisition of the affective and psychomotoric in Entrepreneurship Subject of the students of Business Administration Department - State Polytechnic of Malang in order to develop an Entrepreneurship and productive attitude.

II. The Theoretical Overview and Concept of the Learning Development

2.1. The previous Studies on the Learning Model Development

Banathy (1987) states that the criteria of the learning material development: (1) helps learners prepare an independent learning, (2) contains a comprehensive learning activity plan and enables a maximum response, (3) consists of a comprehensive learning content allowing to provide a learning opportunity to learners, (4) monitors all learning activities, and (5) provides feedback information to measure the learner's progress.

The learning development of the Entrepreneurship applies Dick & Carey's with the following considerations:

a. This model applies nine systematic and comprehensive steps, allowing to provide detailed guidance to the level of learning material production.
b. This model has a programmed learning format, so that it can be used for personal learning need.
c. The adoption of this model is based on the idea that the lecturer's duty is as the learning planner, implementer, and evaluator.
d. This model refers to the system theory proven to succeed in military, industry and education.
e. This model can be used as an attempt to develop the learning materials in the intellectual skill, psychomotoric and verbal information domains so that it is very appropriate to develop the materials of Entrepreneur subject.

2.1. The Development Method of Learning System

The model shows a concept describing the real condition. Briggs (1978) stated that a model is a series of consecutive procedures to materialize a process. Based on both opinions, it can be concluded that the learning development model is a series of procedures consecutively done to develop the learning system.

This development should cover the structure of clear subject content and meet the applicable criteria for the learning development. It is in line with Mustaji's opinion (2000) stating that the advantages of the learning tool product with the developed constructivistic approach will gain the following: a) Considering the

differences/variations of learning styles, the range of attention-interest-preference, memory, early competence, individual intelligence of the students, b) Considering that gifted students tend to have a strong curiosity about many things, have initiatives and competence to study independently, think critically-flexibly-productively, c) Considering that students have social aspects and gifted students should be able to learn together with other students, d) Students are provided with freedom atmosphere to have self-control, and e) Applying the individualized instruction, a learning activity that refers to AECT (1996) consisting of basic elements: choice of various forms of learning, choice of learning material, choice of learning location, flexible time arrangement, considering the early competence of the learners and learner evaluation with various forms and in a flexible schedule.

III. Development Method

3.1. Development Model

The development model of this Entrepreneurship learning adopts the learning design model by Dick and Carey (1990), consisting of the following steps: (a) knowing the learning objective, (b) making the learning analysis, (c) knowing the input attitude and the student characteristics, (d) formulating the performance objective, (e) developing the pints of guideline reference test, (f) developing the learning strategy, (g) developing and selecting the learning material, (h) designing and doing formative evaluation, and (i) improving or revising the learning.

3.2. The Procedures of Constructivisticism-Based Entrepreneurship Learning Development

The constructivisticism-based Entrepreneurship learning design above consists of five phases of development procedures. **The First Phase** is determining the subject to develop. **The Second Phase** is identifying the syllabus of the subject to develop. **The Third Phase** is the development phase of the constructivisticism-based Entrepreneurship learning, consisting of seven steps, namely: 1) analyzing the learning need, 2) identifying the general objective of learning, 3) analyzing and identifying the input attitude and student characteristics, 4) formulating the specific learning objective, 5) developing the learning material, 6) determining the steps and strategies of learning to follow, 7) determining the tool of process evaluation and learning outcome. **The Fourth phase** is developing topics into the presentation of the constructivisticism-based Entrepreneurship learning consisting of 6 steps, namely 1) identifying the problems existing in the community, 2) selecting the problems for the class review, 3) collecting information on the problems to review in the classroom, 4) making the constructivistic class, 5) constuctivistic presentation (show case) and 6) reflecting on the learning experience. **The Fifth phase** is the try-out phase of the constructivisticism-based Entrepreneurship learning design product, consisting of the expert review and the field try-out phase.

3.3. The Product Try-Out

3.3.1. Population and Sample of Try Out

1.a. Research Population

The population as the research subjects are the students of Business Administration Department of State Polytechnic of Malang in 24 classes, under the supervision of the National Education Department.

1.b. Research Sample

The sampling methode for the product tryout is multi stage sample, a sampling method done in a series of steps (Sugiarto et al, 2003) with the following stages:

Stage I : The class determining based on the random sampling technique, a sampling technique by providing equal chances to each group (Zuriah, 2006).

Stage II : The sample group determining in each class by taking 4 students who are then grouped into 3 groups of learning abilities of very good, good and medium. This samping is done based on cluster random sampling technique, a sampling based on the population group (class) (Zuriah, 2006).

Stage III : The individual sampling is done by selecting 24 students, 12 of whom are taken from the experiment class and 12 from the control class. The sampling technique used is stratified random samling, a sampling technique based on the population strata (Zuriah, 2006).

3.3.2. Tryout Design

The steps of the product tryout of this constructivisticism-based Entrepreneurship learning development are as follows:

3.3.2.1. Development Stages

a. The Review of the Subject Expert, Learning Development/Design Expert and Computer Expert.
b. Individual Tryout
   The individual tryout covers the instrument tryout and the implementation of constructivisticism-based Entrepreneurship learning, which is explained as follows:

c. Small Group Tryout
   The tryout of constructivisticism-based Entrepreneurship learning model for the small group stage is done to 10 groups of second-year students (consisting of 5 groups of control classes and 5 groups of expertiment classes, each of group consists of 3 students in the Business Administration. The tryout is done to individual in the even semester of 2005/2006 academic year in 16 meetings @ 90 minutes, including the test. Through this tryout, the researcher tries to find input on (1) the level of competence demanded as stated in the syllabus design distributed in the beginning of learning, (2) the clarity of the written instruction for assignment and test, (3) the procedure and evaluation criteria given by the lecturer, (4) the difficulties arising during the assignment and test, (5) the students' perception on the constructivisticism-based Entrepreneurship

learning model, and (6) any significant improvement of the students' affective and psychomotoric competences.

d. Field Tryout
The wider field tryout will be conducted to the students of Business Administration Department of State Polytechnic of Malang of 2005/2006 academic year in semester 4, of 2 classes (1 class of experiment group and 1 class of control group) in 16 meetings @ 90 minutes, with considerations:
   a. The students have followed 3 semesters of the Entrepreneurship subjects.
   b. The second-year students have more experience in the learning evaluation
   c. The second-year students have more confidence in giving opinions

From all classes available, there are two classes selected based on the cluster samling technique, with the following procedures:

- Classifying all the students according to their achievement in the Entrepreneurship Subjects. It consists of 4 (four) categories: A, B, C and D.
- Selecting randomly from each groups the categories for the behavioristic and constructivistic classes, 5 students of each.
- The experiment design used is Factorial Design with design category 5, namely Randomized Subject, Pretest – Post test Control Group Desgin (Ary, Jacobs & Rasavieh, 2002).

3.3.2.2. Try Out Subjects

The tryout subjects of the research are the students of Business Administration of State Polytechnic of Malang following Entrepreneurship subject. This tryout involves two classes called constructivistic class (treatment group) and conventional class (control group). For this experiment research, the researcher tries to avoid any conditions that lead the research results to be biased (Gay, 1996), by:

a. choosing the second year students because they have followed subjects supporting Entrepreneurship.
b. Applying clear evaluation weighting for assignments, active involvement, discussions and tests. Besides, this evaluation is done transparently so that the students can compare their competence with other students and also ask for an explanation from their lecturer about the grades they get.
c. Seeing the difference of the affective and psychomotoric competence of the Entrepreneurship subject both in constructivisitc and behavioristic classes proportionally.
d. Making sure that the members of the groups have known well each other so that they can work well together optimally.
e. Adapting the Entrepreneurship subject materials to the syllabus and making comparisons of the second year students' competences based on the final grades of the Entrepreneurship learning and their scores on the interest in the learning process.

3.3.2. Type of Data

The data required in this research can be categorized as follows:

a. Primary Data

This study tries to collect the primary data from the subject expert (lecturer), learning media expert and design expert and students in the forms of opinions, suggestions and discussions

b. Secondary Data

The secondary data related to this research is lesson plans, syllabus, number of classes, students' names, Entrepreneurship lecturers' names and academic achievement of the third year SMK students obtained through documentation and observations at SMKs in Malang.

Furthermore, to find out the affective and psychomotoric competence of the Entrepreneurship subjects in the last semester, the research collects the data of students' achievement of Entrepreneurship students to provide an adequate discussion on the effectiveness of the model applied.

3.3.3. Data Collection Instrument

The instruments used to collect data are as follows:

a. Questionnaires, used to collect the following data:
   - The Personal Entrepreneurship Quality (PEQ), a non-test measurement tool on the Entrepreneurship quality level by using PEQ questionnaires.
   - Instuctions from the constructivisticism-based Entrepreneurship learning model developed through the individual and small group tryouts.
   - The reviews of the subject expert (lecturer), media expert and learning design expert
   - The individual and group tryouts of the SMK students in Malang
   - The interests of the students of Business Administration Department of State Polytechnic of Malang in the constructivistic learning model.

This measurement should meet four conditions, namely, the expert's approval, comprehension on the general instructions, being valid and reliable (Cronbach, 1980; Saukah, 2004). Besides the employement of the designed measurement tools in the form of assignment, test and field observation, the researcher also uses non-test measurement tools such as the clarity of the instructions at each learning stage of each classes.

a. Documentation, used for collecting data on lesson plans, syllabus, number of classes, students' names, Entrepreneurship lecturers' names and the samples of the second year students' academic achievements.
b. Observation, used for collecting the data on the Entrepreneurship learning method available at the Business Administration Department of State Polytechnic of Malang.
c. Discussions with the subject experts (lecturers), the learning media experts, learning design experts, and students. They are used for collecting data for revisions and validation of the teaching materials, lesson plans, syllabus, learning method and evaluation system products (empiric) and constructivistic learning model.

d. The consultation with the subject experts (lecturers), learning media experts, and learning design experts that are used to collect data for revisions and validation of the teaching materials, lesson plans, syllabus, learning method and evaluation system products (empiric) and constructivistic learning model.

3.3.4. Data Analysis Technique

The data analysis used is as follows:

a. Content Analysis

This analysis is used for processing data from the interview and discussion with the experts, lecturers, and students and individual and small group tryout results. The content analysis is done by classifying information from qualitative data of input, opinion, criticism and suggestions for improvement in the questionnaire. The analysis results is used as the basis to revise the teaching material product.

b. Descriptive Analysis

The Quality of Teaching Product and Students' Interest

This analysis is used for finding out the responses of the subject experts (lecturers), learning media experts, learning design experts and students on the quality of constructivisticism-based Entrepreneurship learning model. The response score can be mathematically formulated as follows:

$$\text{Percentage} = \frac{\Sigma \text{ (Response x weight of each option)}}{n \text{ x Highest Weight}} \text{ x } 100\%$$

GIven:
n is the number of statements.

III. DEVELOPMENT RESULTS

4.1. Tryout Data Presentation

a. Result Data of Need Analysis (Needs Assessment)

The need analysis data (Needs assessment) is obtained by collecting the questionnaires distributed to 46 respondents, including 4 subject lecturers and 24 second year students of 2005/2006 academic year of Business Administration Department of State Polytechnic of Malang. The question item on the need analysis covers : (1) Respondents' interest on the computer software in general, (2) Needs of Entrepreneurship Subject Development to develop based on the Constructivisticism and to be used as the learning resources for the students of Business Administration Department of State Polytechnic of Malang, (3) The utilization of the constructivisticism-based Entrepreneurship learning method, (4) The appropriateness of the design content in the Entrepreneurship subjects, and (5) the topics necessary and appropriate to develop.

b. The Data of Review Results of Subject Experts, Learning Design Experts, and Computer Experts, Individual, Small Group and Field Tryouts (Tryouts I, II, III, IV)

The data collected from the subject subject experts, learning design experts, and computer experts, individual, small group and field tryouts from the development product are presented in Table 4.2.

Table 4,2 Recapitulation of the Data Analysis Results

No	Component	Try Out Stage I	Try Out Stage II	Try Out Stage III	Try Out Stage IV
1	Need Analysis	92.7			
2	Interest-Generating Material	84.5	85.25	86.4	92.8
3	Prerequisite Test	80.3	75	77.45	89.3
4	Pretest	75	78.9	82.5	82
5	Learning Objective	91	81	85.25	87.3
6	Discussion Content Explanation	74.9	77.3	80.3	93.5
7	Exercise Items	77.4	76	79.5	87.8
8	Summary	78	79	82.1	93.2
9	Post test	74.8	78.2	78.2	83.4
10	Support	80	82	80.8	90.5

Source: processed primary data

4.1. Discussion

The development of constructivisticism-based Entrepreneurship learning method in fact can help achieve the academic competence and motoric skill in Entrepreneurship. Theoretically, the academic achievement is possible from the result of the motivational effect leading to the improved attention and the intensity of the students' involvement in the learning process period using their conceptual knowledge so that it broadens and deepens (Waras, 2003). Besides, the constructivisticism-based learning (project) bases on the constructivistic perspective, where learning is not purely stimulus-response phenomenon as the perception of the behaviorists. Then the project assignment selected and determinded by the students is likely based on the conceptual knowledge they have had. In this context, the real activity done in the constructivisticism provides a learning experience that helps the reflection/abstraction and put the real life activities close to the underlying conceptual knowledge so that the academic knowledge develops more widely and deeply.

The advantages of constructivistic learning can also explained from the Constructive Learning theory. Simmons (1996) states that the memory representation is divided into three, namely semantic, episodic, and action representations. The semantic representation refers tot the concepts and princliples of a discipline with the accompanying characteristics. The episodic representation is based on the affective and personal experiences, while the action representation refers to the things done with the

semantic and episodic information, for example, the settlement of a certain problem with certain knowledge. Thus, constructivisticism-based learning has more opportunities to develop the students' efforts to build the complex and rich memory representation and develop a strong relationship between semantic, episodic and action knowledge. This finding is line with the researches done by some researchers: Wataon, Prieto & Dillon (1995), concluding that the concept comprehension on the discussion of the students learning through constructivisticism is better than those wo learn traditionally. Spinger, Sanne & Donovan (1999) and Johson, Johnson & Stanne (2000) studied some subjects, concluding that the learning collaboratively in small groups in constructivisticism with projects may improve the academic competence. Bragg & Reger IV (2000) conclude that the integration of the academic and technical (vocational) learning may improve the academic and technical competences. Thomas (2000) concludes that the constructivisticism-based learning improves the academic competence. While Waras (2003) points out that the academic competence (concept and principle comprehension) of student machinery following classes based on the project is higher that that of training method but lower in the technical achievement than that of the training method.

But the improvement of the motoric competence from the theoretical perspective can be explained with the Motoric Learning theory on the "development rate" of the motoric competence (Schmidt, 1988) stating that it covers: 1) learning the technical (motoric) operation competence is a process of capacity achievement to perform; 2) Learning the technical operation competence is a result of practice/experience; and 3) The process results in the relatively permanent competence change. Thus, this finding is in line with the research done by Knoll (2002) stating that the constructivisticism-based learning (project) improve the academic and technical competences. Santiyasa (2004) found a difference of concept comprehension between the students learning with the setting of Group Investigation (GI) cooperative learning and Student Team-Achievement Division (STAD). Thomas (2000) & Bragg & Reger IV state that the technical competence improves together with the academic competence from the learning that integrates the academic and vocational aspects. Atio and Hansen (2002) concluded that the constructivisticism-based learning (project) that integrates the academic and occupational domains will excel in the technical thinking achievement than that of the technical motoric competence.

IV. CONCLUSIONS & SUGGESTIONS

5.1. Conclusions

Based on the results of the data analysis from the developer, important points related to the component of the constructivisticism-based Entrepreneurship learning method are identified as follows:

a. Based on the results of the need analysis, it is concluded that the development of constructivisticism-based Entrepreneurship learning mehod is very necessary by both the students and lecturers.
b. The components of the interest generating materials in the constructivisticism-based Entrepreneurship learning is to develop by considering the following : (1) using varied games, (2) creating energizer, (3) using the software business plan, and (4) making a proportional presentation composition (letters and pictures are not too small).

c. The components of Prerequisite Test and pretest needed as one of the business plan components are : (1) the sentences and language used should be simple and easy to understand, (2) the problem items given are sequenced from easy to difficultu, but the presentation is randomly arranged.
d. The components of the Entrepreneurship Learning Objectives are arranged to refer to the (1) learning objective formulation, (2) results of the need analysis and the early students' competence, and (3) objective formulation more rather than cognitive aspects.
e. The components of the Learning Material developed are (1) Presenting the relationship between topics, (2) Packaging the business plan materials as the main materials, (3) presenting the illustration and example to clarify the content, (4) Packaging the materials into games, energizer and business plan software to facilitate the students' comprehension and efficiency in presentation.
f. The components of the problem items (1) are arranged as a form of evaluation for improvement of the learning material acquisition by the students, (2) arranged by prerequisites to learning achievement of a learning unit before the following unit, (3) arranged based on the difficulty level, (4) arranged with reference to the main material, (5) is a combinagion of calculation and explanation exercises.
g. The componensts of Post Test (Summative) (1) are arranged as a form of the learning results after following the entire learning process, (2) are arranged based on the difficulty level, (3) are arranged in reference to the main materials learned, (4) are arranged with more calculation exercises than that of explanation.
h. The components of constructivisticism-based Entrepreneurship learning development product are tried out through five stages and revisions on the students and lecturers show very good and good results.
i. The business plan software is feasibly used as the altervative learning source and can be used in the real learning.
j. The learning system through the software business plan is very interesting, useful and facilitating to learning. With this system the students will feel the change of learning.
k. The business plan software is suggested for development in this subject because it helps the students in the Entrepreneurship subjects a lot. It is also possible for other subjects.
l. The business plan software as the result of this development is very good and feasible to be used as the alternative learning resources.

5.2. Suggestions

Providing the preparation for the Entrepreneurship subject lecturers on the Entrepreneurship learning method product from this research.

It is advisable to allocate a week's time in the end of semester especially for final learning evaluation in the form of field practice such as Grand Bazzar in the Selling Management, Entrepreneurship and Cocktail Party in English lessons.

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THE RELATIONSHIP BETWEEN STUDENT SATISFACTION AND ACADEMIC PERFORMANCE IN THE PRIVATE HIGHER EDUCATION INSTITUTIONS IN MALAYSIA

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ABSTRACT

The study was aimed to investigate the factors influencing student satisfaction with relation to academic performance in Private Higher Education Institutions (PHEIs) in Malaysia. A survey was conducted using questionnaires and data was collected and analysed from 450 respondents consisting of students from 15 PHEIs. The survey showed that out-of-class support, teaching excellence, and class size were significantly more important and related to student satisfaction, but also revealed that there was little or no relationship between student satisfaction and academic performance.

Keywords: *Student Satisfaction, Academic Performance, Private Higher Education, Partial Least Square, Malaysia.*

INTRODUCTION

Education is a growing phenomenon in Malaysia and has become an extremely important issue for the nation building. As a result, education is seen as a continuous lifelong learning process that promotes national unity through human development to meet the economic, political development and social needs of the country. This has brought about the liberation and privatization of PHEIs in Malaysia. The nature of these changes has dramatically raised the competitiveness, marketability, sustainability and increased the pressure for differentiation among the PHEIs. To cope with these changes the Malaysian government has actively supported the PHEIs to develop their own distinctive and innovative education system since the Asian economic crisis in 1997.

Moreover with the establishment of the Ministry of Higher Education (MOHE) in 2004, the Malaysian government intends to make Malaysia a centre of educational excellence in order to be self-sufficient in producing skilled human workforce to meet the Vision 2020 (Ainin, 2006). Most recently the MOHE launched the strategic plan for Private Higher Education and the main objective is to transform Malaysia into region of excellence for higher education. This created a boom of PHEIs in Malaysia, from a handful of colleges in the nineties, to hundreds of private colleges, university colleges and universities. To oversee the educational direction, procedures and quality standards of education offered by the PHEIs, the National Accreditation Board (LAN) currently known as the Malaysian Qualification Agency (MQA) was established by the Malaysian government.

To survive in this dynamic competitive market the source of funding, courses, competition and quality were critical issues for PHEIs. To ensure these issues are focused and continuously improved upon, student satisfaction provides an essential mechanism for feedback. According to Yorke (1992), in the education point of view, students are

customers who buy an academic program as a product, in the expectation of some lifetime benefit, whereas employers and funding councils see students as a transformed product with added skills. As such for education institutions to make better decisions to retain and capture more students it is imperative to clearly understand the factors determining student satisfaction. Student satisfaction in the PHEIs are determined by many factors such as teaching excellence, class room environment, instructors' personality, facilities and so forth.

Since customer satisfaction is the leading criterion to determine the quality actually delivered to customer, developing more and more satisfied students is the primary goal of all PHEIs. The focus on enhancing student satisfaction by PHEIs is essential in developing customer value. Even though literatures on student satisfaction are abundant, this student satisfaction study specifically designed for PHEIs are relatively rare, especially in the Asian context. There are a few studies conducted in this area in Malaysia but the focus was on the MBA level (Ainin, 2006). As such, it was essential and timely for us to conduct this research in the local context.

With this goal in mind, this study attempted to achieve the following objectives:

1. To assess the current level of satisfaction among students in PHEIs.
2. To investigate the factors influencing student satisfaction in PHEIs.
3. To examine the relationship between student satisfaction and academic performance.

This study hoped to identify the key factors that influence student satisfaction which, in turn, influences the academic performance of students in PHEIs. The study of the relationship between student satisfaction and academic performance would be useful information for the administrators and academics of PHEIs to enhance their services in order to fulfil the students' needs and the demand of the market. This may also benefit the PHEIs to increase their attractiveness so as to recruit more students and enhance their competitive position. The study proceeded with the review of relevant literature on student satisfaction, followed by research methods and data analyses. Discussion and conclusion were made based on the findings of the data.

LITERATURE REVIEW

Students Satisfaction

The perception of pleasurable fulfilment of a service or product with various attributes has been defined as satisfaction (Churchill & Surprenant, 1982; Oliver, 1999). Many researchers have argued that customer satisfaction is the result of interactions of customers' expectation and feeling after service serving (Lam & Zhang 1999; Miller 1997; Oliver 1981). Satisfaction has become a common measurement index to gauge people's feelings towards products, works, live quality, community or service quality (Chen & Lee, 2006). According to Pate (1993), student satisfaction can be viewed from three dimensions: psychological-wellness type of satisfaction, job-type satisfaction and consumer-type satisfaction. These three dimensions which can be related to time horizon: the psychological-wellness type of satisfaction represents past experience and personal attributes, the job-type satisfaction represents future aspirations and hopes, while the consumer-type of satisfaction represents student current daily life.

Moreover extensive studies have been carried out on the antecedents of customer satisfaction. Customer satisfaction or student satisfaction is derived much more than the

course delivery mechanism. Recent studies show that attitude toward instructors; course content, instruction method, e-learning technology, instructor personalities, group interaction, and individual rapport have direct influences on student satisfaction (Westerman, et al., 2002). As such many market oriented universities have cooperated to improve and design satisfying outputs to meet the interest of many stakeholders in terms of social or economic factors (Petruzzellis, et al. 2006).

Factors determining student satisfaction

Teaching excellence of education has often been defined as an important determinant of student satisfaction (Burns et al. 2005; Browne et al. 1998; Elliott & Shin, 2002; Fraser, 1994). Teaching excellence attributes include providing good quality education, supported with adequate teaching materials, qualified lecturers with related industrial experience, teaching–learning resources and internship or practical training (Aldridge & Rowley, 1998).

Webster and Hackley (1997) underscored that teachers (instructors) play a major role in students' learning environment. Interaction between instructors and classmates has been found to have affected student satisfactions (Fredericksen et al., 2000). According to Desai et al. (2001) student's perceptions of instructors' fairness in terms of instructor action is an important driver of student satisfaction. According to Dana, Brown, and Dodd (2001), instructor teaching style also influenced student satisfaction. Students prefer classrooms in which the instructor personality is similar to their own (Westerman et al., 2002). According to Fredricksen et al. (2000) quality and promptness of feedback from instructor, clarity of expectations from instructor will influence students' satisfaction. The complexity of student satisfaction can be further understood by considering institution's facilities (Athiyaman, 1997; Mail, 2005). In general an institution's facilities consist of library, computer labs, lecture theatres and audiovisual. It is not surprising that students would reject institution because of its lack of facilities (Cain & Reynolds, 2006).

Beside this Westerman et al. (2002) reported that classroom environment fit was a strong predictor of student satisfaction. Appleton-Knapp and Krentler (2006) found that student expectations have been affected by institutional factors such as class size which is important for an interaction to occur. There might be an impact on an instructor's ratings as smaller classes are found to be generally more interactive and more engaging for students (Ludlow, 1996). Similarly, students receive more individualized instruction in smaller classes, making the educational experience more intimate and personally involving (Marsh, 1987). According to Westerman et al. (2002) it is important to understand student-classroom environment fit as a predictor to determine the relationship between satisfaction and performance.

Furthermore, out of class support (OCS) also has a significant influence on student satisfaction (Jones, 2008). According to Aylor and Oppliger (2003) and Jaasma and Koper (1999), OCS is defined as teacher communication occurring outside of the classroom setting, that demonstrates a responsiveness to students needs, communicates caring, validates students worth, feelings, or actions and helps students manage and cope with stressful situations through the provision of information, assistance and tangible resources. As such teachers that offer higher level of OCS will enhance students' satisfaction more than teachers who give moderate or no such support (Jones, 2008).

Academic Performance

The results of satisfaction can be used to improve the academic environment and foster better student learning and improve academic performance. Based on Herzberg's two-factor theory (Herzberg et al., 1967) suggested two distinct sets of factors for job satisfaction and job performance in organizations. First situation labelled "satisfiers" or "motivators", results in satisfaction when adequately fulfilled. The other situation labelled as "dissatisfiers" or "hygiene factors", causes dissatisfaction when deficient. Since PHEIs treat students as customers, the literature from the organizational behaviour field can also be applied to student satisfaction study. The theory supports that the satisfaction will be related to students' performance. This means the higher the level of satisfaction the better the students perform and vice versa.

Putman (2002), however, argued that the two-factor theory is insufficient to describe the complex relation between satisfaction and performance. He has developed a two dimensional theory based on the work of Drucker, Herzberg, and Maslow. The two dimensional theory draws four quadrants to explore and explain the complexity of the relationship between satisfaction and performance. The four quadrants are (1) high satisfaction lead to high performance, (2) low satisfaction lead to low performance, (3) high satisfaction lead to low performance, and (4) low satisfaction lead to high performance. Each quadrant has its own rationalization. Firstly high satisfaction leads to high performance. This means higher the satisfaction level of student results in student put in more effort, skills, and adds on necessary resource to perform well to get better results. Secondly low satisfaction leads to low performance. It is believed that students lack of skills, aptitude or necessary resource to perform well were caused by dissatisfaction with the services, facilities, or environment provided by institution. Thirdly high satisfaction may also lead to low performance. This situation occurred when students were satisfied with their overall performance and not willing to learn more. As such their performance can only be maintained or even declined. Finally for low satisfaction and high performance students which means students are not satisfied with their current grade point average (GPA) and have intention to improve. Therefore, they will put in more effort to obtain better results.

Based on the above literature review, the study postulated the following hypotheses:

H1: The facilities provided by private higher education institution is positively related to student satisfaction.

H2: Out-of-class support provided by instructors is positively related to student satisfaction.

H3: Class size is positively related to student satisfaction.

H4: Teaching excellence exhibited by instructor is positively related to student satisfaction.

H5: Student satisfaction is related to academic performance.

METHODS

Sample and Sampling Procedures

The population of the study consists of all students in the PHEIs in Malaysia. Since obtaining the list of students from all the institutions was not feasible, we adopted the quota sampling procedure. We divided the institutions into three main groups, namely, private universities, private university colleges and private colleges. We then selected five institutions from each group based on location and convenience in which we obtained the data easily. Only students who have been with the institution for more than

two semesters were selected as the study focused on student satisfaction and academic performance. As a result, only students pursuing year two or three were included in the sample. It was a cross-sectional study where data were collected from sample at one point of time and thus it may not establish causal relationship among variables tested in the study. We approached 100 students personally from each institution which resulted a total number of 1500 students as the sample size. Data were collected from 450 students with the response rate of 30%. The response rate was considered acceptable as the questionnaires were distributed personally to the respondents. Of the 450 respondents, 43% are males and 57% are females. Based on ethnic groups the respondents were made up of 77% Chinese students, 10% Indian students, 9% Malay students and 4% foreign students. Even though in general the proportion of Chinese students is lower than Malay students in Malaysia, it is understandable that most of the Malay students are normally enrolled in public institutions of higher education. Therefore almost 60% of the respondents obtained a cumulative grade point average (CGPA) fell within the range of 2.50 to 3.50. The detailed demographic information about the respondents is presented in Table 1 below.

Table 1: Demographic information (*n=450)*

Variable	Frequency	Percent
Gender		
Male	192	43
Female	258	57
Race		
Chinese	350	77
Indian	44	10
Malay	39	9
Others	17	4
Program (Holland Typology)		
Conventional	123	27
Enterprising	29	6
Investigative	298	67
Year of Study		
Y2	230	51
Y3	220	49
CGPA		
Below 2.00	37	8.2
2.00 – 2.49	103	22.9
2.50 – 2.99	129	28.7
3.00 – 3.49	28	28.4
3.50 – 4.00	53	11.8

Variables and Measurement

We collected primary data through questionnaire survey in order to obtain data directly from the students of the PHEIs in Malaysia. The questionnaire consisted of two sections. Section A covered the antecedents of student satisfaction and Section B covered the respondent's demographic information and academic performance. For section A, the five constructs were adopted from prior studies to ensure the validity and reliability of

attributes, for examples: (a) facilities variable (Cain & Reynolds, 2006) (b) out of class support (Aylor and Oppliger (2003) (c) Class Size (Ludlow, 1996) (d) teaching excellence (Althouse et al., 1998). All the items in Section A were measured using 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). Student academic performance was measured by CGPA. Based on the research model and data measurement type, we decided to employ Partial Least Square (PLS) method for data analysis.

RESULTS

The hypothesized structural model was tested using Visual PLS 1.04b. PLS has been used commonly in educational research as it places minimal restrictions on measurement scales, sample size and residual distribution (Chin et al., 2003). PLS analysis involves two stages: (1) the assessment of the measurement model, including the reliability and convergent and discriminate validity of the measures, and (2) the assessment of the structural model.

Measurement Model

Reliability was assessed using internal consistency scores, calculated by the composite reliability scores. As shown in Table 4, internal consistencies of the items were considered acceptable as they exceed 0.75, signifying tolerable reliability. Convergent and discriminant validity were assessed by comparing the own factor loadings and cross factor loadings, and the square root of each construct's average variance extracted (AVE) and its correlations with other constructs. As shown in Table 3, most items loaded well (above 0.7) on their respective factors, which were much higher than all cross loadings. With the exception for SA (0.47), the square roots of most AVEs were above 0.50. All the square roots of AVE were also much higher than all the cross-correlations. These tests suggested that all measures have adequate convergent and discriminative validity. In summary, the measurement model demonstrated adequate reliability, convergent validity and discriminative validity and thus we have proceeded to the assessment of the structural model.

Table 2: Mean and standard deviation of the study constructs (*n=450)*

Variable	Mean #	Std Dev
Facilities (FC)	2.896	0.705
Out-of-class support (OS)	2.644	0.645
Class (CS)	2.222	0.656
Teaching Excellence (TE)	2.499	0.711
Satisfaction (SA)	2.508	0.564

 # Scale ranging from Strongly Agree (1) to Strongly Disagree (5)

Table 3: Mean and standard deviation of the study items (*n=450)*

Item	Mean #	Standard deviation	Factor Loading	Squared Multiple Correlation
Facilities (FC)				
Library collection	3.184	1.025	0.582	0.763
Computer hardware & software	2.780	0.982	0.713	0.844
Lecture halls and theatres	2.724	0.910	0.837	0.915
Out-of-class Support (OS)				
Lecturer easily available outside the class	2.720	0.896	0.775	0.880
Answer questions effectively outside the class	2.542	0.825	0.718	0.847
Content learned through outside the class	2.669	0.893	0.723	0.850
Class Size (CS)				
More individualised in small class	2.144	0.763	0.740	0.860
More interactive in small class	2.236	0.859	0.847	0.920
Retain greater degree of learning material in small class	2.284	0.833	0.812	0.901
Teaching Excellence (TE)				
Qualified lecturer	2.536	0.841	0.837	0.915
Good knowledge in subject matter	2.404	0.876	0.822	0.907
Conduct lessons effectively	2.558	0.859	0.825	0.908
Satisfaction (SA)				
Satisfied with the education quality	2.609	0.824	0.659	0.812
Satisfied with the effort of the lecturer	2.584	0.777	0.745	0.863
Satisfied with the teaching and learning process	2.569	0.793	0.785	0.886
Satisfied with the value and reputation of institution	2.204	0.924	0.536	0.732
Satisfied with the overall	2.576	0.828	0.687	0.829
Academic Performance (AP)				
CGPA##	4.087	1.228	n.a.	n.a.

 # Scale ranging from Strongly Agree (1) to Strongly Disagree (5) except for performance variable.
CGPA has been reversed coded to be consistent with the measurement scale of antecedents and satisfaction constructs.
n.a. – not applicable

Table 4: Correlation coefficient between constructs

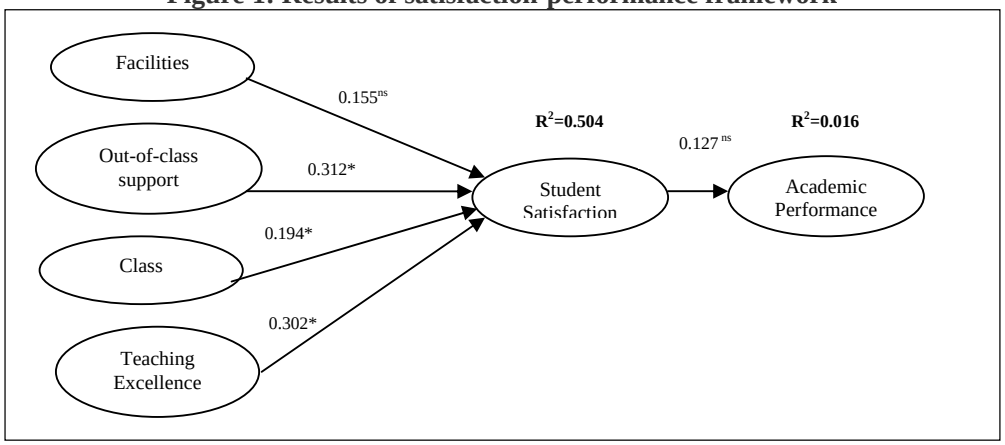
	CR	AVE	FC	OS	CS	TE	SA	AP
FC	0.758	0.516	0.718					
OS	0.783	0.547	0.358*	0.740				
CS	0.843	0.641	0.207*	0.382*	0.801			
TE	0.868	0.686	0.398*	0.435*	0.352*	0.828		
SA	0.815	0.473	0.427*	0.573*	0.452*	0.568*	0.688	
AP	n.a.	n.a.	0.082	0.103	0.133	0.152	0.127	1.000

CR – Composite Reliability; AVE – Average Variance Abstracted, and the diagonal values represent the square root of the AVE.
** Significant at $p < 0.05$.*

Structural Model

The path coefficients in the PLS model represent standardized regression coefficients. The suggested lower limit of substantive significance for path coefficients is 0.10. As shown in Figure 1, all path coefficients are over 0.10. However, when examining the statistical significance, the t-values for two path coefficients were lower than 1.96, which were FC→SA and SA→AP. As such, hypotheses H2, H3 and H4 were supported and hypothesis H1 was not supported. All together, the four antecedents accounted for 50.4% of the variance in SA with OS (β= 0.312; p<0.05) contributing more to SA than TE (β=0.302; p<0.05) and CS (β=0.194; p<0.05). On the other hand, H5 was also not supported, indicating that SA had no significant influence on PE (β=0.127; p>0.05), event though the direction of the result is consistent with past studies.

Figure 1: Results of satisfaction-performance framework



Notes:
*P<0.05
n.s. = not significant

DISCUSSION & CONCLUSION

Summary of the major findings of the study are presented below:

1. Three antecedents were found to be significantly related to student satisfaction, which are out-of-class support, class size and teaching excellence.
2. Facilities provided by PHEIs were not related to student satisfaction.
3. Student satisfaction is not related to academic performance.

Based on the descriptive analysis of means, generally the respondents have favourable feedback on the antecedents and satisfaction constructs with all means were below 3. It is also noted that facilities construct has the lowest level of agreement. This finding implied that even if PHEIs provides the necessary facilities like computers, library and laboratories, students may still not be satisfied toward the PHEIs. It may also imply that these facilities are perceived to be a "must" instead of a "need" of students in PHEIs. Other factors such as teaching excellence, out-of-class support and class size are the more important elements where PHEIs should focus on when devising strategy to enhance student satisfaction.

Of the three supported antecedents, out-of-class support appears to be the most important one, followed by teaching excellence and class size. The finding also suggests that student satisfaction is not related to academic performance. Even though past studies have produced mixed, the Malaysian sample tended to show there is no relationship between student satisfaction and academic performance. There could be many other factors contributing to student's academic performance apart from satisfaction.

Out-of-class support showed a significant relationship as students believe that their social relationship with lecturer outside the class could influence their satisfaction level. The is a need to provide a learning environment in which students felt confident, had opportunities to interact with faculty lecturers, and experienced a feeling of concern for them as individuals. This is in line with our Malaysian culture as loving and caring society.

Teaching excellence also has shown some significant relationship with regards to student satisfaction. PHEIs should understand that teaching excellence plays a critical role in student satisfaction, retention, and learning. If students do not feel comfortable in a particular class, or with a particular instructor, they are less likely to attend or participate in the course, less willing to seek out extra help, and less apt to rise to the intellectual challenges. Instructors' characteristics such as enthusiasm for teaching, knowledge of the subject, ability to tie information together, stimulate thinking, and maintain interest; and the amount of new, useful and relevant knowledge gained, were important factors to students.

Class size is shown to have a significant relationship with student satisfaction level. Smaller classes have been proven to provide a greater opportunity for a wider range of learning activities including cooperative learning and project-based learning. Students have more opportunity to work in small groups where they can participate more actively, feel free to express themselves, help each other and see their ideas receive attention from others.

Among the factors tested in this study, only facilities do not have a significant relationship with student satisfaction. This could be attributed to the reason that students may perceive that facilities provided by PHEIs such as library, lecture halls and computer laboratories as basic necessities rather than the determinant of satisfaction. As a result, they are probably more concerned about other factors such as the learning environment.

The findings inferred that PHEIs should provide a conducive environment for interaction between academic staff and student outside the classroom environment. For examples, the online learning systems, open-air discussion facilities, or even incentive for academic staff who provide such support outside the classroom. Apart from the traditional learning environment, the online learning systems may also provide customised learning experience for students, especially when the large class size is not suitable for small group discussion. PHEIs must also acknowledge that even though students are satisfied with the institutions, their academic performance may not be satisfactory. PHEIs should continue to seek for innovative and creative ways of enhancing student academic performance while increasing their level of satisfaction.

Even though the study has achieved the objectives, it also has some limitations. As the literature of student satisfaction is abundant, the four antecedents tested in this study may not be accurately reflecting the student satisfaction of the entire population. It is recommended that a focus group be conducted prior to the selection of research variables for future studies. Future studies may also look into the differences between the three types of PHEIs in Malaysia as well as the potential moderating effects of demographic

variables. The differences between the ethnic groups of and level of satisfaction. As the number of foreign students in Malaysia is growing rapidly, the differences between the local and foreign students may also be important for PHEIs.

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THE PERCEPTION OF COLLEGE STUDENTS TOWARD E-CHEATING

A Note for Maintaining Sustainability IT Awareness Program
(Case Study at STIE Perbanas Surabaya, Indonesia)

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ABSTRACT

Information technology (IT) devices have offered many facilities for educational process. Unfortunately, some studies have concluded that IT facilities have been misused by some students. The misuse of IT in academic process is called E-Cheating. Some studies have done, but there are only limited studies conducted for IT utilization in Accounting and Management majors. This research is aimed at knowing how the perception of college students towards any actions of E-cheating in academic area is, especially in university that utilizes IT in Accounting and Management. STIE Perbanas Surabaya has a regulation to punish the students who cheat at final and mid semester examination. Although the punishments have been applied for more than 3 years, the number of students who do cheat is not decreasing. The survey has been conducted to more than 400 students of Accounting and Management to explore the student's perception towards e-cheating in academic area. This study can give a benefit to educational institutions to be taken into account in the compilation of academic code of ethics and analysis of education curriculum that is relevant to the code of ethics in the e-employment.

INTRODUCTION

Technology development offers facility to communicate, save, update and retrieve data. This facility can create a new dimension in cheating behavior. Western research shows the tendency of e-cheating in academic area. Kleiner and Lord (1999, in McMurtry, Kim, 2000) concluded their research at Duke University of America that 75% of students confess to do academic cheating at least once. McCabe, Butterfield and Trevino (2006) found during their research in Canada that those students of business department do more e-cheatings than non-business students. Jones, Reid and Bartlett (2006) compare the perception of students toward E-cheating in Bulgaria, Malaysia, and United Kingdom. In Bulgaria and United Kingdom, the students cheat by sending an e-mail to a discussion forum or ask to someone by asking about their assignment to the website of that person. In Malaysia, this kind of cheating is in the third position. The second place of cheating mostly occurred in Malaysia is to copy several words from an article or scientific journal without enclosing the resource.

Various results of study show that it is necessary to build the ethical behavior of accountant since college (Christensen, Barnes and Rees, 2007; Morris, Sr. and Killian, 2006; Sasongko and Djuwari, 2005). Pepie and Djuwari (2007) conclude that there is not any difference in the perception of Accounting and Management Department students toward the personality of accountant. An accountant is still identical with a type of individual who is careful, diligent, methodical, efficient, taking any steps cautiously, having a high mathematic skill and a good observer and admits the importance of soft

skills for an accountant. The said soft skills are communicable and attitude, especially the skill of how to behave in such an ethical manner.

McCabe, Butterfield and Trevino (2006) suggest that business institutes need to encourage the application of academic integrity to overcome e-cheating. High education institutions need to build ethical values by performing two methods (Wood and Warnken, 2004). Firstly is by building the academic norms through an open discussion about problem and psychical obstruction of being a creative educator and thinker. The second method is to develop an assignment or projects that can encourage a critical thinking and does not give any chance for the growth of plagiarism.

STIE Perbanas Surabaya has a regulation to punish the students who cheat when final and mid semester examination. The Student Affairs will publish all the students who are caught being cheated. Their names are printed on the posters on campus area, and they will get zero on their examination. Unfortunately, although this punishment has been applied for more than 3 years, the number of students who do cheat is not decreasing.

Various studies of academic cheating through e-cheating have already been done. Almost all studies about e-cheating to reveal the academic cheating are performed on the subject of students' perception. Therefore, it is necessary to conduct a study to know about the perception of lecturers toward e-cheating. This study is aimed to discover the perception of lecturers toward e-cheating in the academic area.

This study is aimed at knowing about how the perception of students towards any actions of e-cheating in the academic area is. This study can give a benefit to education institutions to be taken into account in the compilation of academic code of ethics and analysis of education curriculum that is relevant with the code of ethics in the E-employment.

LITERATURE REVIEWS

Carrell, Malmstrom, and West (2005) conducted a survey in US military Academy, the US Naval Academy, and the US Air Force Academy from 1959 through 2002. Their result provides evidence of large positive peer effect in academic cheating. The peer effect may weaken as peer reporting and confronting of honor code violations increase. They believe that institutions of higher education could reduce academic cheating by fostering a culture that increases the likelihood of peer reporting of suspected cheating.

Morris and Kilian (2002) presented that accounting students are as likely to cheat in collage as other business students. There was no significant difference between accounting majors and other business majors with regards to the number who admitted to cheating. Their result indicated that a significant number of those accounting majors who admitted to cheating in college also admitted to cheating in high school.

Jones, Reid, Bartlett (2006b) concluded that the views of staff on what constitutes academic impropriety are not consistent and sometimes clearly incorrect. Based on their survey, only 63.2% of respondents said that "Taking credit for the work of a group when you have not contributed" is cheating but 100% of respondents agreed that practice provides an unfair advantage. There are some practices that respondents are not convinced with forms of academic impropriety or provide an unfair advantage.

Peslak (2007) found that there is not any difference in making the decision about whether to take an unethical action between those students of informatics technology department and those in general. The students support the issue of privacy but they are less sure to support the ethics of intellectual property. Peslak (2007) suggests that the

educators more emphasizes on academic honesty in the curriculum, especially the ethics of copy right.

A theory that explains a cheating behavior is Deterence Theory (McCabe, Butterfield, and Treviño, 2006). Based on that theory, there is a joint function of the perception of the likelihood that one will be caught and the perception of the severity of the penalties imposed for the misconduct. It means, higher the student's perception that cheating will be reported and the more severe the perceived penalty, the less likely a student will be to risk such behavior.

Wood and Warnken (2004) classified academic cheating into following 8 categories:

1. **Plagiarism**: is an activity performed by a person who quotes and/or imitate (identically without any modification) the work of others or certain body without enclosing the writer's name in his/her work and claims the said quotation and/or imitation as his/her work. Such a person is called a plagiarist.
2. **Collusion**: (in academic area) is the unofficial collaboration between two persons or more (either students or lecturers) that is not approved by the authorized superior to perform a work and then claim the work as the work of one person in the collaboration or it is a person who does an academic assignment for another person that will take the credit.
3. **Falsification**: is to submit another's person work or assignment that is claimed to be his/her work or assignment.
4. **Replication**: is someone's action to submit the same work to more than one place to have more points (credits).
5. **Taking unauthorized notes or devices into an examination** which means to bring note or devices illegally during a test or examination.
6. **Obtaining an unauthorized copy of an examination paper** or, in other words: to divulge the test subject.
7. **Communicating or trying to communicate with another student during an examination**.
8. **Being a party** to impersonation in relation to an examination namely **to cooperate in doing the test and/or pretend to be ignorant of it**.

RESEARCH METHOD

Research Method

The study will be performed by means of survey method. The population to be studied is that of students at STIE Perbanas Surabaya. The sample will be taken randomly (random sampling). The data will be collected through a questionnaire.

Operational Definition

The variable Sof this study is the perception toward e-cheating in the academic area. The term is taken from the combination of e-cheating definition delivered by Jones, Reid and Bartllet (2006) and that of academic cheating by Wood and Warnken (2004).

E-cheating is information technology equipments (including communication technology) utilization to do cheating. The cheating defined in this study is academic cheating that consists of: plagiarism, collusion, falsification, replication, taking notes or devices illegally during a test or exam, communicating or trying to communicate with other participants during a test or exam, and doing the test collectively and/or pretend to

be ignorant when there are participants who are cheating. The perception of students toward E-cheating in academic area shall consist of:

1. The perception toward academic cheating categorization. This sub variable shows the perception of students toward what to be categorized as an academic cheating.
2. The perception toward the benefit of academic cheating. This sub variable shows the perception of students toward the benefit gained by the cheater after doing an academic cheating.

Questionnaire

The instrument of study is adopted from Jones, Reid and Bartllet (2006) with modification according to the condition in Indonesia. The evaluation shall be performed as referred to the answer given. Yes = 3, No = 1 and Doubt = 2 as enclosed instrument. The final part of instrument shall present an open question to know about respondent's opinion concerning those doubtful answers to the previous questions.

Validity Test and Reliability

The validity test is used to measure whether a questionnaire is valid or not. A question is certified to be valid when the questions presented therein are able to reveal the matter to be measured by the questionnaire. The test is performed by correlating the scores of questions with total scores of variables. All of questions are valid for both variables.

The reliability test is used to measure a questionnaire that is the indicator of variable or construction. A questionnaire is considered to be reliable when the answer to the question therein is consistent from time to time. A construction/variable is considered to be reliable when it gives cronbach alpha score (α) > 0.70 and is considered to be unreliable when it gives cronbach alpha score (α) < 0.70. Results of reliability tests both of variables are reliable. The cronbach alpha scores are 0,8368 for "perception toward academic cheating categorization" (Is This Practice Cheating) and 0,9021 for "perception toward the benefit of academic cheating" (Does This Provide An Unfair Advantage) questionnaires.

Analysis Technique : Descriptive Analysis

The analysis is performed by means of descriptive analysis technique. This analysis is used to search for and make conclusion of findings that can be found on field. Those collected findings then are presented in a tabulation or graphic to make them easier to understand or read. The descriptive analysis will be explained in three matters namely: descriptive analysis of the perception toward academic cheating categorization and descriptive analysis of the perception toward the benefit of academic cheating.

In this descriptive analysis, the data collection of each answer to questions will be arranged from the most 'yes' answers to the fewest. Our plan was sorting each group of perception as referred to that order, 'yes' answers of more than 75% show the perception of academic cheating categorization and the perception toward the benefit of academic cheating. Unfortunately, there were no answers that get 75% agreement, so we changed the range of grouping into 50%.

In order to confirm the analysis, a differentiating test is conducted to the variable of one sample group to another. The data is collected as referred to the "status of students" (accounting or management, graduate or undergraduate). The steps to be taken are:

1. Normality test is conducted to each group to test whether the free variable t-test is normally distributed or not. In order to have knowledge of that, a Kolmogorov-Smirnov (K-S) test of one sample. This test is relevant with the level of compatibility between sample distribution (observation score) and theoretical distribution. K-S test shall decide whether the score in a sample is obtained from the population that has theoretical distribution or not. Shortly, K-S test shall cover the cumulative frequency distribution calculation that will occur under its theoretical analysis and compare it with cumulative frequency distribution from observation. K-S test assumes that the distribution from the variable we observe is continuous as shown by the cumulative frequency distribution.
2. Descriptive Analysis for Academic Cheating Factor. This descriptive analysis for academic cheating factor will be concluded in 10 answers that are mostly chosen by the respondents, and those 10 answers mostly chosen by the respondents will be drawn as the conclusion that those are the reasons of the academic cheating factor. Those most chosen answers will be presented in a percentage shown in tabulation on which those most chosen answers drawn as conclusion are those that range from scale 4 to 5 which percentage is greater than 50%.
3. Descriptive Analysis for Disadvantage of Academic Cheating Factor. This descriptive analysis for academic cheating factor will be concluded in 10 answers that are mostly chosen by the respondents, and those 10 answers mostly chosen by the respondents will be drawn as the conclusion that those are the reasons of the disadvantage of academic cheating factor. Those most chosen answers will be presented in a percentage shown in tabulation on which those most chosen answers drawn as conclusion are those that range from scale 4 to 5 in which the percentage is greater than 50%.

RESULTS

Descriptive of Respondents

The questionnaires distributed to 500 students, but only 414 that we can analyze because there are 86 incomplete answers. **Appendix 1** describes characteristics of respondents. Most of respondents are from students that entry STIE Perbanas Surabaya at 2004 (36,1%), accounting bachelor degree (53%), and GPA between 3,01 to 3,49 (36,1%). From 413 respondents, there are 233 (56,4%) students who has programmed Business Ethics and 112 (27,1%) students has programmed Professional Ethics. All of respondents has passed Ethics and Personality program.

Normality Test

Normality test results with K-S test showed that the data for both variable are normal. Significance (2-tailed) for "perception toward academic cheating categorization" is 0,340 and for "perception toward the benefit of academic cheating" is 0,132. Both Asympt. Sig (2-tailed) values are higher than $\alpha = 0,05$. It means the data for both variables are normal.

The Perception toward Academic Cheating Categorization

Data tabulation was sorted based on the answer yes, no and doubt. Each answer to questions will be arranged from the most 'yes' answers to the fewest. **Appendix 2** shows the result of data tabulation for Perception toward Academic Cheating Categorization.

There are 10 items that get responses more than 50%. Those responses show the student's perception toward academic cheating categorization in STIE Perbanas Surabaya. The responses are surprising because the highest response is only 68,77%. It means only 68,77% of students believe that "copying from another student in an examination" is an example of academic cheating. In fact, STIE Perbanas has a regulation to punish any students who copying from another student in their exam. Second to fifth the highest responses are "copying from a friend's coursework assignment" (65,86%), copying and pasting material from an electronic journal into an assignment without crediting the source (65,38%), swapping assignments with a friend prior to submission to improve their marks (64,41%), and making up some data for a research project (59,81%).

Appendix 3 shows the differences perception toward academic cheating as referred to student of batch. There are 6 items that get differences response based on student of batch. *First*, student of batch before 2003 did not agree that "making up some data for research project" is an example of academic cheating. *Second*, student of batch before 2003 and student of batch 2004 did not agree that "copying and pasting material from a website into an assignment without crediting the source", copying some sentences out of a journal article into an assignment without crediting the source and "copy some sentences out of a text book into an assignment without crediting the source" are an example of academic cheating. *Third*, only student of batch 2005 and 2006 agree that "copying parts of a friend's old assignment into a current assignment" is an example of academic cheating. Last, only student of batch 2004 agree that "reproducing material from an old assignment and submitting it in a current assignment" is an example of academic cheating. These findings show that copying activity without crediting the source is mostly activity do by students because they think that those activities did not include as a cheating behavior.

Appendix 4 shows the differences perception toward academic cheating as referred to Department (program). Management (diploma) students more conservative than the other department (program) student. Management (diploma) student conclude that there are 16 item from 29 item is an example of academic cheating, Management (bachelor) student conclude that there are 6 item from 29 item is an example of academic cheating, Accounting (bachelor) student conclude that there are 11 item from 29 item is an example of academic cheating, and Accounting (diploma) student conclude that there are 7 item from 29 item is an example of academic cheating.

Appendix 5 shows the perception toward academic cheating as referred to student GPA. As referred to student GPA there are differences of perception of academic cheating item between the groups of student GPA. But for all groups of student GPA have the same number of academic cheating item around 10 – 11 items, except for students with GPA 2,75 – 3,00 (6 items).

Perception Practice E-Cheating Provide An Unfair Advantage

Appendix 2 presented in descending order to illustrate Perception Practice E-Cheating Provide an Unfair Advantage. This result is also surprising because the highest response to academic cheating item is only 50,12%. ("using unauthorized calculator in an examination"). It means only half of respondents convince that academic cheating has disadvantage benefit for them.

Not all behavior that the students perceived as e-cheating, will provide an unfair advantage. Although the highest response for academic cheating practice is "copying from another student in an examination" (68,77%), only 44,31% respondents believe that the practice provides an unfair advantage. Similarly, when 65,86% students perceived that "copying from a friend's coursework assignment" is an academic cheating, only 47,94% of students considering it has an unfair advantage. Another item is "swapping assignments with a friend prior to submission so they can improve their marks" where 64,41% of students consider it as a cheating, however only 47,22% believe that it has an unfair advantage. "Copying and pasting material from a website into an assignment without crediting the source" agreed by 57,63% students respondent, but only 38,74% students perceived that it has an unfair advantage.

Lecturers' Perception towards E-Cheating

We also asked lecturers' perception about e-cheating practice. From 14 respondents, we got 11 items of e-cheating practices that agreed by more than 75% of our lecturer respondents. Refer to **Appendix 6**, all of lecturers respondents are agreed that "copying from another student in an examination" and "copying some sentences out of a text book into an assignment without crediting the source" are e-cheating practices. The lecturers perception of "copying from another student in an examination" is consistent with students perception, although only 44,31% of students perceived that those practice brings unfair advantage for them. Interestingly, when all of lecturers agreed that "copying some sentences out of a text book into an assignment without crediting the source" is e-cheating practices, only 52,54% of students perceived that that practice is e-cheating, and only 38,98% of students perceived that that practice has unfair advantage. Another e-cheating practices according to lecturers' perception that agreed by more than 75% lecturer respondents are "copying and pasting material from an electronic journal into an assignment without crediting the source", "copying from a friend's coursework assignment", "copying some sentences out of a journal article into an assignment without crediting the source" and "Swapping assignments with a friend prior to submission so that you can both improve your marks" (92,9%).

Almost all of cheating practices that perceived by lecturers are consistent with student's perception of e-cheating, except 2 items. They are : "making up reference to look more impressive" and "seeing another student look at unauthorized material in an exam and not reporting it". More than 75% lecturer respondents agreed that two items are cheating behavior, but the students didn't. Those two items are about collusion.

We gave an open question to lecturers: "what is your suggestion to reduce e-cheating?". Some lecturers suggest to:

1. Make reward and punishments policy for e-cheating at institution level.
2. Give manual assignments for students, such as hand-written resume, and should never use the same exam twice.
3. Scrutiny checks the students assignments
4. Make the students understand about the unfair benefit of doing cheat, and give them reasoning.
5. To anticipate copy/cut & paste behavior, it is necessary for lecturer to give understanding to the students that crediting the source is increasing their papers quality. Lecturers should give some examples about how to make a paper or how to write some paragraphs with reference.

CONCLUSION AND RESEARCH IMPLICATION

Conclusion

Based on those findings, it can be concluded as follows: *first*, items e-cheating behavior that perceived by lecturer and students are almost the same, although with different level of perception. *Second*, not all e-cheating behavior perceived by student will provide unfair advantage. It means the students not convinced that e-cheating will provide unfair behavior. This result can be explained by deterrence theory: higher the student's perception that cheating will be reported and the more severe the perceived penalty, the less likely a student will be to risk such behavior. So, it is necessary for lecturers to give understanding about unfair benefit of doing cheat, constitute a policy to build institutions norm. *Third*, when the students are pressed to focus with graduation, they will be more excuse with cheating behavior. This result is consistent with Peslak (2007).

Research Implication

Sustainability of e-learning program could be threatened if there is low control to academic cheating behavior. Some lecturers will return to use classical method to reduce potential academic cheating in e-learning. For example, any assignments should be hand-written to reduce copy-paste behavior. The only thing that possible to do to keep e-learning program sustain is increasing control of academic process. Lecturers should show what is academic cheating and what is the effect of doing it. Lecturers should appreciate any positive efforts of their students, and make the students proud of their own efforts. There are rewards and punishments, or peers role to maintain the norm of institution. Evaluation method is not only from resume or any tasks that possible to be cheated. Another evaluation such as after submitting a paper the students should show their references, individual quiz, interviews, peer reviews, and presentations, will reduce e-cheating.

This research has not explores the motivation of the students to do cheat yet. So, it can not answer why the students have those kinds of perceptions. Next research can examine any factors that could influence those perceptions, such as moral intensity, educational background, experiences, etc.

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Appendix 1
Characteristics of Respondents

Batch of Student	Number of Students	%
< 2003	31	7,5
2004	149	36,1
2005	73	17,7
2006	91	22
2007	69	16,7
	414	100
Department (Program)	**Number of Students**	**%**
Management (diploma)	18	4,4
Management (bachelor)	147	35,6
Accounting (diploma)	25	6,1
Accounting (bachelor)	219	53
Unidentified	4	1
	414	100
GPA (max. 4)	**Number of Students**	**%**
< 2,49	7	1,7
2,5 – 2,74	30	7,3
2,75 – 3,00	61	14,8
3,01 – 3,49	149	36,1
3,5 – 4	74	17,9
Unidentified	92	22,3
	414	100

Appendix 2
Student's Perception Toward Academic Cheating Categorization
(*Does This Practice Cheating?*)

Instrument	Does it cheating practice?	Provide Unfair Advantage?
Copying from another student in an examination	68,77%	44,31%
Copying from a friend's coursework assignment	65,86%	47,94%
Copying and pasting material from an electronic journal into an assignment without crediting the source	65,38%	45,76%
Swapping assignments wifth a friend prior to submission so that you can both improve your marks	64,41%	47,22%
Making up some data for a research project	59,81%	48,43%
Copying and pasting material from a website into an assignment without crediting the source	57,63%	38,74%
Taking credit for the work of a group when you have not contributed	55,69%	48,18%
Copying some sentences out of a journal article into an assignment without crediting the source	54,96%	43,10%
Using unauthorized calculator in an examination	54,72%	50,12%
Copying some sentences out of a text book into an assignment without crediting the source	52,54%	38,98%

Appendix 3
Perception Toward Academic Cheating Categorization As Referred to Student of Batch

Instrument	Student of Batch (%)					Total
	< 2003	2004	2005	2006	2007	
Copying from another student in an examination	**61.3**	**68.5**	**79.5**	**64.8**	**66.7**	68.8
Making up some data for a research project	48.4	**57.0**	**69.9**	**65.9**	**52.2**	59.8
Copying and pasting material from an electronic journal into an assignment without crediting the source	**51.6**	**66.4**	**72.6**	**67.0**	**59.4**	65.4
Copying from a friend's coursework assignment	**74.2**	**62.4**	**69.9**	**69.2**	**60.9**	65.9
Copying and pasting material from a website into an assignment without crediting the source	45.2	**61.1**	**64.4**	**57.1**	49.3	57.6
Using unauthorized calculator in an examination	**51.6**	**57.0**	**53.4**	**54.0**	**52.2**	54.7
Copying parts of a friend's old assignment into a current assignment	29.0	43.0	**54.8**	**58.2**	47.8	48.2
Copying some sentences out of a journal article into an assignment without crediting the source	41.9	**59.1**	**60.3**	**52.7**	49.3	55.0
Copying some sentences out of a text book into an assignment without crediting the source	35.5	**57.0**	**60.3**	**51.6**	43.5	52.5
Taking credit for the work of a group when you have not contributed	**51.6**	**51.7**	**64.4**	**57.1**	**55.1**	55.7
Reproducing material from an old assignment and submitting it in a current assignment	41.9	**51.0**	46.6	37.4	49.3	46.2
Swapping assignments with a friend prior to submission so that you can both improve your marks	**67.7**	**65.8**	**68.5**	**63.7**	**56.5**	64.4

Appendix 4
Perception Toward Academic Cheating Categorization As Referred to Department (Program)

Instrument	Department					Total
	0	1	2	3	4	
Copying from another student in an examination	75.0	**83.3**	**58.5**	**75.3**	**60.0**	68.8
Making up some data for a research project	75.0	**72.2**	**53.7**	**63.0**	**56.0**	59.8
Copying and pasting material from an electronic journal into an assignment without crediting the source	100	**66.7**	**57.8**	**69.4**	**68.0**	65.4
Copying from a friend's coursework assignment	75.0	**72.2**	**57.1**	**71.2**	**64.0**	65.9
Copying material found on the hard drive in the computer room/library into an assignment	50.0	**50.0**	41.5	40.2	28.0	40.4
Copying and pasting material from a website into an assignment without crediting the source	25.0	**66.7**	49.0	**63.9**	**52.0**	57.6
Using unauthorized calculator in an examination	75.0	**61.1**	49.0	**58.4**	48.0	54.7
Asking a friend to more or less do a statistical test for you	0.0	**61.1**	33.3	21.9	24.0	27.6
Copying parts of a friend's old assignment into a current assignment	25.0	**61.1**	46.3	49.3	44.0	48.2
Copying some sentences out of a journal article into an assignment without crediting the source	25.0	**50.0**	44.9	**63.5**	48.0	55.0
Copying some sentences out of a text book into an assignment without crediting the source	50.0	33.3	44.9	**60.7**	40.0	52.5
Taking credit for the work of a group when you have not contributed	100.0	**77.8**	**52.4**	**56.2**	48.0	55.7
Reproducing material from an old assignment and submitting it in a current assignment	25.0	**61.1**	40.8	**50.2**	36.0	46.2
Swapping assignments with a friend prior to submission so that you can both improve your marks	50.0	**72.2**	**56.5**	**69.4**	**64.0**	64.4
Knowing of collusion between two students but not reporting it	25.0	**55.6**	35.4	32.0	36.0	34.4
Seeing another student look at unauthorized material in an exam and not reporting it	25.0	38.9	36.1	30.6	**56.0**	34.4

Notes:
0 = Unidentified ; 1 = Management (Diploma) ; 2 = Management (Bachelor) ;
3 = Accounting (Bachelor) ; 4 = Accounting (Diploma)

Appendix 5
Perception Toward Academic Cheating Categorization As Referred to GPA

Instrument	GPA						Total
	0	1	2	3	4	5	
Copying from another student in an examination	67.4	42.9	**53.3**	**65.6**	**71.8**	**75.7**	68.8
Making up references to make an assignment look more impressive	42.4	**57.1**	30.0	44.3	45.6	54.1	45.3
Making up some data for a research project	57.6	28.6	46.7	**60.7**	**62.4**	**64.9**	59.8
Copying and pasting material from an electronic journal into an assignment without crediting the source	63.0	**57.1**	**63.3**	**59.0**	**65.8**	**74.3**	65.4
Copying from a friend's coursework assignment	64.1	**57.1**	**73.3**	**59.0**	**64.4**	**74.3**	65.9
Asking a graduate friend for feedback on a draft assignment	44.6	**57.1**	**60.0**	39.3	32.9	27.0	37.8
Copying material found on the hard drive in the computer room/library into an assignment	46.7	**57.1**	43.3	39.3	36.9	37.8	40.4
Copying and pasting material from a website into an assignment without crediting the source	52.2	**57.1**	**53.3**	49.2	**59.7**	**68.9**	57.6
Using unauthorized calculator in an examination	52.2	**57.1**	**53.3**	**54.1**	**53.0**	**62.2**	54.7
Asking a friend to more or less do a statistical test for you	31.5	28.6	**50.0**	32.8	25.5	13.5	27.6
Copying parts of a friend's old assignment into a current assignment	48.9	42.9	**53.3**	45.9	47.0	50.0	48.2
Copying some sentences out of a journal article into an assignment without crediting the source	50.0	42.9	46.7	44.3	**60.4**	63.5	55.0
Copying some sentences out of a text book into an assignment without crediting the source	45.7	42.9	**50.0**	37.7	**57.7**	**64.9**	52.5
Taking credit for the work of a group when you have not contributed	58.7	**57.1**	46.7	47.5	**54.4**	**64.9**	55.7
Reproducing material from an old assignment and submitting it in a current assignment	47.8	**71.4**	40.0	47.5	47.0	41.9	46.2
Swapping assignments with a friend prior to submission so that you can both improve your marks	56.5	**57.1**	**53.3**	**60.7**	**69.1**	**73.0**	64.4

Note :
0 = unidentified ; 1 = GPA < 2.49 ; 2 = 2.50 ≤ GPA ≤ 2.74; 3 = 2.75 ≤ GPA ≤ 3.00 ;
4 = 3.01 ≤ GPA ≤ 3,49 ; 5 = 3.50 ≤ GPA ≤ 4.00

Appendix 6
Lecturer's Perception Toward Academic Cheating
(*Does This Practice Cheating?*)

Instrument	Total (%)
Copying from another student in an examination	100
Copying some sentences out of a text book into an assignment without crediting the source	100
Copying and pasting material from an electronic journal into an assignment without crediting the source	92.9
Copying from a friend's coursework assignment	92.9
Copying some sentences out of a journal article into an assignment without crediting the source	92.9
Swapping assignments with a friend prior to submission so that you can both improve your marks	92.9
Copying and pasting material from a website into an assignment without crediting the source	85.7
Using unauthorized calculator in an examination	85.7
Making up references to make an assignment look more impressive	78.6
Making up some data for a research project	78.6
Seeing another student look at unauthorized material in an exam and not reporting it	78.6

MANAGERIAL & SOFT SKILLS: THE PERCEPTION OF STIE PERBANAS SURABAYA STUDENTS

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ABSTRACT

The study aims to observe STIE Perbanas Surabaya undergraduate students' perception about managerial and soft skills. Another objective is to examine the differences of the interest between management and accounting students. The research design is exploratory research, using the questionnaires with 14 items as instrument for collecting the data. The sampling technique is judgment sampling and it consists of 55 accounting students and 42 management students. The analysis technique is conducted by descriptive and independent sample t-test analysis.

The result finds that both the management and accounting students state that managerial and soft skills are important for their future wealth fare. The managerial skills consist of making decision and eliminating risk skill, making report skill, analysis skill, communication skill, the skill of strategic and critique making a economic decision, risk identifying skill, and skill of identifying reliable and relevant measurement to make economic decision. The soft skills consist of self confidence, skill of team work, the ability to make relationship with the other person, innovation ability, oral and writing communication skill, honesty, and ability to work in time and target pressure. The other research finding is that there isn't difference of the perception of interest level of managerial and soft skills between the management and accounting students. Based on such findings, it is advisable that STIE Perbanas Surabaya should place the managerial and soft skills in organizing the curriculum, especially before the students graduate from the institution.

Keywords: *Managerial Skill; Soft Skill; Management Students; Accounting Students*

1. BACKGROUND

The entrepreneurs, including general managers, sales managers, production managers, financial managers, accounting managers and so on have to play multiple roles in a business and developed a wide range of managerial skills. Because of that, managerial and soft skills are very important abilities for the alumni of undergraduate program in their jobs where they work. Now the process of teaching at STIE Perbanas Surabaya undergraduate program has not yet been paid attention in considering the managerial and soft skill aspects.

The users' opinion said that the alumnus of STIE Perbanas Surabaya accounting undergraduate who had managerial and soft skills should be noticed by the institution to provide them, especially for improving their self confidence, team work, interpersonal skills, innovation in the job, and effective communication both oral and written, making decision and taking risk, ethical attitude and behavior, and objective, clear, and verified

professional financial reporting (Wilopo, 2007). Although it's the users' opinion of accounting undergraduate, in fact, the users' opinion is not only for accounting undergraduate alumnus, but for all institution alumni. If that is so, managerial and soft skills are needed for STIE Perbanas Surabaya students. Before being applied, it's better to know the students' perception about the learning process of managerial and soft skills.

This study aims to observe and understand STIE Perbanas Surabaya students' perception about managerial and soft skills. In addition, the other purpose of the study is to observe the differences of the perception between management and accounting students. Furthermore, this research result will help the institution to improve the learning process, especially in accounting department.

2. LITERATURE REVIEW

The business school students will need to understand business and society as a complex, dynamic, and interdependent system and carefully explore theory, use frameworks, and build skills to match each other (Samuelson, 2006). It's needed to seek a new rigor that replaces *homus economicus* with a professional stance devoted to a larger purpose—where morals, ethical reasoning, and careful judgment truly matter. The undergraduate students not only have to understand about the managerial skill, but must to know about soft skill.

In this study managerial skill consists of making decision and eliminating risk skill, making report skill, analysis skill, communication skill, the skill of strategic and critique making an economic decision, risk identifying skill, and skill of identifying reliable and relevant measurement to make economic decision. While the soft skill consists of self confidence, skill of team work, the ability to make relationship with the other person, innovation ability, oral and writing communication skill, honesty, and ability to work in time and target pressure.

2.1. Managerial Skill

The managerial skill consists of:

1. Making decision and eliminating risk skill.
   Every time, a manager must make decision. In decision making, a manager selects many alternatives in which each alternative contains risk. Therefore, he or she has to attempt to select the alternative with lowest risk.
2. Making report skill.
   Data alone were of little value. The objective of gathering empirical data was to communicate and to inform decision making. Once data were collected, they were compiled in reports to higher management and the public. The reports served managerial purposes and contributed to informed decision making and better management (William, 2003). Therefore, if an undergraduate alumnus wants to work in an office, he or she has to posses a making report skill.
3. Analytical skill.
   In hiring MBA graduate, Zabid A.R., 2003 explained that the key factor considered by employers was e.g. analytical skill of the graduate. The analytical skill is required not only in hiring MBA graduate, but if someone will be a best staff in an office, he or she has to have an analytical skill. Therefore an undergraduate alumnus required an analytical skill too if he or she work in an office.
4. Communication skill

Douglas, C. et al, 2006, quoted Norton, 1993, said that communicator style, or the way one communicates, signals to help the receiver process, interpret, filter, or understand literal meaning and posited that receivers perceive meaning through style. It means that

5. Skill of strategic and critique making an economic decision.
   Parente, D et al, 2006, quoted McManus, 1995, explained that one of the assumptions of management development programs and management education programs, is that all managers will benefit from acquiring some *strategic* knowledge, skills, and abilities. With a strategic skill, a manager can make an economic decision
6. Risk identifying skill
   Return and risk are two major dimensions of business decisions. While return is a well-identified factor, risk is less understood (Johnson, K., 2007). In other words, a manager have to understand and can identify a risk, especially in his or her company. Enterprise risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entities objectives.
7. Skill of identifying reliable and relevant measurement to make economic decision
   The objective of financial reporting is to provide information useful to financial information users in making economic decisions (Barth, M.E., 2006). A manager has to understand which the reliable and relevant measurement that uses to make decision, especially economic decisions.

2.2. Soft Skill

The ability to utilize interpersonal skills is essential in workplace. Interpersonal skills often referred soft skills (Nealy, 2005). In this research, soft skills consist of:

1. Self confidence
   Moreno, 2007, quoted Stajkovic and Luthans, 1998, explained that self confidence positively effected on individual motivation and performance. Self confidence is defined as a person's conviction about his or her abilities to successfully execute a given task within an identified context. In addition, Moreno, 2007 said that self confidence has characteristics as hope, confidence, resilience, and optimism. If an undergraduate alumnus will be success in the workplace, he or she has to learn how to confidentially behave.
2. Skill of team work
   Teamwork has enhanced the ability of firms to successfully compete in the global market by productivity (Chansler, Phil., 2003). The use of teams has become popular in organizations attempting to remain competitive in today's increasingly global marketplace. Therefore a manager has to know well about how to work in a team. Not only a manager, in the global competition like this decade, every person in the company must understand to work as a team.
3. The ability to make relationship with the other person
   Teams basically left to run themselves can be highly efficient and productive. Success in this area requires three behaviors: being socially and politically aware, building team trust, and caring for team members (Druskat, 2004). Substantially, a manager must have a good relationship with other person, if he or she wants to be a success manager.

4. Innovation ability
   Yuan Duen Lee et al, 2006, quoted Kunkee, 1997, explained that the term 'innovation ability' refers to an organization's capacity to discover previously unrecognized areas of enterprise. In the global decade, if a company wants to survive, the management must be creative and innovative. Therefore, the undergraduate alumnus wants to work in a company, must be a creative and innovative person.
5. Oral and writing communication skill
   Oral communication skills include the ability to listen, converse, follow instructions, communicate with others, and participate in meetings (Ulinski, 2002). There is no doubt writing is an essential public relations skill (Wise, 2005). A good manager must have oral and writing communication skill, because every time he or she needs to present his or her idea and opinion to the colleague or the superior. Therefore, an undergraduate alumnus need to understand oral and writing communication skill if he or she wants to be a good manager.
6. Honesty
   Marques, J., 2007 explained that honesty enhances ownership, brings forth shared responsibility, elicits sense of respect, creates and enhances team spirit, engenders a healthier atmosphere, acknowledges a sense of wholesomeness among colleagues, radiates the message of fairness, and provides peace of mind and a sense of dignity. Then, the honesty is very important for a manager who wants to achieve a highest position in the firm.
7. Ability to work in time and target pressure.
   Effective managers know that not all stress is bad, hard work doesn't kill (Patsula Media, 2001). Effective managers understand and can manage time and achieve a target that be tasked to them. Therefore, a good manager is a person who can work in time and target pressure.

3. RESEARCH METHOD

The study uses a survey method in which the data were collected by questionnaire. The population is STIE Perbanas Surabaya students with a judgment sampling. In addition, the variables observed are managerial and soft skills. The research tries to explore the students' perception about the importance of managerial and soft skills. The indicators of variables are taken from STIE Perbanas Surabaya tracer study (Wilopo, 2007). Variable measurement is by means of Likert Scale, explaining that score "1" indicates disagreeing and score "5" the most agreeing.

In terms of Validity and Reliability, a Validity test is performed to test the capability of a measurement tool in measuring an object. The test is performed by correlating the variable score with the total score. The validity test shows that the correlation level is > 0.3 and significant at alpha 5%. It means that the variables are valid. The reliability is a measure of the internal consistency of variables indicators. A questionnaire is reliable if the answer of a questionnaire is consistent and stable. In the study *Cronbach's* alpha is used to measure the reliability of the questionnaire. A measure is reliable if an alpha value of the coefficient > 0.6 (Hair *et al*, 2006). The reliability test result shows that the value of *Cronbach's* alpha is 0.8520 for managerial skill and 0.6242 for soft skill. It means that the instrument of the study is reliable.

In regards of Analysis Technique, the research uses descriptive analysis and independent sample t-test and analysis of variance (ANOVA). The descriptive analysis is

used to explain the respondents character. Independent sample t-test is used to test the difference of the management student' and accounting student' perception toward managerial and soft skills. The analysis of variance is used to test the difference of the student perception toward the need of managerial and soft skills among the intake period of the student and the student CGPA.

4. RESEARCH RESULTS

Respondent Description

The questionnaire is sent to 150 students and backed questionnaire is 115. From the questionnaire only 97 responses can be analyzed. Table 1 shows the respondent character.

Table 1
Respondent Character

Intake Period	Respondent	%
< 2003	7	7.3
2004	44	45.4
2005	45	46.4
Not Identified	1	1
	97	100
Program	Respondent	%
Accounting	55	56.7
Management	42	43.3
	97	100
CGPA	Respondent	%
2.50-2.74	8	8.2
2.75-3.00	31	32
3.01-3.49	30	30.9
3.50-4.00	25	25.8
Not Identified	3	3.1
	97	100

Table 1 shows that 45.4% respondent intake in 2004 and 46.4% respondent in 2005. The accounting student respondent is 56.7% and the management student respondent is 43.3%. The respondent having CGPA at 3.50 – 4.00 is 25.8%, CGPA at 3.01 – 3.49 is 30.9%, CGPA at 2.75 – 3.00 is 32%, and CGPA at 2.50 – 2.74 is 8.2%.

Results

The result of normality test using K – S Test shows that the data is normal. The significance value of the perception of the need toward managerial skills is 0.129 and toward soft skills is 0.1123 and more than 0.05. It means that the data has a normal distribution.

The perception toward the need of managerial skills

The analysis of the student perception about managerial skills shows that the highest score of managerial skills is communication skill score. The score is 4.48. It means that the effective communication skill is a most important requirement for the student if they

will work in the future. According to the study program, the average score of accounting student is 4.31 and the average score of management student is 4.26.
The independent sample t-test result shows that the significant value is 0.636>0.05. It means that there is not a different perception of the management student and accounting student about the need of managerial skills if they will look for a job in the future. According the intake period, the average score of the 2003 student is 4.00, the 2004 student average score is 4.27, and the 2005 student average score is 4.33.
The analysis of variance result shows that the significant value is 0.284>0.05. It means that there is not a different perception among students that managerial skills are a most important requirement for them if they will work in the future. According to the students CGPA, for the students having CGPA 2.50 – 2.74, the managerial skill score is 4.21, for the students having CGPA 2.75 – 300, the managerial skill score is 4.15, for the students having CGPA 3.01 – 3.49, the managerial skill score is 4.46, and for the students having CGPA 3.50 – 4.00, the managerial skill score is 4.28. By ANOVA test, the result of significant value is 0.112> 0.05. It means that there is not the different perception among the students about the need of managerial skills if they will work in the future. The result of the analysis is showed in Table 2.

Table 2
The student perception about managerial skills

Managerial skill	Score	Program	Score	Intake Period	Score	CGPA	Score
Making decision and eliminating risk skill	4.25	Accounting	4.31	< 2003	4.00	2.50-2.74	4.21
Making report skill	4.26	Management	4.26	2004	4.27	2.75-3.00	4.15
Analytical skill	4.25	Sign. t-test	0.636	2005	4.33	3.01-3.49	4.46
Communication skill	4.48			Sig. ANOVA	0.284	3.50-4.00	4.28
Skill of strategic and critique making an economic decision	4.29					Sig. ANOVA	0.112
Risk identifying skill	4.29						
Skill of identifying reliable and relevant measurement to make economic decision	4.21						

The perception toward the need of soft skills
The highest score of the respondent answer toward the questionnaire is an indicator of the need for self confidence. The score is 4.75. The lowest score of the respondent answer is an indicator of the need for ability to work in time and target pressure. The score is 3.88. It means that the self confidence is a most important soft skill, on other hand the ability to work in time and target pressure is unimportant soft skill for the respondent.
The result of independent sample t-test shows that significant value is 0.605>0.05. It means that there is not a different perception among the management student and the accounting student toward the need of soft skills if they work in the future. The average score of soft skill is 4.27 for students in taking before 2003, and 4.47 for students in taking in 2004 and 2005.
The result of ANOVA shows that the significant value is 0.406>0.05. It means that there is not the different perception from the 2003, 2004, and 2005 students about the need of

soft skills. The soft skill is important for the students if they will work in the future. For the students having CGPA 2.50 – 2.74, the soft skill score is 4.36, for the students having CGPA 2.75 – 300, the soft skill score is 4.39, for the students having CGPA 3.01 – 3.49, the soft skill score is 4.39, and for the students having CGPA 3.50 – 4.00, the soft skill score is 4.46. By ANOVA test, the result of significant value is 0.517> 0.05. It means that there is not the different perception among the students about the need of soft skills if they will work in the future. The result of the analysis is pictured in Table 3.

Table 3
The students' perception about soft skills

Soft skill	Score	Program	Score	Intake Period	Score	CGPA	Score
Self confidence	4.75	Accounting	4.47	< 2003	4.27	2.50-2.74	4.36
Skill of team work	4.34	Management	4.43	2004	4.47	2.75-3.00	4.39
Ability to make relationship with the other person	4.59	Sign. t-test	.605	2005	4.47	3.01-3.49	4.52
Innovation ability	4.33			Sig. ANOVA	0.406	3.50-4.00	4.46
Oral and writing communication skill	4.62					Sig. ANOVA	0.517
Honesty	4.68						
Ability to work in time and target pressure	3.88						

Discussion

The study result finds that the all student of STIE Perbanas Surabaya, that there are the accounting student and the management student, students from all intake periods, and having a good or bad CGPA, have the same perception about the managerial and soft skills. They view that managerial and soft skills are most important for them if they will work in the future. The study result supports the literature review and the early researches about managerial and soft skills. The most important managerial and soft skills needed by the STIE Perbanas Surabaya students are the effective communication skill and the self confidence. Those skills can be provided by giving "a task for the student group with a certain role" having to be presented in a class. The providing a certain role for the student group in the learning process will practice and train the students for having a self confidence and a responsibility to the role provided to them.

5. CONCLUSION

According to the analysis of the study, the conclusion of the result research can be explained as:

1. The most important indicator of managerial skills is the effective communication skill and the most important of soft skills is a self confidence.
2. The accounting student and the management student have a same perception about the need of managerial skills and soft skills in providing them before working.
3. The requirement of managerial and soft skills is really needed for the all student in STIE Perbanas Surabaya that they are junior or senior students and they have good or bad CGPA.

The research result provides suggestions:

1. The research result hopes that STIE Perbanas Surabaya provides the content of managerial and soft skills in all process of education learning, especially before the students graduate and work.
2. The most important contents of managerial and soft skills are the effective communication skill and the self confidence. Those skills can be provided by giving "a task for the student group with a certain role" having to be presented in a class. The providing a certain role for the student group in the learning process will practice and train the students for having a self confidence and a responsibility to the role provided to them.

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FINANCIAL LITERACY AMONG UNIVERSITY STUDENTS AND ITS IMPLICATIONS TO THE TEACHINNG METHOD

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ABSTRACT

Financial literacy has become an increasingly important requirement for functioning in modern society and trends in work patterns, demography and service delivery suggest that it will become even more important in the years ahead. However, many researches show that some group of consumers, including business college students, lack key financial skills and understanding about certain financial products and services. Poor financial management knowledge is believed to be one of the main reasons most people have failed to manage their personal finances.

This study aims at examining the level of financial literacy among university students and exploring various factors influencing the level of literacy. The explanatory variables used in this study include GPA, major at senior high school, study program, financial management (FM) course, and investment experience. In attempt to present an appropriate picture of student financial literacy, the sample is drawn from Perbanas School of Business students using a quota sampling in order to represent students at all levels. This study uses primary data and it is collected using survey of questionnaire. The data is analyzed using descriptive analysis, independent sample t-test, correlation and compare means

The result shows that the financial literacy level of students is quite low. The average score is less than 40%. It also is found that the student financial literacy is not significantly influenced by gender, major at senior high school, study program, GPA and investment experience, but it is significantly influenced by financial management education.

Keywords: student financial literacy, business school, teaching in finance

1. INTRODUCTION

Financial literacy is about enabling people to make informed and confident decisions regarding all aspects of their budgeting, spending and saving and their use of financial products and services, from everyday banking through to borrowing, investing and planning for their future There are many factors that may influence the financial literacy levels required today, such as greater consumer participation in investment markets due to privatisations; increasing complexity of financial products and services; increased access to credit and expansion of credit sources; the impact of technology on financial products and services; and an increase in the volatility of markets after a long period of investment growth

Many economists believe that world economy, including Indonesia is facing recession. Consumers struggling today may find themselves in deep financial trouble tomorrow as the economy weakens. Jobs are in jeopardy, prices for food and fuel are on

the rise, all while wages are stagnant. It will take a steady rudder to ride out this financial storm, a storm for which many consumers are ill-prepared due to their lack of understanding of the basic tenets of sound financial health and responsibility. Consumer financial literacy is more important now than ever, and identifying what people know about their finances and the decisions they make surrounding them, is a critical first step. However, many researches conducted overseas such as Bakken (1967), HSR (1993) and Langrehr (1979) reveal that some groups of consumers lack key financial skills and understanding about certain financial products and services. Amongst the groups with the lowest financial literacy levels were 18 to 24 year olds and university students. That translates into millions of tomorrow's leaders, those who will drive the engine of our economy for years to come, who are not practicing a most basic financial principle.

Although there have been many researches conducted overseas to study college students' knowledge of finance, there is no such researches, at least the published one, conducted in Indonesia.This study examines the level of financial literacy among university students in Indonesia setting and exploring various factors influencing the level of literacy. The explanatory variables used in this study include GPA, type of senior high school, study program, FM course, and investment alternatives owned. In attempt to present an appropriate picture of student financial literacy, the sample is drawn from Perbanas School of Business students using a quota sampling in order to represent students at all levels. This study uses primary data and it is collected using survey of questionnaire.

The main purpose of this research is to provide a preliminary profile of financial literacy of business students in Indonesia. It is axpected that result of this research will be a valuable information in making proposals on curriculum design, resource development and/or institutional support to promote improved financial literacy levels in Indonesian higher education, and promote discussion and ideally agreement about a coordinated way to progress and support teaching for financial literacy in schools.

2. THEORETICAL BACKGROUND

2.1 Previous Studies

According to Connor (1992), Hira (1993), HSR (1993), and O'Neill (1993), poor investment knowledge is believed to be one of the main reasons people have failed to manage their personal finances. Bakken (1967), CFA/AMEX (1991), HSR (1993) Langrehr (1979) and NAEP (1979) state that inadequate knowledge is caused by lack of a sound financial education. Those researchers have shown repeatedly that high school students have not received adequate financial education and have poor knowledge of finance.

Early studies conducted by Bakken (1967), Langrehr (1979), and NAEP (1979) have shown that high school students have poor knowledge about personal loans, credit, insurance, and investments. Additionally, Bakken (1967) states that male students score significantly higher on borrowing money and using credit than female students. Bakken (1967) and Langrehr (1979) find that students with previous business education score better than those without the education. More recent surveys by CFA/AMEX (1991) and HSR (1993) suggest that high school students' knowledge about money and investment could be described as average at best. For example, the results of the HSR survey showes that about 80% of surveyed students do not know what a mutual fund is. Only 39% of them know that an investor is more likely to make money in the stock market over a 20-year period, and 32% know that one could make more money in stock markets than in

bond markets and CDs. Only 20% of the students consider themselves very knowledgeable about money and investments. Voipe, Chen and Pavlicko (1996) study the personal investment literacy of college students and find that half of them are in the 50-60 range, indicating a need to learn the basics, and the other half in the 40 or lower range, clearly suggesting incompetency in personal investment. Danes and Hira (1987) focus on college students' money management knowledge, and find that college students have a low level of knowledge about insurance, credit cards, and overall financial management.

In terms of relationship between financal illiteracy and gender, academic discipline, and experience, Lewin (1995) and Martinez (1994) show that women experience more problems in managing their finances than men. Bakken (1967), Danes and Hira (1987) and HSR (1993) find that female students are less knowledgeable in some areas of personal finances. Voipe, Chen and Pavlicko (1996) provides further evidence on the difference between male and female participants' knowledge about investment basics.

2.2. Financial Literacy in Education

US Financial Literacy and Education Commission (2005) defines financial literacy as the ability to make informed judgments and to take effective decisions regarding the use and management of money. This definition places emphasis on the skills and areas of knowledge that are likely to be necessary to make informed Judgments. Effective financial decisions can be seen to be those decisions that are driven by relevant and integrated dimensions of financial knowledge, that is both general and specific to the individual's situation. According to ASIC (2003), a financial literacy framework consists of the following skill and areas of knowledge: mathematical literacy and standard literacy, financial understanding, financial competence, and financial responsibility. ANZ (2005) states that the four areas that contribute to ineffective financial decisions and thus low financial literacy are: lack of necessary financial knowledge, lack of healthy financial ways of thinking, dormant healthy financial ways of thinking, and difficulties in applying financial knowledge.

Research has found that schools are already teaching aspects of financial literacy and that many more opportunities exist in the curriculum. Anecdotal evidence suggests that these opportunities are currently under-utilised. ANZ (2005) finds that whilst there are opportunities for teaching financial literacy skills, it is not a formal course of study in any jurisdiction and there is no systematic approach to its teaching. At present not all students will be exposed to financial literacy teaching and no course covers all aspects of financial literacy.

Low levels of financial literacy are not unique to one nation. According to ANZ (2005), researches conducted overseas, notably the UK, the US and New Zealand, reveal similar results. In all three countries, measures have been, or are being, implemented to raise financial literacy levels, including efforts to integrate financial literacy education into the school curriculum. To support and promote the teaching of financial literacy in schools, a range of innovative programs have been established. In particular, in both the UK and the US, independent organisations that bring together key stakeholders in the education, finance, community and government sectors have been established.

3. RESEARCH METHODS

This is an explorative research as well as an explanatory research. The explorative design of this research is used to describe and elaborate the degree of student literacy in finance, while explanatory design is used to examine the correlation between gender, GPA, major in senior high school (SHS), financial managememt (FM) course, investment experience and degree of students' financial literacy.

In attempt to answer its objectives, this study analyzes the degree of students' financial literacy, based on their score in ansewering 10 questions related to financial management, and some explanatory variables, namely gender, GPA, major at SHS, FM course, and investment experience. This study uses primary data and it is collected using survey of questionnaire. The sample is drawn from Perbanas School of Business students using a quota sampling in order to represent students at all levels. This study uses descriptive analysis, correlation analysis and different test.

4. RESULTS

4.1. Respondent Description

There are 200 quesionnaires distributed to Perbanas School of Business students, but only 152 of them could be collected and analysed. Table 1 summarizes the respondent characteristics. This table shows that according to GPA there are only 13.8% of respondents have GPA of less than 2.49, while the majority of them have GPA between 3.00 – 3.49. In term of gender, there are more female respondents (57.1%) than the male ones (32.9%), and this approximately represents the actual gender proportion at Perbanas School of Business.

Table 1. Respondent Characteristics

GPA	Number of Students	%
<2.49	21	13.8
2.50 – 2.99	45	29.6
3.00 - 3.49	48	31.6
3.50 - 4.00	38	25.0
	152	100.0
Gender	Number of Students	%
Male	50	32.9
Female	102	67.1
	152	100.0
Major at SHS	Number of Students	%
Social studies	62	40.8
Science studies	82	53.9
Vocational	7	4.6
Others	1	0.7
	152	100.0
Study Program	Number of Students	%
Management	87	57.2
Accounting	65	42.8
FM Course	Number of Students	%
Yes	57	37.5
No	95	62.5
	152	100.0
Investment experience	Number of Students	%
Yes	136	89.5
No	16	10.5
	152	100.0

Source: survey result

Comparing the respodents' major at SHS, the proportion of respendents comes from science study is higher than that of social study (53.9% v.s. 40.8%). There are more management students than accounting students, and most of respondents have no FM education. Most of respondents (89.5%) have invesment experience in demand deposits, saving accounts, stocks and other financial assets, while the rest have no investment experience.

4.2. Data Analysis

The result of normality test using K-S test shows that financal literacy score has a level of significance of 0.00 < 0.05, while GPA has a level of significance of 0.634 > 0.05. It means that financal literacy scores are normally distributed, while GPA are not normally distributed. Consequently, non parametric tests (Mann-Whitney test and Kruskal-Wallis test) are used to examine the impact of explanatory variables toward the degree of financial literacy.

4.3. Student Financial Literacy

Table 2 reveals that the biggest number of students (29.6%) have a financial literacy score of 30, and only 1 student has a score of 80. On average, the score of student financial literacy is 36.58. It provides evidence that the level of student knowledge in finance is quite low. This result is similar to the survey conducted by HSR (1993). Only 9.9% of students have adequate knowledge in finance (score ≥ 60), while 71.7% of students have financial literacy score between 10 – 40. The level of student financial literacy in this survey is even worse than that of found by Voipe, Chen dan Pavlicko (1996). In their study, they find that 50% of students have financial literacy score between 50 – 60.

Table 2. Financial Literacy Score

Financial Literacy	Number of Students	%	Cum %
Score 10	7	4.6	4.6
Score 20	25	16.4	21
Score 30	45	29.6	50.6
Score 40	32	21.1	71.7
Score 50	28	18.4	90.1
Score 60	20	6.6	96.7
Score 70	4	2.6	99.3
Score 80	1	0.7	100
Total	152	100	

Source: survey result

4.4. Correlation between GPA and Financial Literacy

GPA measures the overall academic performance of a student during his study. The correlation between GPA and degree of student financial literacy is presented in Table 3 below. This table shows that the level of significance of both Pearson and Spearman correlations are less than 0.05. It indicates that GPA and student financial literacy are significantly correlated.

Table 3. Correlation between GPA and Financial Literacy

Correlation	Coef.	Sign.
Pearson	0.200	0.014
Spearman	0.174	0.034

Source: survey result

4.5. Explanatory Variables and Financial Literacy

In this study, we use Mann-Whitney test (M-W test) to examine the impact of gender, study program, FM education, and investment experience on student financal literacy. While Kruskall-Wallis test (K-W test) is used to examine the impact of major in SHS on the financial literacy. The test results are presented in Table 4 below. The table shows that the sign M-W value for gender is 0.064 > 0.05, indicating that there is no difference in financial literacy between male and female students. This result does not support Bakken (1967) who finds male students have better financial knowledge that that of female students. The table also reveals that there are no significant impacts of student major at SHS, student study program, and investment experience on the financial literacy. The only variable that has significant influence toward financial literacy is financial management (FM) education. Students with financial management course have significantly higher financial literacy score than those without FM course. This result supports Bakken (1967) and Langrehr (1979) who find that students with previous business education score better than those without the education.

Table 4. Gender, Major in SHS, Study Program, Financal Management Course, Investment Experience, and Financial Literacy

Gender	Score	Major in SHS	Score	Study Program	Score	FM Education	Score	Investment Experience	Score
Male	38.40	Social study	36.29	Management	37	Yes	44.64	Yes	36.69
Female	36.59	Science study	37.93	Accounting	36	No	31.38	No	35.63
Sign. M-W	0.064	Vocational	27.14	Sign. M-W	0.719	Sign. M-W	0.000	Sign. M-W	0.821
		Others	10.00						
		Sig.K-W	0.101						

Source: survey result

5. CONCLUSION, LIMITATIONS and IMPLICATIONS

The objectives of this study are to assess college students' knowledge of personal investment and the
relationship between investment literacy and gender, major in high school, study program, financial management education, and investment experience. The results suggest that college students have inadequate knowledge of finance. The problem cuts across a broad spectrum of the participating students. This findings suggest that financal literacy among college students must be addressed.

Caution should be exercised when generalizing the results because the sample was drawn from one university. Although many important topics of financial management are covered in the questionnaire more questions may help to provide additional information. In spite of the limitations, the study is the first to examine college students' financial literacy in Indonesia and provides evidence that a financial illiteracy problem exists.

Future studies may use these findings as a basis for extending work to gain a better understanding of Indonesia knowledge, attitudes, and behavior in financial management. Further research should also be done on how financial education may improve student knowledge in finance.

Most current teaching methods of finance in Indonesia tend to be teacher centered, rather than student centered learning. In this traditional approach, the teachers actively give lectures, feed the students with new knowledge, while the students tend to be good listeners and note-takers with minimum participation in the class discussion. In order to improve the students financial literacy, it is suggested to addopt student centered learning in which students are involved actively in running the class. Students are stimulated to develop the knowledge and skills learned. Financial management teachers may run small group discussion, role play or simulation, discovery learning and project based learning. Recently, some overseas universities such University of Florida, Cambridge Univesity, and Hawaii Pasific Univesity, have set up an investment club in which students may apply their financial knowledge and skills in the club. Seiler and Seiler (2000) states that the students' interest are sparked when they realize that what they are studying in school can be directly to their personal and professional lives. The knowledge gained by this hands-on activity will help students better understood theory in the classroom.

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MAPPING OF CORE PERSONAL COMPETENCE AND ITS IMPLICATION FOR TEAM - BASED LEARNING PROCESS IN HIGHER EDUCATION

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ABSTRACT

Job preference of graduates is influenced by core personal competencies. Matching among interests in job areas, team roles preference, and conflict management style are the main key to personal competencies success factor for doing job. Recently marketing job area has been the most available in the job market; however, most graduates have low interest to apply it. The purpose of this research is to analyze the graduate's core competency profile. The result shows that most of graduate from accounting and management department tend to be Plant, management diploma program tend to be Implementer and accounting diploma program tend to be Monitor Evaluator in team. In conflict situations, a researcher describes a person's behavior along two basic dimensions, assertiveness and cooperativeness. These dimensions can be used to define accommodation, collaboration, compromise, avoiding and competing mode. Graduates tended use compromise style in management conflict. The result also explained that STIE Perbanas's graduates have strong interest in computational and clerical job area. It's summarizing that graduates' characteristics were not appropriate with personal requirement of marketing job area. Suggestions for using team-based learning consisted of a preparation phase, an application phase and an assessment phase provided.

Keywords: *Core Personal Competence, Job Area Interest, Team Role Preference, Conflict Management Style, Team Based Learning*

INTRODUCTION

In the tight competition in the job markets, any college tries hard to do various strategies to fulfill the demand of labor market, by developing the student's core personal competencies which is known as soft skill. The graduates are demanded not only to get a job appropriate for their interests, but also have a positive work attitude that contribute well to working team, have the ability to solve the work conflict through conflict management style in harmony with situation, so that good performance can be displayed. In such a condition, quality parameter of Higher education cannot be only measured by the number of students coming to the college, but also from the number of output or graduates of the institution competed in job market. Mismatch between education and job area could be seen from the number of the unemployed graduates. Tempo (2008;68) indicated that the number of unemployment reached approximately 740 thousand. When comparing such a result to the previous year, it shows an increase by 10 percent.

In the recent time, the number of graduates from higher education is considered inequal to the job market, because the level of job requirements are so high and therefore,

showing a very tight competition. From the previous Perbanas Job Fair and Campus Hiring it shows that most vacancy area is in marketing (PCC, 2008). This reminds us that colleges or universities are demanded to have undertaken some efforts to optimalize their roles in channeling their graduates into the job market. This effort can be done by bridging with some companies and conducting various adaptations to meet the job market demand. In addition, they also have to try hard to provide their students with various training and other value added, such as by means of personal character development or *soft skill.*

In the future, the universities' graduates are expected not only to be merely employed in the companies but also to be equipped with enthusiasm as well as able to do their job complied with market demand. Furthermore, the graduates are also required to have positive job attitude so that they have contribution to team work, overcome the job conflict so as to keep them in harmony situation. It is stated that any organization must be able to adapt quickly to technological innovations and the changing demands of the markets as well as other stakeholders. In addition, a popular response to these challenges has been introduced in teamworking, which has been claimed to have contribution to greater creativity, productivity, commitment and participation in a diversity of large and small operations. Such an argument is asserted by Katzenbach and Smith in Aritzeta (2005). They also asserted that teams will become the primary unit of performance in high-performance organisations. Other proponents also support such statement.

Research on the relationship between team roles and cognitive styles have shown that team role preference is related to the way in which team members approach problem solving in groups (Aritzeta, 2005). One way of building high performing team is by identifying individual preferences to approach tasks and interact with others, that is to say, identifying individual team role preferences. Furthermore, team-based learning (TBL) as an instructional method can increase communication skill, group interaction and facilitate concept understanding of the students (White in Haberyan, 2007). According to Appleby in Haberyan (2007), bussiness owners identify that communication skill and social skill as the main factors that are recommended for new employees to be accepted. These skills can be acquired if the students get a lot of practices in learning teaching process. To design program which can yield graduates ready to work, higher education must identify their graduates' specific profile of personal mapping which is required by companies. Therefore, the differences between graduates' profiles as result of education process in universities or colleges are required by companies and these should be identified.

The objective of this research to explore the graduates' elementary competency profile at STIE Perbanas Surabaya. This is done by studying the difference between graduates' profile characteristics as result of the educational process in higher education and graduates' profile which required by companies. Finally, the research attempts to provide recommendation for implementing team education program which is desained to improve accomplishment of personal and employers' requirement characteristics.

LITERATURE REVIEWS

Previous Studies

Michael Song (2007) presented that integrating, accommodating, compromising, forcing, and avoiding conflict-handling strategies can have different impacts on constructive and destructive conflict in an innovation context. Another proponent, Haberyan (2007) also presented that team-based leaming (TBL) enhances students' communication skills, group

interaction skills, and comprehension of material concepts. As stated that employers identify communication skills and social skills as the most desirable skills for job applicants (Appleby, 2000). Using team-based leaming in a lecture provides students with an opportunity to apply course concepts and practice communication and social skills in a low threat environment. The results indicate that there were educational and enyoyable experiences with the team-based leaming.

Team Based Learning

Team based learning activities consists of a preparation phase, an application phase, and an assessment phase (Michaelsen et al., 2004 in Haberyan (2007). In the preparation phase, students complete the reading assignments before the topics are discussed in class. The goal is for students to have an introduction to the material before coming to class. During the application phase, student groups apply the material or content to help them make predictions, solve problems, or create explanations for increasingly complex problems. Each group shares their solutions for the activities with the entire class and the instructor provides feedback about the quality of their responses. At the end of this phase groups are more cohesive, committed to team success, and have leamed how to apply the material / content to real life problems. The final phase is the assessment phase. Groups were asked to solve one more application activity to demonstrate their mastery of the material. The responses are evaluated by the instuctor and the score is incorporated into each student's course grade.

Occupational Interest

In this research, occupational interest areas are such as outdoor, mechanical, computational, scientific, personal contact, aesthetic, literary, musical, social service, clerical, practical, and medical

Conflict Management Styles

Management of conflict is important for the effective functioning of any organization. Individuals who possess high level of conflict management skills can create an effective problem-solving process, both within and outside of their organizations. Different conflict management styles lead to different behaviours in the process of conflict resolution, which further lead to different outcomes (Zhenzhong, 2007). In addition, the dominant conflict management model is the dual-concern model. This assumes individuals choose different strategies or styles to deal with management conflict based on some variations of two primary concerns – 'concern for the self' and 'concern for others'. One of the best-known dual-concern models is that of Thomas's model, which identifies five different conflict-handling styles based on two dimensions: assertiveness and cooperativeness (Zhenzhong, 2007). Assertiveness measures the extent to which an individual attempts to satisfy his or her own concerns, and cooperativeness assesses the extent to which an individual attempts to satisfy another. The two dimensions define five conflict styles: *competing, collaborating, compromising, accommodating, avoiding.* These five styles reflect an individual's behavioural intentions in the face of conflict situations

First of all, it is the style of being *competing.* This style is considered high concern for the self and low concern for others; tend to pursue their own interests at others' expense. This is a power-oriented mode, in which one uses whatever power seems appropriate – one's ability to argue, one's rank, or economic sanctions – to win one's position.

Secondly, it is *collaborating* in which it is indicated by high concern for the self and high concern for others. It also indicates a willingness to adjust one's own position, collaborating is not a yielding only strategy, but an active search for integrative or 'win–win' solutions. In the process of conflict resolution, collaborating might take the form of exploring a disagreement to learn of each other's interests, and deciding to resolve some conditions that would otherwise result in competing for resources, or it might take the form of confronting and trying to find a creative solution. Therefore, collaborating is undoubtedly desirable for managing conflict, and it will lead to 'win–win' solutions and positive relationships. However, collaborating requires time and effort from both parties. It also requires good interpersonal skills, including open communication, trust, and mutual support. As a result, people might find it challenging to use a collaborating style to resolve conflicts.

The third style is *compromising.* This is considered moderate concern for the self and for others, falls in a middle ground between competing and accommodating; it means giving up more than when competing, but less than when accommodating. Compromising style involves splitting differences, exchanging concessions, or seeking a quick middle-ground position, with the objective of finding an expedient, mutually acceptable solution that partially satisfies both parties. Gobeli, Koenig, and Bechinger (1998 in Zhenzhong, 2007) found that compromising (called *give-and-take*) was ineffective at the project level but was effective at the organizational level.

The fourt is *accommodating* which *is* indicated by being low concern for the self and high concern for others, seems to be used less in business negotiations, neglect their own concerns to satisfy the concerns of others; there is an element of self-sacrifice in this style. During the process of conflict resolution, such as business negotiations, accommodating might take the form of selfless generosity or unnecessary concession, obeying another person's order when one would prefer not to, or yielding to another's point of view, which consequently leads to low individual profits, and possibly a low level of satisfaction (Zhenzhong, 2007).

Last of all, is *avoiding.* This style is in fact to be *low* concern for the self and low concern for others, unassertive and uncooperative. Avoiding individuals do not immediately pursue their own concerns or those of others. Instead, they just try to avoid the conflict. Too much avoiding leaves important business issues unresolved, which often leads to heightened tension, dissatisfaction, and limited achievement.

Team Roles

One of the most extensively used methods for identifying team roles derives from the work of Belbin (Aritzeta, 2005), listing the labels and the principal concerns, and characteristics of roles as follows:

1. Implementer: concerned with the practical translation and application of concepts and plans developed by the team. This entails a down-to-earth outlook, coupled with perseverance in the face of difficulties.
2. Co-ordinator: Organizes co-ordinates and controls the activities of the team. This involves the clarification of team objectives and problems, assigning tasks and responsibilities, and encouraging team members to get involved in achieving objectives and goals.
3. Shaper: challenges, argues and disagrees, has achievement motivated, extrovert, impatient, and has a low frustration threshold. Keen on winning the game. Has good insight, especially if loses. A non-chair leader.

4. Plant: concerned with putting forward ideas and strategies for achieving the objectives adopted by the team. Performance of this role requires creativity, imagination and innovation.
5. Resource Investigator: explores the environment outside the team, identifying ideas, information and resources. Performance of this role involves developing contacts, co-ordination and negotiation with other teams and individuals.
6. Monitor Evaluator: analyses ideas and proposals being considered by the team, to evaluate their feasibility and value for achieving the team's objectives. Points out in a constructive manner the weaknesses of proposals being considered.
7. Team Worker: creates and maintains a team spirit. This involves improving communication by providing personal support and warmth to team members and by overcoming tension and conflict.
8. Completer/Finisher: ensures that the team's efforts achieve appropriate standards, and that mistakes of both commissions and omissions are avoided. It also involves searching for detailed mistakes and maintaining a sense of urgency within the team.
9. Specialist: a person who provides the professional expertise necessary in certain "real life" settings. Self-disciplined, single-minded, serious, efficient, expert, self-disciplined, not interested in others, defensive.

RESEARCH METHODS

Sample Selection and Data Collection

The study will be performed by means of survey method. The population to be studied is that economic faculty graduates at STIE Perbanas in April 2008. The sample will be taken convenience. The research involves 199 graduates of business department: 67 graduates of Management Program, 93 of Accounting Program, 21of Accounting Diploma Program, and 18 of Management Diploma Program and all of the questionnaires qualified for analysis.

Research Variables

The research uses variables as the following. First, it is occupational area of interests. It includes such as outdoor, mechanical, computational, scientific, personal contact, aesthetic, literary, musical, social service, clerical, practical, and medical. Second, it concerns conflict management styles. It involves such as the styles of *competing, collaborating, compromising, accommodating, and avoiding.* The third is dealt with team roles. This consists of Implementer, Co-ordinator, Shaper, Plant, Resource Investigator, Monitor Evaluator, Team Worker, Completer/Finisher, Specialist

Measurements

For assessing the occupational interest, Rothwell Miller Interest Blank (RMIB) is used for this study. The conflict management style survey was based on the Thomas-Kilmann Conflict Mode Instrument (MODE). This was chosen for the following reasons: It is widely available, can be completed in a short period of time, a perfect framework to survey conflict management styles. Compared to other scales derived from the dual-concern model, the MODE is also relatively uncontaminated by social desirability effects (Zhenzhong, 2007). Belbin's Team Role Self-Perception Inventory (TRSPI) was adopted to used team role preference measurement

Type of validity which was addressed relative to this study was face validity. Face validity refers to the extent to which the items in an instrument actually address the

important aspects of the domain the instrument which is intended to assess. Stated differently, each question or item have a logical link to some important aspects of the domain being addressed. Consequently, by definition, the instrument has face validity.

The reliability of this study was addressed by computing a split-half reliability coefficient. The split-half reliability coefficient is appropriate when an instrument is intended to assess more than one factor. In other words, split half reliability is appropriate when an instrument is not unidimensional. The split-half reliability was more than 0.7 for the instruments.

RESULTS

Three sets of analyses were performed on the questioners' data. Descriptive statistics (means, frequencies, and percentages) were used to summarize and analyze the data. The following descriptive analysis of respondents' occupational interest, team roles preference and conflict management style are as showninthe following.

Table 1
Occupational Interest

No	Area	Accounting	Management	Diploma (accounting)	Diploma (management)
1	*Outdoor*	0	0	3.6%	0
2	*Mechanical*	1.7%	0	0	4.6%
3	*Computational*	**36.0%**	**26.3%**	**28.6%**	**31.8%**
4	*Scientific*	8.5%	8.8%	10.7%	4.6%
5	*Personal Contact*	1.7%	6.2%	0	0
6	*Aesthetic*	6.0%	1.2%	7.1%	4.6%
7	*Literary*	9.4%	1.2%	10.7%	0
8	*Musical*	5.1%	3.8%	3.6%	22.7%
9	*Social Service*	6.8%	7.5%	3.6%	9.1%
10	*Clerical*	**18.8%**	**37.5%**	14.3%	13.6%
11	*Practical*	0	0	7.1%	4.5%
12	*Medical*	6.0%	7.5%	10.7%	4.5%

From Table 1 above, in general it can be elaborated that the graduates' biggest job enthusiasm are mostly related to *computational* and *clerical*. On the one hand, for the graduates of S1 (undergraduate study program) Accounting, their enthusiasms is then followed with *clerical*. On the other hand, for graduates of S1 (undergraduate study program) Management, their enthusiasm is *clerical* and then followed with *computational*. In Accounting and Management D3 (Three-year study program) the graduates' biggest job enthusiasm is related to *computational.*

There is a tendency that *Clerical* and computational enthuasiasm of STIE Perbanas Surabaya shows that they prefer administration type of work , calculation and number, 'rear desk' activity,with stable and routine job.

Table 2 Team Roles

No	Team Roles	Accounting	Management	Diploma (accounting)	Diploma (management)
1	*Implementor*	11%	6.7%	14.9%	**24%**
2	*Co-ordinator*	3.2%	13.3%	7.4%	4%
3	*Shaper*	1.6%	0	0%	0%
4	*Plant*	**33.1%**	**27.8%**	**18.5%**	8%
5	*Resource Investigator*	1.6%	4.4%	3.7%	4%
6	*Monitor Evaluator*	18.9%	18.9%	**18.5%**	**24%**
7	*Teamworker*	14.9%	15.6%	7.4%	12%
8	*Complete Finisher*	6.3%	10.0%	14.8%	20%
9	*Specialist*	9.4%	3.3%	14.8%	4%

From Table 2 above, in general the graduates tend to be the roles of *implementor, plan*, and *monitor evaluator*. The graduates of S1 (undergraduate study program) Accounting and Management has shown that their team role tendency is as *Plant***.** This role will have contribution to the group with its characteristics such as creative, imaginative, flexible, and can finish difficult problems.

For the graduates of D3 (three year study program) Accounting, the biggest role tends to be as *Monitor Evaluator*. This role will have contribution to its group through systematic and strategic thingking, sharp analysis, can see all alternative and determining correctly. In another perspective, *Monitor Evaluator* has lack of ability and energy for inspiring others.

Graduates of D3 (three-year study program) Management, the biggest role tends to be as *Implementer***.** This role is considered to have contribution to its group with their concern in the practical translation and application of concepts and plans developed by the team. This entails a down-to-earth outlook, coupled with perseverance in the face of difficulties

Table 3 Management Conflict

No	Management Conflict	Accounting	Management	Diploma (accounting)	Diploma (management)
1	*Accomodating*	18.8%	20.5%	16%	29.1%
2	*Collaboration*	16.9%	20.5%	20%	16.7%
3	*Compromising*	**32.2%**	**36.4%**	**44%**	**33.3%**
4	*Avoiding*	25.8%	15.8%	20%	16.7%
5	*Competing*	6.3%	6.8%	0%	4.2%

From Table 3 above, in general the graduates' style of solving the conflict tends to be as *Compromise***.** In such a style, individual is supposed to able to cope the conflict by means of sharing with others, reciprocating and accepting, and therefore, they can make decision or agreement that can be accepted y others. With this style, individual does not feel being in "win or fail", because they use "little winning, little loss" as their principle. Compromise style approach uses a few assertive and a few co-operative. The smallest style of solving the conclict tends to be as *competition* style. Based on such findings, it can be judged that the style of solving conflict for the individuals tends to be taking fancy to "comfort *zone*", while in the job environment they makes it confortable, without having full *competition.*

CONCLUSIONS AND RECOMENDATION

It can be generalized that this study has contributed to the understanding of graduates' styles of managing conclicts. Yet, it also entails some limitations. Therefore, for further research, it is suggested that researchers can conduct the same research but use bigger sample. In addition, the findings can be judged commensurate with STIE Perbanas Surabaya graduates'conditions. Thus, when it is conducted in other colleges, the results might be different. Though there are some similarities with other results of the research conducted in other universities, this research asserts recommendation only limiteed to the college of STIE Perbanas Surabaya, especially in the strategy appropriate for the job markets.

This research, anyhow, extends and enriches our understanding of team roles preference and conflict managementsStyles in a variety of ways. First, the study confirms the notion that graduates are more likely to use *compromising* to resolve conflict. Surprisingly, *competing* was found to be the last preferred style in conflict resolution, and it influences the negotiator's affective outcome. There are still other opportunities for theory-building studies based on the observation of team behaviour.

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OPEN UNIVERSITY MALAYSIA: WAY FORWARD IN SCIENCE AND TECHNOLOGY EDUCATION

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ABSTRACT

One of Malaysia's national agenda is to move towards a scientific and progressive society. Government strategies for Malaysia described in this paper highlights the importance of life long learning in achieving its national agenda. Open University Malaysia as a pioneer in open and distance education has a role in promoting life long learning in Malaysia. This paper highlights the key features of the university i.e. blended learning mode and e-learning platform which offers various benefits that could provide supports for creating an innovative society. In the context of science and technology, creating an innovative society means creating manpower with good foundation in basic science knowledge and science skills, a sense of appreciation of contributions and innovations in science and technology, positive attitudes and awareness on ethical issues. This paper proposes strategies to invest in the future by retraining man-power, promoting basic science and increasing the quality of technical courses.

Keywords: *Innovative Society, Policies, Science, Technology, Human Resource, Strategies, Investment*

INTRODUCTION

Open University Malaysia (OUM), the nation's first open and distance learning university was established on 10 August 2000 to promote life long learning in the country. OUM has taken the challenge for the past eight years and has made its mission to be the leading contributor in democratising education; to develop quality education through multimode learning technologies; and to develop and enhance learning experiences towards the development of a knowledge-based society. OUM aims to contribute to the creation of knowledge-based society by removing boundaries and democratising education. This is inline with the nation's objective to establish a scientific and progressive society. The 2007 Malaysian Science and Technology Convention (MASTEC 2007) dated December 10th to 11th, 2007 held in Putrajaya Marriott Hotel themed Malaysian Science, Technology and Innovation: Strategizing and investing in The Future highlights the national agenda for moving from resource-led economy to innovation-led economy. Such agenda requires great progress in science and technology, and democratization of science and technology education for the working adult learners.

This paper describes key features of OUM, particularly its blended learning mode and e-learning platform and how these features can help to create innovative society. In the context of science and technology, creating an innovative society means creating manpower with good foundation in basic science and science skills, a sense of

appreciation of contributions and innovations in science and technology, positive attitudes and awareness on ethical issues. This paper also proposes strategies to invest in the future by retraining man-power, promoting basic science and increasing the quality of technical courses.

CORE EDUCATIONAL STRATEGIES IN MALAYSIA

The innovation-led economic model consists of a balanced approach between market-driven and technology-driven innovation. The critical factor in this model would be the human capital. In his plenary talk, Dato' Dr. Mohd Taib Ibrahim, Deputy Secretary General, Ministry of Higher Education outlined the following plans which forms the core strategies for Malaysia to become a regional educational hub.

- Third Outline Perspective Plan (OPP3), 2001 - 2010
- Knowledge-based Economy Master Plan (KEMP), 2002
- 9th Malaysian Plan, 2006 - 2010
- National Higher Education Strategic Plan, 2007 – 2020

The OPP3 emphasizes lifelong learning as a platform to continuously upgrade the quality of workforce. Distance education and online education will be developed as an important element in education development strategies, providing another option of education for working adults. Public and private universities are also encouraged to develop centres of excellence through collaboration with industries or foreign partners. In line with OPP3, government will continue to give priority to intensify the use of ICT in all schools and higher learning institutions (Mohd Taib Ibrahim, 2007).

KEMP was developed to provide strategic directions for the nation to move into a knowledge-based economy over a ten year period. Developing knowledge-based human resources essentially encompass education, training and retraining, lifelong learning and sourcing of global talent. This efforts are also emphasized in the 9th Malaysian Plan, which aims to improve access and quality of education at all levels; producing tertiary institutions of international standing; nurturing top quality research and development, and scientific and innovation capabilities (Mohd Taib Ibrahim, 2007).

The National Higher Education Strategic Plan aims to produce graduates who are knowledgeable and competent and able to put into practice the knowledge gained. The graduates must be innovative, possess high cognitive skills, multi-lingual, able to communicate effectively and technology savvy, able to inculcate good values and contribute to the well-being of the society, nation and the global community. In order to achieve these, seven strategic thrusts were established under the Strategic Plan.

1. Widening access and increasing equity;
2. Improving the quality of teaching and learning;
3. Enhancing research and innovation;
4. Strengthening of higher education institutions;
5. Intensifying internationalisation;
6. Enculturation of lifelong learning; and
7. Reinforcing the deliver systems of the Ministry of Higher Education.

ROLE OF OUM AS AN ODL INSTITUTION

The above educational strategies highlight the importance of an open and distance education. As a pioneer in this field, OUM has always reflected its position and strategize towards nation building.

OUM uses technology as an enabler to bring education to the masses. The use of ICT in education offers flexibility and wide access to learners throughout Malaysia. To date, OUM has 61 learning centres across Malaysia. Twelve of the learning centres are located across the sea in Sabah and Sarawak, thereby, removing the borders between the different states in Malaysia in the context of education. The centres are not only distributed geographically, OUM has also extended its educational service from the heart of Kuala Lumpur to rural areas such as in Keningau, Sabah. Having a successful borderless education framework in the country has encouraged OUM to expand. At present, OUM has learners in other countries such as Indonesia Singapore, Maldives, Baharin and Yemen.

An interesting aspect of OUM is that it has a concentrated pool of academic manpower that is supported by a large external academic manpower, mainly from public universities in Malaysia. The limited pool of manpower of 73 permanent academicians is from a wide range of disciplines. It has 5 faculties:

- Faculty of Information Technology and Multimedia Communication,
- Faculty of Education and Languages,
- Faculty of to Applied Social Sciences,
- Faculty of Business and Management,
- Faculty of Science and Technology.

This interesting structure enables OUM to employ the latest approaches in the teaching-learning process in various fields and promote cross-field studies. Such setting allows OUM to offer academic programmes that cater to the demands of industry and marketplace in general. It positions OUM as a strategic centre that able to collaborate and integrate between organisations of various backgrounds: government and industry; and local and international.

Blended Learning Mode

OUM uses blended pedagogical approach of learning to deliver its open and distance education programmes. The blended learning mode consists of three primary components:

a. Self-managed learning using self-instructional modules
b. Face-to-face tutoring
c. Collaborative Online Learning

Learners are guided in their learning through self-instructional modules. Every module includes a course guide section which introduces learners to a recommended study plan, course synopsis along with recommended reading materials and the assessment method for the course. The study plan would show a learner the breakdown of actual hours for a course. About 80% of the total study hours are recommended for self-managed learning using self-instructional modules.

After every two-weeks of self-study, a learner can attend tutorial sessions along with other learners to discuss the course content with their tutor. It involves group learning facilitated by a tutor. This guided classroom session is an option offered to

mediate the learners who are accustomed to traditional classroom interactions. The tutor would initiate discussion of concepts and conduct activities involving problem-solving. Learners work together to resolve any unclear concepts introduced in the course. Learners also engage in group activities to enhance their problem-solving skills.

Throughout the entire semester, a learner is supported by myLMS (my Learning Management System), which is OUM's internally-developed web-based e-learning platform. It supports asynchronous online forum where collaborative online learning takes place facilitated by the face-to-face tutor. Collaboration, in simple definition, means work jointly to achieve a common goal. This session is similar to the tutorial session, except it is asynchronous and is online. It can be accessed from anywhere and at anytime. Learners and facilitators contribute to the process of knowledge construction by providing ideas and opinions, sharing experiences and simultaneously engaging in deep learning activities (Kaur, K. & Zoraini, 2004). Through collaborative online learning, learners can test their understanding and problem-solving skills they have acquired through discussions and solving problems in their respective groups. In distance education, discussion and sharing experience have been identified as two of the most effective means by which adults learn (Williams, B., 2004).

At OUM, one of the first courses learners must register for is the "Learning skills for Open and Distance Learners" course. Upon registration for this course, learners are provided with "The Learning Skills for Open and Distance Learners" module (OUMH1103 Module) which is the primary learning material for them to manage their learning. This course will ensure that they will be ICT savvy and learn the basic learning skills and search strategies for information retrieval.

The blended mode encourages the training of learners as self-directed learners who are motivated and in control of their own learning. Active learning incorporated in the blended mode tends to capture the interest of the learners. In addition, this mode of learning encourages individuals to be result oriented, able to work independently, able to collaborate and work in a team, able to discuss and express their opinions (written and oral), as well as being equipped with basic ICT skills.

The blended mode learning strategy is often supported by additional learning materials such as courseware CDs, virtual laboratories CDs, e-content and others. For example, Motion, Fluids and Waves course introduce learners to physical quantities, vectors, kinematics, dynamics, work, power and energy, uniform circular motion, rotational kinematics and dynamics, fluids, periodic motion, progressive waves and mechanical waves. The learners are guided to understand difficult concepts by visual using a courseware CD for this course. Some of the experimental exercises given are determination of the earth gravitational acceleration and generation of stationary waves.

OUM Programmes

In year 2002, OUM had the first inaugural intake of about 2,500 teachers through its collaboration with the Ministry of Education (MOE). The Bachelor of Education (Science/Mathematics/Engineering) with Honours programme is tailor-made for in-service teachers attached to the MOE and constitutes an integral part of MOE plan to ensure, by the year 2010 all science teachers under the Malaysian secondary school possess university degree. The development of the curriculum is designed to increase the learner's pedagogical knowledge, teaching and student-assessment methodology and to improve knowledge in science. In line with the government policy to increase usage of

English Language, self instruction materials are developed in English language while the tutorials are mostly conducted in English.

In the Bachelor of Education (Science) programme, OUM in collaboration of other Universities organize chemistry, physics and biology practical in various sub-disciplines. These are listed at the end of the modules. Complex laboratory experiments from the listed experiments are chosen for the development of the virtual laboratories on CDs. Six virtual laboratories developed by OUM supplement the scientific laboratory skills learnt by the students in the conventional laboratories:

- Physical chemistry
- Basic techniques in laboratories safety
- Microbial diversity and physiology
- Plant and animal diversity
- Cell biology and cellular biochemistry
- General genetics

The content for the virtual laboratories are developed by Subject Matter Expert or by a group of experts. The content is written up for discussion with technical experts and graphic designers from OUM's ICT and Center for Instructional Design and Technology. After several discussions the contents with interactive animated laboratories exercises are put up for student's interactive learning. There are two aspects in the virtual laboratory:

1. Preparing the laboratory lessons based on the content of the existing module and testing for its standards and acceptability by the laboratory coordinators at various centres and selected students.
2. Developing technical tools or utilizing and adapting available tools or both for students' access and learning at their own time.

A study conducted by Mukherjee et. al. for both General Genetics and Cell Biology and Cellular Biochemistry reveals that the students appreciate the virtual laboratories that further enhance their scientific skills (Mukherjee, Azizah, Ch'ng and Kumar, 2006).

Bachelor of Nursing Science Nursing with Honours is another programme endorsed by the Malaysian Nursing Board. The programme seeks to enhance the knowledge and skills of diploma holders in nursing through a post-registered degree programme and contributes to the advanced health care needs of the nation, community and the future development of nursing care and profession. This robust programme covers in-depth knowledge, professional and clinical skills as well as the caring attitudes as the role of an expert nurse and leader in nursing. The clinical specialties courses include Critical Care Nursing, Trauma and Emergency Nursing, Paediatrics Nursing, Mental Health Nursing, Oncology Nursing and Renal Nursing.

OUM has also collaborated with the industry partners such as Nestle Malaysia to enrich their employees with professional qualifications through the executive diploma programme in manufacturing engineering. In this project, OUM's Institute of Professional Development pulled its resources from both the Faculty of Science and Technology and the Faculty of Business and Management to design a program to cater for the specific need of the program. The subject matter experts in this programme involve experts from both the academic and the industrial manpower. This joint venture gives OUM an excellent experience and an upper hand towards creating programmes that meet the market demands.

Such collaboration are not only limited to links within the country. OUM has established good working relationship with few universities from various parts of the world. In recent years, it is actively involved in creating educational programmes for various market needs outside Malaysia. The Institute of Professional Development of OUM for example has collaborated with the Ministry of Education of Saudi Arabia, Maldives, Bangladesh and Sri Lanka.

The future direction of OUM must be paved in ways that it would give the university a competitive advantage. This paper reviews the idea of creating an innovative society and how the way forward in the area of science and technology can be strategised.

OUM's ROLE IN CREATING AN INNOVATIVE SOCIETY

An innovative society refers to a society capable of original and creative thoughts. Such society would have a very high potential for development. In a country like Malaysia, which has a service and manufacturing based economy, this can be a push factor to move forward and to become a fully developed country. There are many contributing factor that can lead to such success.

In the context of science and technology, the desired outcome would be human capital with good foundation in basic science and science skills, sense of appreciation of contributions and innovations in science and technology, positive attitudes and ethic and safety awareness. Science is a culture. It has to be instilled, nurtured and developed through excellent education programmes and creation of a stimulating environment. Dr. Larry Weber in his address at MASTEC2007 emphasized the importance of basic science which enables applied science to flourish. Some of his recommendations includes: education systems that equip students with foundation for future inquiry in technical subjects; workforce training systems to improve skill; create innovation ecosystem; international collaborations (man-power); sustain and strengthen the nations commitment to long term research, and ensure continuity (most innovation comes from basic research was conducted at the time it was conducted had no demand); and investment in basic research, facilities, and instruments.

OUM plays a very important role in this aspect. Some of the fore-mentioned recommendations by Dr. Weber's are already implemented. The degree programme for in-service teachers described in the above section, involve primary and secondary school teachers. At Faculty of Science and Technology, these teachers are enrolled as learners in the bachelor of education programme with major in Science, Mathematics, or Engineering (Electrical/Mechanical/Civil). These workforce training programmes are designed to support MOE's attempt to improvise the teaching and learning of science in schools and to create an innovative ecosystem. The programme includes courses such as professional ethics and current issues in science as part of the strategy to produce innovative society.

STRATEGIZING AND INVESTING IN THE FUTURE

Creating of manpower to promote the creation of innovative society needs a thorough planning and long term investment. The plan should cover from pre-school to tertiary education and has to be integrated. Nevertheless, a short term plan to create such manpower is also needed. A good short term plan is retraining the existing manpower. At OUM, programmes involving working adults can be used as a route to retrain existing manpower. Programmes can be structured as a training ground to create innovative and competent K-professionals. K-professional should have eight competencies: strategic

thinking skills, knowledge responsibility, continuous learning, contribution in innovative teams, professional disciplines, innovation and creativity, solution focus mindset and personal improvement (JT Frank). Courses such as creative thinking, interpersonal skills can be part of the curriculum.

OUM can be a strategic centre to promote basic science by creating e-community made of science teachers and researchers from all over the country. Using its very own instructional design support, OUM can promote the teaching and learning of basic science by creating web-based interactive learning materials which introduces basic science, the application of basic science in the real-world as well as in laboratories, and innovations in science and technology to its e-community and school children. The strong connection between youth and ICT can be used to capture learners' attention. Virtual-world could draw attention to interesting phenomenon, technology and innovations, thus connecting them to science in the real-world as well as in research laboratories. Today's youth are Visio-spatially intelligent and talented and may need to experience instruction that is visual and that requires active participation. The virtual lab experience combines visual and auditory modalities and requires students to be actively involved (T. A. Stuckey-Mickell & B. D. Stuckey-Danner, 2007).

Technical courses taught in an ODL can be more interesting and effective in its delivery compared to the lecture-based teaching. Research shows that active learning strategy incorporated in self-instructional materials encourage learners to think and construct knowledge as they read and it can happen at their own pace. The long prevailing issue in science and other technical courses in ODL is the implementation of the laboratory component. The quality of ODL structured science and technical courses can be improved tremendously by resolving this issue. At present, OUM uses external laboratory facilities and supports some of the technical courses using e-contents that feature virtual laboratories. Virtual laboratories gives learners a chance to visualise an experiment; and placed within an e-content it also encourage learners to think, by incorporating active learning and support learning by providing required information. This feature can be further enhanced by introducing science in a new light. Practical work should not be seen as a task that must be completed in order to pass/ excel in a course. Every experiment or project should be introduced as a phenomena or a solution to be discovered. The emphasis should be on the process of arriving at the discovery or solution. Science and technology must be seen as part of human life, and this should be clearly indicated in every practical work assigned to the learners. Creating a high correlation between learners and their learning objectives is critical for effective learning, especially for adult learners. It also helps to motivate the learners to excel in their learning.

Good foundation in science and creative thinking supported by able engineers lead to technology novelties. In today's world as pointed out by Prof. Ahmad Zewail in his public lecture titled, "Investing in the Future," 2007, the trend is to move away from single area of expertise. In order to create an innovative society we have to realise the importance of integration and create man-power capable of such process across various field of expertise. The above highlight on OUM as an ODL institution pointed out its strategic setting to engage in cross-field studies. OUM has the right environment to excel in this area and create an international centre of theoretical studies. It has the ability to collaborate, work and gain support from various research institutions (local and international).

The above are few strategies that OUM can embark as an investment and a way forward in science and technology. The objective of these strategies is mainly to contribute to the collective effort of creating an innovative society in Malaysia.

CONCLUSION

OUM as a pioneer ODL institution in Malaysia strategise along the nation's interest to move towards a scientific and progressive society. The importance of life long learning in achieving its national agenda is clearly indicated in the government strategies. OUM's blended learning mode and e-learning platform offers various benefits that could provide supports for creating innovative society by creating manpower with good foundation in basic science and science skills, a sense of appreciation of contributions and innovations in science and technology, positive attitudes and awareness on ethical issues. The way forward strategies proposed in this paper include retraining of man-power, promotion of basic science using e-community, increasing the quality of technical courses and moving towards cross-field studies.

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A PILOT TEST ON THE CULTURAL DIFFERENCES (INTERNATIONAL STUDENTS PERSPECTIVE) AND ONLINE LEARNING IN A MALAYSIAN INSTITUTION

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ABSTRACT

International students coming to Malaysia to study are implicitly expected to cope with the different learning cultures and environment. Studying online means learning is facilitated and supported through the use of information and communication technologies. The use of educational technologies in higher education offers unique challenges to students from different cultural backgrounds. Little rigorous research has been published on the perception of international students on the online learning environment in the Malaysian institutions and cross cultural difference that might exist. Therefore, this study is intended to attempt to better understand this complex, important, and challenging area of research.

Hofstede's Cultural Dimension Model will be used to determine the cultural dimension of the international students coming from various chosen countries. A mixed-method approach will be used to collect data both quantitatively and qualitatively. This study will evaluate how undergraduate students perceive their e-learning experiences in a Malaysian institution using the Online Learning Environment Survey (OLES). An in-depth study will be conducted to compare and contrast the challenges confronted by these international students. Major difficulties encountered and how these students actually cope with online learning, as well as the strategies and tools used to overcome the challenges will be investigated.

Keywords
Information Communication Technology, Hofstede's Cultural Dimension Model, International Students, Oles, Malaysian Higher Education.

INTRODUCTION

An extensive review of existing research on the perception on online learning reveals several gaps which are the lack of research on the influence of cultural attributes on learners' engagement in online learning. According to Wang (2007) cultural attributes, however, can affect online presence and learner perceptions. Although culture can be examined from various perspectives, the cultural dimensions developed by Hofstede (2001a, 2001b) are still the most applicable to teaching and learning.

Firstly, research in this area comprises the identification of the international students coming from various backgrounds and with different learning behaviors. The identification of the countries where the international students come from will be based on Hofstede's cultural dimension. The mixed methods technique will be used for data collection which includes the conduct of questionnaire surveys and also the in-depth interview. As there are not many researches being done on investigating the international students' perception on the online learning environment, this research will serve as a significant contribution to the e-learning area of research.

The proposed study will investigate how undergraduate international students in INTI-UC perceive their online learning experiences in Malaysian educational institutions will be evaluated. A comparison will be made of the challenges of international students from **Indonesia, China,** and **Africa**. This investigation is guided by the used of the Hofstede Model of Cultural Dimensions (Hofstede, 2001a, 2001b) is applicable when it comes to analysing a country's culture. According to Hofstede's *Dimension of Culture Scales*, **Indonesia, China,** and **Africa** have the different cultural dimensions. Despite this, how each country's students perceive e-learning might be different. This study will also explore what international students perceive to be the most difficult things that they have to cope with in the online learning culture, the strategies and online learning tools (chat/conference/video conferencing/emails etc.) they employ to overcome these challenges when studying at a Malaysian university. The INTI Online will be used as an online learning platform to carry out this investigation. The nine-scale OLES (Online Learning Environment Survey) tool - originally created by Trinidad and Pearson (2005) - will be modified and used to evaluate international students' perceptions on the online learning environment. Extra scales such as Evaluation & Assessment, Online Learning Tools, and Interface Design will be added onto the existing nine-scale. There will be twelve scales altogether (Computer Usage (CU), Teacher Support (TS), Student Interaction & Collaboration (SIC), Personal Relevance (PR), Authentic Learning (AL), Student Autonomy (SA), Equity (EQ) , Enjoyment (EN), Asynchronicity (AS), Evaluation & Assessment (EA), Online Learning Tools (OLT), Interface Design (ID)) to be used to investigate the perception of the international students towards online learning.

International students

International or "overseas" students are citizens of other countries who are temporarily resident in Australia to complete tertiary studies. Teaching to an international audience can be significantly different online as compared to a traditional classroom setting. In a traditional classroom setting, the learners are usually removed from their own cultural context and required to operate in the educator's context. Students coming to Malaysia from overseas to study are implicitly expected to, and often do, become familiar with Malaysian culture and the style of education, but, how might they use educational technology tool (online learning) to help achieve this? This research aims to identify the problems faced by international students, so that any issues and difficulties could be resolved at an earlier stage. Particular attention will be also given in this section to Hofstede's (2001a, 2001b) cultural model.

Hofstede's Cultural Dimension

This research will, put simply, investigate how undergraduate international students at INTI-UC perceive their online learning experiences. Hofstede's (2001a, 2001b) Model of

Cultural Dimensions, summarized in Table 1, will be used to guide this investigation. Cultural profiles of Indonesia, China, and Africa are identified in Table 2.

Table 1
Hofstede's Model of Cultural Dimensions (Hofstede, 2001a, 2001b; Hofstede & Bond, 1998)

Cultural Dimension		Description of Cultural Dimension
Power Distance Index	PDI	Related to the different solutions to the basic problem of human inequity.
Uncertainty Avoidance	UAI	Related to the level of stress in a society in the face of an unknown future.
Individualism and Collectivism	IDV	Related to the integration of individuals into primary groups.
Masculinity and Femininity	MAS	Related to the division of emotional roles between men and women.
Confucianism	CONF	Related to the philosophies of Confucius which permeate most Asian cultures.

Table 2
Indonesia, China, and Africa Cultural Profiles

Country	**Power Distance (PDI)**	**Individualism - Collectivism (IDV)**	**Masculinity-Femininity (MAS)**	**Uncertainty Avoidance (UAI)**	**Confucianism (CONF)**					
	High	Low	High	Low	High	Low	High	Low	High	Low
Indonesia	x			x	x		x		x	
China	x			x	x			x	x	
Africa	x			x	x		x			x

DISCUSSION

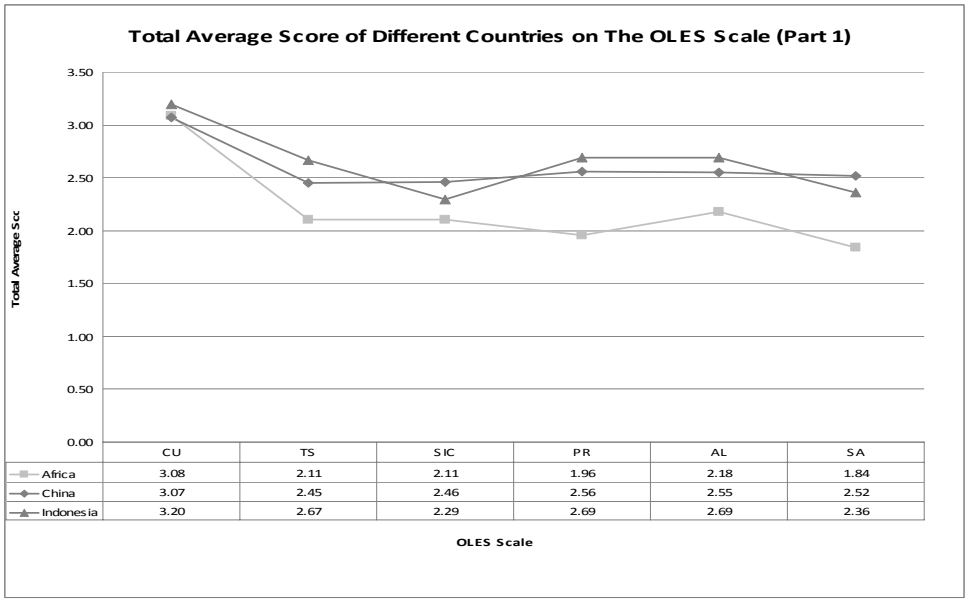
The research has been carried out in two different phases 1) Questionnaire Survey and 2) In-depth Interview. The case study approach were used in looking at the cases of international students coming from three **(3)** different countries **Africa**, **Indonesia**, and **China.** As per Table 3, Twenty **(20)** international students each from these countries were randomly picked from the Faculty of Computing and Information Technology, Undergraduate level programs as the sample for this research and from this sample, five **(5)** students were picked to be interviewed to obtain in-depth data. Data were sorted out based on the gender and language spoken at home. In this sample, most respondents were male, having the majority of 39 out of 60 students. Most of these respondents, 45 out of 60 students were from non-English speaking background as English is not the main communication language at home.

Table 3
Summary of sample for data gathering

Countries	Gender		Language Spoken at Home	
	Male	Female	English	Other than English
Indonesia (20)	15	5	2	18
China (20)	8	12	0	20
Africa (20)	16	4	13	7
Total Respondents (60)	**39**	**21**	**15**	**45**

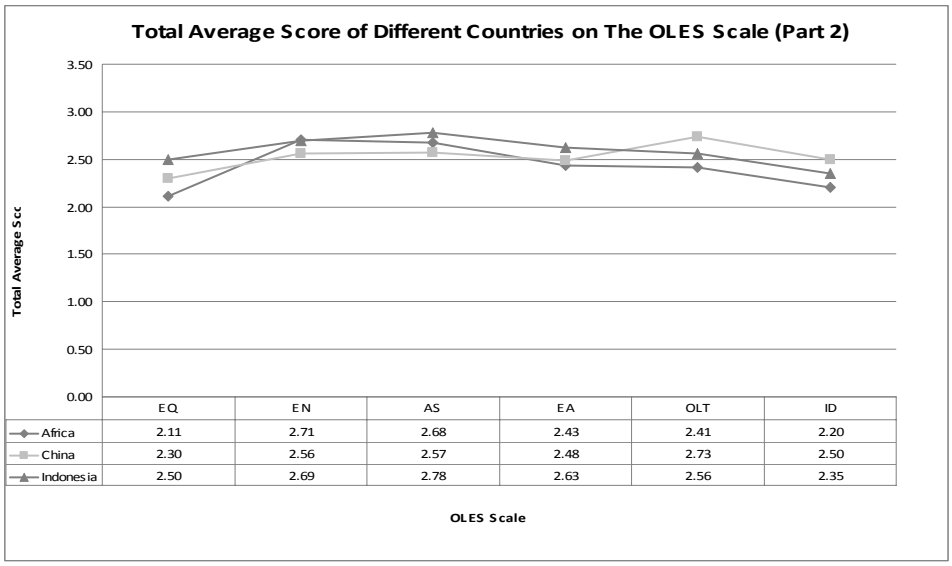
The results were being categorized into five different categories with representation of ratings from one to five (1 -5), ranging from Almost Never – 5, Seldom – 4, Sometimes – 3, Often – 2, and Almost Always – 1 as shown in Table 4. It was found that all three (3) countries have the average scores that have fallen in between Sometimes and Often range, having scores from the range of 1.84 to 3.20. The first six OLES scales will be reported in Table 4 and the last six scales will be reported in Table 5.

Table 4
Total Average Score of Different Countries on the OLES Scale(Part I)



	CU	TS	SIC	PR	AL	SA
Africa	3.08	2.11	2.11	1.96	2.18	1.84
China	3.07	2.45	2.46	2.56	2.55	2.52
Indonesia	3.20	2.67	2.29	2.69	2.69	2.36

Table 5
Total Average Score of Different Countries on the OLES Scale(Part II)



	EQ	EN	AS	EA	OLT	ID
Africa	2.11	2.71	2.68	2.43	2.41	2.20
China	2.30	2.56	2.57	2.48	2.73	2.50
Indonesia	2.50	2.69	2.78	2.63	2.56	2.35

It was found under the Computer Usage (CU) scale, the international students from all three countries have got fairly well computer skills to cope up with the Online Learning environment. However, some of the participants had some minor difficulties of using computer as an aid in their studies.

On the Teacher Support (TS) scale, international students found that the lecturers were being supportive as the results concluded that they often got lecturer's support in their studies and the lecturers have helped, responded to their problems in their studies, and provided adequate feedbacks to help them out in students' assignments. International students from all three countries have no problems in communicating with their classmates when comes to dealing with the group assignments or sharing opinions/ideas on the discussed topics as they both have almost the same average score in the Student Interaction & Collaboration (SIC) scale.

African students often can relate what they have learned in class and relate them to the real world and being able to apply their daily experiences with their studies on related topics as this country has the lower score in the Personal Relevance (PR) scale compare to the other two countries . However, for China and Indonesian students, it was hard for them to relate what they have learned in class to the real life. As from the interview conducted, they found it hard to understand certain points discussed in class and relating them to the real world. Based on the interview session, it was found that the English language used might also be a problem to them as they are not native speakers and some technical words used in technical subjects like in Computer Networking and Software Engineering subjects might create a greater barrier for them to understand the topic discussed in class.

As for Authentic Learning (AL), it was found that Indonesian and China students only study real cases related to the class activities and apply real world experience to the topic of study sometimes but comparing to African students, they often apply real work examples as related to their studies and using real facts in the class activities. Both African and Indonesian students were able to control on their own learning as they both fall under the same category (Often) in the Student Autonomy (SA) scale. For China students, they found it hard for them to control to approach and make decisions in their own learning as they needed the lecturers' support and also needed to be monitored closely when they construct their own learning. The China students have given the same feedback when being interviewed.

On the Equity (EQ) scale, it was clearly stated that African and China students often find they have equal opportunities to participate in class and being treated fairly in the class. All international students from China, Indonesian, and Africa have enjoyed learning online as clearly shown on the Enjoyment (EN) scale. The Asynchronicity (AS) scale also has equal score among these countries which these international students found convenient posting messages anywhere and anytime.

Both African and China students had almost the same score on the Evaluation and Assessments (EA) scale. Based on the interview findings, Indonesian students tend to prefer individual assessment compare to group assessment. On the Online Learning Tools (OLT), both China and Indonesian students have agreed that online learning tools available on INTI Online were just useful for them to communicate with their lecturers/peers online. They have commented when being interviewed, if the forum and chat room being used to discuss more academic issues, they will be of more effective to facilitate the whole online learning process academically. African and Indonesian students found the INTI Online interface is easy to navigate as both countries have fallen under the "Often" category on the Interface Design (ID) scale. As per the interview with China students, they found some of the terms used in INTI Online were hard to understand and somehow technical to them.

Overall results, in all the twelve (12) scales, African students have fallen under the "Often" category in most scales which is assumed that they were coping fairly well with the online learning environment. For Indonesian students, the results have fallen fairly in between "Often" and "Sometimes" categories. From the China students' responses, it was found that the feedback fell into the "Sometimes" category more than the other countries. From the results, we could conclude that China students needs more coaching from the lecturers when they learn in the online environment probably because of the students' study behaviour is different as compare to the students from Indonesia and Africa. English Language proficiency might also be a problem for the China students as refer from Table 3, none of the speak English at home and they might be having problems in understanding their lectures conducted in English. This also has lead to the China students being unable to relate some of the lesson discussed in class to the real life or having the ability to relate their daily experiences to their learning. For future research, the sample of male and female respondents will be selected equally from each country to get a more feasible result. As most of the respondents were dominated by male students, therefore the overall results for each country will not be as accurate to represent the students' perception as a whole for each of these countries. This was because most of the

male students might not be having problems in using the computer as an aid in their studies and there might be other problems that lead to the difficulties of these students from the specific countries coping with the online learning environment. Even though all of them are international students but the perception on online learning among these students might vary as the results obtained very much depend on the gender and language proficiency of the students. How students could be motivated to learn online might also be different from one country to another. The results reported have also shown positive feedbacks on the teachers' support towards the students learning in the online learning environment.

LIMITATIONS AND FUTURE RESEARCH

Students in IT courses might perceive online learning differently when compared to other students who are taking non-IT courses. IT students might be more familiar with computers and better able to pick up or get used to the online learning environment quickly and may require less technical support. The issue of computer literacy and access will be measured in more general terms. Therefore, for future research, it would be good to look at other non-IT courses on how students perceive online learning. Participants (international students) in the present study are restricted to those enrolled at INTI-UC. This may not be a broad enough representation of Malaysia to assure generalisation. Other countries, e.g. Korea, Japan, Arab and etc. should also be investigated in future research and this could be a recommendation for further study. The research only involves the international undergraduate students and currently enrolled in the undergraduate programs in INTI-UC. An investigation could also be carried out on the international postgraduate students.

CONCLUSION

The findings in this research will help the student support services, university teachers, and curriculum specialists to understand the study culture of the international students. Specifically, the study behaviour and difficulties of China students have been identified in this research. Therefore, from this study, it is important to provide the necessary assistance (e.g. extra English language classes or assistance in proof reading assignments/projects and etc.) and motivation to international students especially the China students to facilitate their effective use of online learning resources provided by the university. Helping international students in understanding the importance / usefulness of online learning is essential to ensure increasing student enrolments in future years. With an increasingly competitive global market for higher education, Malaysia's tertiary institutions need to ensure that they continue to be an attractive option for international students by finding ways of helping them overcoming some of the challenges of studying abroad in the online learning environment.

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UNDERGRADUATE RESEARCH SKILLS: COMBINING TRADITIONAL AND ACTIVE COLLABORATIVE APPROACHES TOWARDS MAXIMIZING RESEARCH CAPACITY

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ABSTRACT

"Copy from one, it's plagiarism; copy from two it's research" – John Milton (1649). This paper outlines and explores the challenges and problems faced by undergraduates in a local private university in undertaking research. Educators across academia are increasingly voicing concern over widespread plagiarism and the inability of undergraduates to research and write effectively. Literature attributes this malady to several factors: lack of knowledge and experience, poor language as well as research skills. The research strength and potential of a university is not only judged by the research competency of its faculty but also by that of its students. Thus it is crucial that efforts towards maximizing the research capacity of a university also address issues concerning undergraduate research skills. Towards this end, this study explored: the undergraduates' research and information skills competency, research experience and English language proficiency. Data collection was done via questionnaire distribution among undergraduates and information on curricular and pedagogical issues was gathered through interviews with faculty and undergraduates and document analysis. The results indicate that the undergraduates' comfort level and involvement in research work is still far from satisfactory. The undergraduates' perceived improvement of research and information skills is negligible and this is further confounded by the limited opportunities available to activate knowledge. This paper proposes that the traditional and active collaborative learning approaches be used in combination to provide undergraduates a more constructive research experience during their course of study and to simultaneously enable the university to enhance its research standing.

Key words: *Research Skills, Information Skills, Active Collaborative Approach*

INTRODUCTION

Throughout higher education there is increasing pressure on institutions to deliver graduates exposed to a curriculum that is relevant to the workplace and equipped with work-related skills (Thomas and Grimes, 2003). The job market is not only becoming highly competitive but is also constantly evolving and issues like skills mismatch, increasing emphasis on work experience rather than academic competency and grasp of appropriate soft skills, stress Thomas and Grimes (ibid) have made it even more crucial for higher education institutions to produce employable graduates. In Malaysia, one of the contributing factors for graduate unemployment has also been identified as 'skills mismatch' (Economic Planning Unit, 2007) – graduates not having skills sought by prospective employers. Malaysia is in need of a resilient human resource base to push its agenda of creating a knowledge-based economy towards achieving developed nation status by 2020. To this end, the Ninth Malaysia Plan has given primacy to creating

tertiary institutions of international standing which nurture top quality research and development. The role of higher education institutions today therefore, is not only to produce graduates with knowledge of their major areas of study but who are equipped with important skills notably research skills. Research skills are made up of several categories of skills – information skills, technical skills (computer skills) and cognitive skills (problem-solving, analytical and critical thinking skills).

Undergraduate Research Skills : Benefits, Challenges and Instructional Approaches

Several studies have illustrated the benefits of undergraduate research. In a study undertaken by the University of Buffalo (2007) the majority of the faculty surveyed agreed that it would be important and beneficial for undergraduates to participate in research. The benefits cited include supplementing class learning by improving undergraduates' ability to critically analyze information, understanding and applying appropriate research methods and communication skills that are important in academics and the job market. In fact in another study conducted by the University of Delaware (2002) on the impact of undergraduate research, it was discovered that those undergraduates who participated in research reported higher satisfaction with their undergraduate education and higher rates of undertaking postgraduate studies. They also claimed greater enhancement of several important cognitive and personal skills.

On the other hand though, literature in the field also discusses challenges associated with undergraduate participation in research. The study by the University of Delaware (2002) identified two main barriers to undergraduate participation in research - time and funding. Other than time and funding, another aspect that needs attention is awareness among undergraduates on the importance of research skills in their current and future pursuits. Research has found that undergraduates tend to lack clarity and decisiveness in what they want to do after they graduate. Miller and Liciardi (2003) highlight that undergraduates often have poorly formed ideas of what a career could mean for them and how their skills could fit a career. Similarly, Lau and Phang (1995) who analyzed data from 492 undergraduates in Hong Kong found that they did not have a clear vision of their future careers. And among the commonly emphasized goals of undergraduate research is to improve retention and increase the number of students pursuing postgraduate education.

Concern about plagiarism is also on the rise in many institutions of higher education. While studies undertaken at the University of Alberta (2002) assert most students plagiarize because they lack research skills, those conducted at the University of Pretoria (2003) identify the lack of knowledge and experience, difficulty with citing/referencing and poor language (English) skills as causes of plagiarism among undergraduates. To this list, Bugeja (2000) adds the growth of the electronic era: "Plagiarists are still lazy, of course, but the new breed came of age in the computer era. They know that stealing from the Web is quicker than stealing from the library at universities, which like my own, typically provide online services" (p. 2).

Given this upswing trend in plagiarism, another current challenge for undergraduate research is the instructional approach. Research skills instruction in higher education has mostly been dominated by the traditional or text-lecture-exam format which Ball and Pelco (2006) caution can lower student motivation and interest for learning the skills. They instead propose an active collaborative approach focusing on student-developed research projects towards enhancing undergraduate research skills. Bonwell and Eison (1991) describe active learning in the following manner: "When using

active learning, students are engaged in more activities than just listening. They are involved in dialogue, debate, writing, and problem-solving, as well as higher-order thinking, e.g. analysis, synthesis, evaluation" (p.3). Collaborative learning (CL) occurs as a result of interaction not only between students and students but also between students and teachers. Both students and teachers are placed on equal footing by promoting group work and teamwork. CL theory posits that learning is a constructive process and in order to learn new information, ideas or skills, students must work actively with them in purposeful ways. Hence, Nagata and Ronkowski (1998) attest that CL can provide students with opportunities to think for themselves, compare their thinking with others, investigate subject matter with others as well as practice using higher level cognitive thinking skills. Collaborative activities are varied and can range from classroom discussions and presentations interspersed with short lectures to formation of research teams that can last up to a year.

THE STUDY

This study was undertaken at a local private university offering technical courses at the undergraduate and postgraduate levels. Recent efforts towards improving research output in the university have included the setting up of a seeding fund and the creation of a road map to guide research activities. These initiatives, are mainly directed towards augmenting faculty research, but with increasing concerns over plagiarism and graduate employment rates, there is cause here for advancing research at the undergraduate level. Under the present system, subject lecturers are responsible for incorporating research skills into the subject content and coursework. Bearing these issues in mind, the following questions were posed to guide this study:

1. To what extent is the undergraduate research experience being enhanced in the university?
2. Are curricular and pedagogical changes required to enhance research skills instruction in the university?
3. If yes, what curricular and pedagogical changes should be considered to bring about better research skills instruction?

Question 1 is evaluative in nature. Data collection to answer this question was done in three stages and covered topics to gauge the strengths and shortcomings of the undergraduate research experience in the university. The first stage involved the distribution of a survey to 213 undergraduates enrolled in their final year at the university. 188 questionnaires were returned for a response rate of about 88%. The questionnaire focused on three major issues namely research awareness, research opportunities and research competency. It contained 31 items under five headings: a) future plans and importance of research skills to course of study and future career, b) opportunities for involvement in research activities, c) competency in handling information skills, language skills and plagiarism, d) research skills improvement gap, and e) overall comfort level doing research. The final draft of the questionnaire was subjected to a pilot test and reliability analysis yielded a coefficient of 0.74. The second stage involved collecting data from focus group interviews with 19 undergraduates (2 sessions lasting approximately 50 minutes) and 7 faculty members (1 session of about 55 minutes). Participation was on a voluntary basis. Interview topics for undergraduates included describing their research experience and their views on plagiarism. The interview session with faculty focused on research skills instruction, coursework and plagiarism and

recommendations for improving research skills instruction in the university. In the third stage, Heads of Departments were requested to submit course outlines (1st year to final year) for core subjects offered in the university. 22 course outlines were received and analyzed to ascertain the prescribed instructional and assessment approaches.

RESULTS OF THE STUDY

Survey Results

The survey respondents comprised 54% male and 46% female undergraduates in their final year of study. Only 6% of the undergraduates have CGPAs of 3.50 and above while 2% have CGPAs below 1.99. The majority are in the mid range (30% between 3.00 and 3.49; 31% between 2.50 and 2.99; 32% between 2.00 and 2.49). Half the undergraduates surveyed (53%) wish to work full-time after graduation, about one-third (30%) plan to study or work abroad while 10% plan to enroll in postgraduate studies and about 8% are undecided on what they plan to do after their graduation. Besides their immediate plans, the survey also gathered information on the highest qualification that the undergraduates wish to earn. Almost half (48%) plan to earn a Masters degree compared with about a quarter (26%) who wish to get a Ph.D. 20% have not given any thought to the highest qualification they wish to earn while only 7% who have no intention of furthering their education.

More than half the undergraduates (59.3%) agree that research skills are important to their course of study. Conversely, 62.7% appear unsure if research skills are important to their future career. Independent sample T-tests undertaken to compare importance of research skills to course of study and future career for male and female undergraduates showed no significant differences in both cases. The correlation between importance of research skills to course of study and the undergraduates' CGPA is moderate and significant ($r = .419$, $p = 0.05$). The correlation between importance of research skills to undergraduates' future career and their CGPA is low but positive ($r = .280$, $p = 0.05$). Almost all the undergraduates have undertaken research work as part of their coursework in the university, but only 36% indicated that they have worked as research assistants to faculty. According to the survey more female (74%) undergraduates have assisted faculty in research compared with male undergraduates (26%). It was also revealed that almost half the undergraduates (48%) are not aware of the existence of research assistant positions within the university while those who have assisted faculty stated they came to know about it through their lecturers.

The next section surveyed the undergraduates' information competency skills, i.e. sourcing and handling information. Undergraduates were first asked to rate their use of 7 information sources: online search engines, online encyclopedias, books, academic journals, newspapers, interviews and questionnaires. The information source most often used by the undergraduates is online search engines followed by online encyclopedias. Rarely used sources include books and interviews while newspapers, questionnaires and observations are only sometimes used. The survey also showed that not only are academic journals rarely used, it is a source that most undergraduates have difficulty locating. With regards to the handling of information sources, almost half the undergraduates (49%) said they almost always face difficulty evaluating the accuracy and validity of information. Most undergraduates also admitted almost always having problems citing sources within a paper (73%) and at the end of a paper (65%). To the majority of the undergraduates (70%), summarizing and paraphrasing information is only

sometimes a problem. Another related issue investigated by the survey is plagiarism. More than half (57%) admitted that they almost always use the same phrases and/or sentences found in the reference materials while most (77%) admitted they almost always take ideas from other sources. About one-third (47%) admitted getting help from seniors and friends to complete coursework. Although the majority of the undergraduates (77.1%) are aware of the existence of a university policy on plagiarism, less than one-third (28%) know of the consequences if caught for plagiarizing.

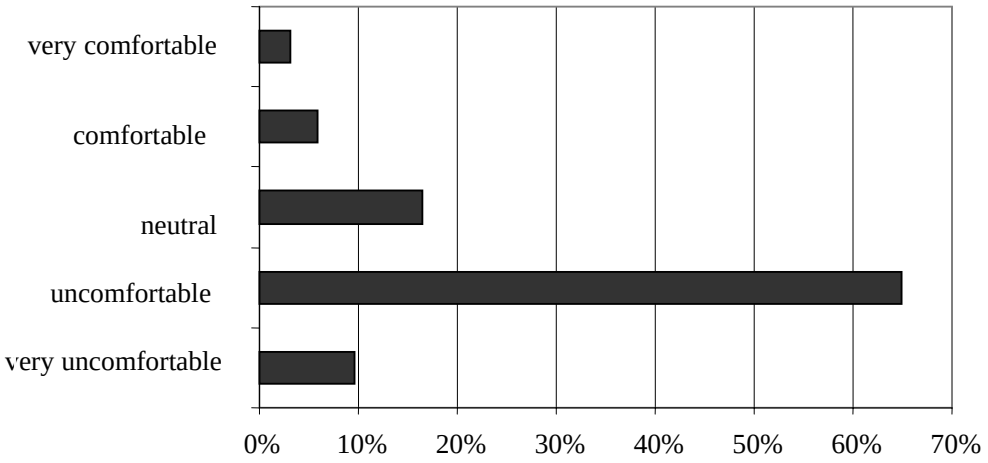
Data on the undergraduates' perceived entry level and current level research skills was also analyzed to ascertain the improvement gap (the difference between perceived entry level and current level research skills). The research skills were categorized into cognitive skills, technical and information skills and language skills. See Table I. All the cognitive skills items recorded negative scores while technical and information skills, i.e. use of computer and internet skills, received the highest scores. Language skills improvement gap scores, although all positive, are relatively low.

Table I Research Skills Improvement Gap Scores

Research skills	**Entry Level Mean Score**	**Current Level Mean Score**	**Improvement Gap Score**
Cognitive skills			
analytical & critical thinking skills	3.09	2.91	- 0.18
problem-solving skills	3.11	2.99	- 0.12
creative skills	2.97	2.76	- 0.21
Language skills			
reading & comprehending academic material	2.18	2.53	0.35
synthesizing information (organizing information)	3.24	3.61	0.37
presenting ideas clearly & effectively	2.97	3.22	0.25
Technical and information skills			
computer skills	2.94	4.06	1.12
using the internet to access information in different sources	3.04	4.15	1.11
using the library to access information in different sources	2.97	2.61	- 0.36

The final part of the survey sought to gauge the undergraduates' overall comfort level doing coursework that requires research. It can be seen from Figure 1.1 that almost two-thirds of the undergraduates (65%) are uncomfortable undertaking coursework that involves research.

Figure I Undergraduates' Comfort Level with Coursework that Require Research



Interview Results

Interviews with undergraduates were guided by two topics: description of their research experience in the university and their views on plagiarism. Most commonly heard descriptions of undergraduate research experience during the interview include 'insufficient', 'limited', 'blur' and 'of not much value'. Some undergraduates are of the opinion that research skills are really not that important to their future careers and 'if necessary, they can be learnt on the job'. However, the majority still contend that more should be done to involve them in 'hands-on' research work. Although most of the undergraduates admitted that their lecturers encourage the incorporation of research skills in coursework, they often feel discouraged by inadequate information and guidelines on how to actually conduct research. When the subject of plagiarism was broached, almost all agreed that it is wrong but admitted to 'occasionally' or 'sometimes' taking ideas and words/phrases from other sources for their assignments. The problems heard frequently with regards to plagiarism is a lack of guidelines and information on copyright issues, difficulties with the language and time constraints in completing assignments. Interview sessions also indicated a high level of uncertainty among the undergraduates as to what really constitutes plagiarism – taking ideas, words/phrases, not quoting or asking your seniors/friends to do complete assignments.

Interviews with faculty focused on research skills instruction in the university, coursework and plagiarism and suggestions for improving undergraduate research skills. Faculty also echoed the undergraduates' call for more 'hands-on' research work involving undergraduates. But one persistent complaint expressed by faculty is that the undergraduates 'seldom or hardly help themselves' and require 'spoon-feeding' when undertaking assignments that require research work. Apart from this, some faculty lamented that they have to teach large classes (sometimes between 40 to 60 students) and fulfill other tasks (research and consultancy) for their annual performance evaluation, ultimately leaving them with little time and desire to promote undergraduate research work. To circumvent these problems, some said they prefer conducting written tests to assignments that require time-consuming research work. Although most of the faculty

admitted that plagiarism is a problem among the undergraduates, they do not think that it is 'that serious'. Several faculty members are of the opinion that just having a policy on plagiarism is 'useless' without specific guidelines on what is punishable and what is not and actual meeting of the punishment (suspension, barring, etc.). They defended their argument by highlighting a few 'extreme' cases of plagiarism (wholesale copying) among undergraduates who were let off by the management with only a 'simple' warning. On the issue of undergraduate involvement in faculty research, the faculty members seemed divided. While some highlighted limited opportunities and funding even for their own research projects, others who have 'employed' undergraduates complained about poor performance due to the undergraduates' inability to juggle work and study. The general feeling among faculty is that there is too much emphasis on theoretical content in the university curriculum and a revamp is needed. Other recommendations include replacing lecture hours with project work, longer industrial training and introducing problem-based instruction.

Course Outline Analysis

Document analysis involved analyzing course outlines (N=22) to determine the instructional orientation and the types of coursework required to be undertaken by the undergraduates. Course outlines are prepared by faculty teaching the courses and contain guidelines on how to deliver content and conduct assessments. The analysis indicated that all courses are conducted over a duration of 14 weeks with about 63 contact hours. Most of the contact hours are dedicated to lectures (40 to 44 hours) followed by tutorials and/or lab work. Four of the course outlines allocated between 4 to 6 hours for workshops while another three set aside between 3 to 4 hours contact hours for problem-solving work. The breakdown of assessments is standardized across the courses, i.e. coursework amounting to 60% (including attendance) and a final examination of 40%. Analysis of the outlines show 5 different types of coursework conducted at the undergraduate level: written tests, quizzes, lab reports, project papers and oral presentations. While written tests, quizzes, and lab reports appear on all course outlines, project papers (where research is required) are only mentioned in course outlines for Year 3 and Final Year. Oral presentations are only conducted beginning Year 2. There is however was no information on the format (duration, length, etc.) required of the different types of coursework in any of the outlines. Also visibly absent from all course outlines is the university policy on plagiarism. Table II below provides details on the coursework.

Table II Types of Undergraduate Coursework

	Types of Coursework	**Year**	**Weighting (%)**
1.	written tests	1,2,3 & final	20 – 30 (each test)
2.	quizzes	1,2,3 & final	5 – 10 (each quiz)
3.	lab reports	1,2,3 & final	10 – 20 (each report)
4.	project papers	3 & final	10 – 20 (each paper)
5.	oral presentations	2,3 & final	10 – 15 (each presentation)
* *Attendance*		1,2,3 & final	*5 – 10 (overall)*

Implications for Enhancing Undergraduate Research Experience

Literature review has underscored the benefits undergraduate participation in research. This study however has highlighted several challenges and limitations that can impact upon the undergraduates' ability to effectively tap into these benefits. The undergraduate research experience appears fragmented and definitely needs to be enhanced. So based on the results of this study, the following curricular, pedagogical and organizational changes are recommended.

Active Learning: The traditional lecture-based approach should not be viewed as the 'end all' for research skills instruction among undergraduates in the university. A more active approach should be used in combination with the traditional approach as it will provide undergraduates with opportunities to engage more deeply and meaningfully in the process of learning. The approach will allow undergraduates to see on 'real time' basis where and how research relates to the subject matter and apply the necessary research skills to enhance subject matter knowledge. It will also present faculty avenues for gauging the undergraduates' understanding of what is being learnt and conduct immediate remediation if necessary. To do this, faculty need to interlace lectures with questions and answers, dialogues, problem-solving activities, discussions, debates, reviews, oral presentations, demonstrations, simulations and colloquiums. Constantly involving undergraduates in active exchange of ideas will increase their interest and ease them into accepting responsibility for their own learning rather than expecting to be spoon-fed by faculty.

Collaborations: Another factor that should be considered along with active learning is collaboration. Given the limitations and challenges of undergraduate experience discussed earlier in this paper such as limited information skills and plagiarism, two forms of collaborations need to be considered here. Firstly, collaborations involving undergraduates and faculty. At the lower levels (Year 1 or 2), collaborations may involve undergraduates of different gender, ethnic background and academic achievement (CGPA) working in groups or teams on class work or coursework. This should, at the higher levels (Year 3 onwards), culminate with collaborations between undergraduates and faculty outside the classroom on research projects or papers of interest or initiated by either party. These can then be showcased in various expos, exhibitions or conferences (e.g. Malaysian Technology Expo or the International Invention, Innovation and Technology Exhibition). So rather than just having a limited number of undergraduates working as research assistants for faculty, these collaborations will provide a wider platform for undergraduates to be involved in research and employ the skills. Apart from the skills taking on value, working with others will also enable the undergraduates to work on their cognitive and personal skills.

The second form of collaboration that should ideally occur at the undergraduates' entry level involves the schools, librarians and language teachers. The schools need to convey the information and language needs, requirements and limitations (if any) to the librarians and language teachers respectively and work closely with to design a comprehensive and a more cohesive research experience for undergraduates. The librarians can then help train the undergraduates on how and where to source for necessary information and how to deal with copyrights and plagiarism. The language teacher, on the other hand, will help to address the required academic writing skills, i.e. summarizing, paraphrasing, citation styles and presentation formats. It is crucial that undergraduates get the appropriate exposure and training on these skills upon entry so that they are more confident and comfortable handling the skills in subsequent collaborations with peers and progressively with faculty.

Coursework: Coursework should give more weighting to assessments that foster engagement and interaction such as writing and presenting of research papers or reports rather than having written tests as the staple assessment at the undergraduate level.

Plagiarism: The university's policy on plagiarism needs to be conveyed to the undergraduates to increase their awareness of the issue. This can be done by including the policy in all course outlines. There must also be unconditional implementation of the policy in order to communicate the seriousness of the issue to the undergraduates.

Funding: A perennial problem in doing research is funding. As a starting point, the university seeding fund for research work should be extended to faculty and undergraduate collaborations instead of restricting it only to faculty as is the current practice. The fund awards up to RM5,000 for research projects that are to be presented internally or within the university, and up to RM100,000 for projects to be showcased outside the university. In addition, faculty and undergraduates also need to be resourceful in seeking external funding.

Class Size: In order for faculty to implement effectively active collaborative activities in the classroom, class sizes need to be brought down to more manageable levels. Although there is no consensus among practitioners on the 'magic' number, studies on class sizes and active learning reveal a range of 25 to 48 (De Leone et al., 2001) or below 50.

In conclusion, an active collaborative approach can certainly help overcome the problems surrounding undergraduate research and ensure that the research expertise of both faculty and undergraduates are effectively tapped to maximize the research capacity of the university.

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TOWARDS A SYNERGIZED MULTI-LEVEL EFFECTIVE EDUCATION: THE SECONDARY SCHOOL – UNIVERSITY ALIGNMENT WORKSHOP – AN INITIATIVE FOR EFFECTIVE AND INFORMED TEACHING AND LEARNING

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ABSTRACT

The X-Generation and the Millennials involved in teaching and learning have to adjust to each other in order to make both the teaching and the learning effective. The explosive development of technology also impacted on these to the extent that the imminent arrival of expiry dates for engineering and technology qualifications has been expressed even by The World Bank.

Time is therefore of the essence and that effective education primarily of those who aspire to engineering and technological professions must be put in place. At the authors' institution, an initiative in the form of Secondary School Teachers' Workshop had been conducted with two major objectives, namely, keeping the teachers informed of various rapid development in the fields and providing them with relevant and practical examples of engineering applications of basic knowledge they teach to their pupils in the latter part of the school curriculum so that incoming engineering students are appropriately prepared.

Two of such workshops are planned for every year. The first was conducted in early 2008 and the second in mid 2008. Attendees welcomed this initiative and the major objectives above were achieved. The paper will discuss the processes involved, lessons learnt and improvements as well as potential new ideas identified. It is expected that the resulting synergy will enhance capacity building in several educational and national economic areas.

INTRODUCTION

Observations and other references (Boyer, 1996; Harvey, 1999; Idrus, 1999, 2000, 2003, 2004, 2005, 2006; Ocampo et al, 2005; Shaw, 1999) show that education in Asia generally follows the *rote learning* style. In this the students learn by memorization with little if any understanding. Equations are elegantly derived mathematically and memorized. Students' roles are therefore simply to insert new values and numbers into the various variable icons and thus get the *solution*.

In this process, there is little critical thinking or even thinking at all. As a result there is also very little if any understanding about what has been purportedly learnt or taught.

The author's observations show that this type of teaching and learning appears to be predominant in Asia generally. This does not mean that such learning method is employed in all cases. There are schools and teachers who have moved away from it and are practicing the education method normally found in the West.

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Rote learning in Asia appears also to be pervasive throughout the education system, from primary to tertiary levels. This is in fact not surprising, as the education system from primary impacts on or articulates to secondary and so on. Any change must therefore affect all three levels as well.

It is this realization that prompted the Faculty of Engineering & Technology at ***INTI*** International University College (UC) in Malaysia to embark on a program called the "Teachers' Workshop" which began earlier in 2008.

Education and the nation's well-being

A World Bank policy paper (World Bank, 2008) said "*Secondary education is a gateway to the opportunities and benefits of economic and social developments.*" It further said that "*Quality secondary education is indispensable in creating a bright future for individuals and nations alike.*"

Clearly the consensus is that secondary education is pivotal to any subsequent endeavours, be they employment, business or higher education. This paper is only about those secondary school graduates who aspire to take up professional studies, such as Engineering and Technology at tertiary level.

If we accept the World Bank's assertion, then it only makes sense that tertiary level institutions should work closely with secondary schools in order to properly and appropriately prepare those secondary school graduates for tertiary level studies.

It is generally accepted that good preparation of students at their secondary school level will positively help them in their tertiary level studies. Again it only makes sense that Higher Education Institutions (HEIs) and secondary schools work together for the benefit of the students and the nation.

The Teachers' Workshop program at ***INTI***-UC was developed with just the above in mind.

The education level of a country will determine its *Knowledge Level* and thus its ability to survive and flourish in the K-era. Good and effective education provision will go a long way towards enhancing the education level of the country.

It is therefore important that the teaching and learning method, the education technology access and the leadership for change are all in place.

The *INTI*-UC Teachers' Workshop

Armed with the above, the Faculty of Engineering & Technology (FOEAT) at *INTI*-UC sought a way of bringing together protagonists from both the secondary schools and FOEAT in order to begin a modest attempt towards establishing a practical way of moving forward.

It is known that many of the fundamental concepts of engineering are taught at the senior secondary school level. They are normally encapsulated in the Physics, Mathematics and Chemistry syllabi. Allusion to engineering or any other technological professions is not normally made in the secondary school level.

While successful learning of the sciences are normally through observations of physical evidences, for example, experiments whether in the laboratories or in nature, less and less of these are happening in many secondary school levels these days. While this is lamentable, their increasingly urgent need continues to be felt.

Given the rapid technological development and indeed in knowledge itself, HEIs cannot afford to redo what were supposed to have been done in the secondary school level. In reality, however, HEIs simply have to repeat what students should already know in secondary schools. This is both a drain on the expertise of the lecturers in HEIs and a significant reduction in the time available to learn about knowledge that they indeed should get at the tertiary level. In both cases, it is in fact a lose-lose situation.

While such situation may not seem to be marked if looked at from one faculty or one HEI only, the negative impacts and losses are immense when one considers the numbers of secondary schools and universities for the whole country,

In this Teachers' Workshop, secondary school Mathematics and Science teachers are invited by *INTI*-UC to spend two full structured days on campus with a number of FOEAT lecturers. During these days, the teachers will be introduced to and shown the application of equations and theorems they have been teaching in their secondary school classes. They will also be carrying out some laboratory or workshop experiments to further enhance their introduction to practical engineering applications of those equations and theorems.

In order to ensure that the workshop is useful, FOEAT staff firstly searched the syllabi of subjects like Mathematics, Physics at the SPM (Sijil Pelajaran Malaysia – Malaysia Certificate of Education) or "O" Cambridge University Examination Level. In fact at this level in the secondary schools, students would have been streamed to classes according to their aspirations after secondary school. That is, those who aspire to do majors in the Arts or Business would be put into classes that would articulate to further studies in those subjects, and those who aspire to become engineers would join classes with students who have similar aspirations. In the latter, subjects such as Mathematics, Physics and Chemistry would be taught.

Once the syllabi of these subjects are studied, appropriate lecturers would then adapt or even develop new experiments to be used with the teachers. It was agreed that the only way to ensure the usefulness of the workshop is to closely align the experiments with the contents of the subjects the teachers taught. In this way, the teachers will not only find themselves on familiar grounds, but that the experiments will help them improve their own teaching back at their schools.

These workshops are therefore ***win-win***.

Appendix "A" shows the program of the workshop and the experiments offered.

Experiences from the workshops

Two workshops were conducted in 2008, one in April and the second in August. Schools in the States of Selangor, Negeri Sembilan and the city of Kuala Lumpur (adjacent to each other and on each side of *INTI*-UC campus) were invited.

The Ministry of Education and Ministry of Higher Education approved the running of the workshops and the States' Directors of Education also gave their consents and provided financial assistance as appropriate to reimburse any costs incurred by the teachers. *INTI*-UC provides free hostel accommodation for the duration of the workshop to those who needed it..

A total of 17 teachers attended the two workshops in 2008 broken down into the following types of schools:

National Secondary Schools: 13 teachers
Independent Secondary Schools*: 4 teachers

* The Malaysian Secondary Schools are made up of the National Secondary Schools fully funded by the Government, and the Independent Secondary Schools which are private but recognized by the government. The latter mainly use the Chinese language as medium of instruction.

Table 1 below shows the feedback obtained from the teachers who attended the workshops.

Table 1 – Feedback from teachers who attended the Teachers' Workshops

• It's fun to have practical work during the session.
• The calculation to prove the experiment or the system work.
• Seeing/playing with equipments in engineering labs is an eye-opening experience, which they can share with the students afterward.
• Real world example
• We were given chance to do some project
• We were introduced to the lab and equipment used for the students
• Everyone actually got to do the experiments/computer simulations.
• It gives ideas for further research.
• Well organized, a lot of information.
• The well planned experiments' experiences which are related to the teaching of physics and mathematics.
• Thank you for your warm welcome and warm acceptance. We feel you've gone the extra mile.
• Hold the programme more often.
• Some experiments can be made as video clip (few minutes) to show students (e.g. wind tunnel).
• Topics on materials/strength, wind tunnel, equilibrium force are related to Physics in high school.
• It would be good if a certain physical structure be used to introduce the physics concept and then the theory
• I think that such preliminary exposure should be extended to students to stimulate their interest.
• Do also have workshops on topics that may interest youth.
• The well planned experiments' experiences which are related to the teaching of physics and mathematics.
• More focused coverage of sections; too many areas covered in too short of time; physics concepts related to actual situations in the country/engineering structures.
• More well-thought experiments to be applied in the particular topics that would explain national phenomenon introduce the relevance of the models to the actual structures and relating it to the physical concept & principle.
• Another area to be developed can be in the region of relating the mathematics studied in school to practice

In order to complete the picture, FOEAT lecturers were also asked to give their comments, so that some semblance of balance may be claimed.
Hence, Table 2 shows the feedback from the FOEAT lecturers involved in the workshop

Table 2 – the comments from the FOEAT lecturers involved in the workshop

1) Materials provided a wee bit minimal. Emphasis was on the 'hands-on' session. 2) Very interested with the 'hands-on' session. 3) Equipment shortage. One of the two that was supposed to be working was not, ie gives erroneous readings, although one can still experience the 'pop'. 4) Running short of time.
Teachers find it interesting but time period is a bit too tight
The session was interesting and interactive, as some of the teachers posted some questions and comments on the concepts presented to them. One drawback of the session is that the session started late, so that I had to rush a bit for the Lecture to make sure that they are on time for the next event.
The hands on session was interesting, and the teachers had chance to relate what they were introduced in the lecture into the experiments. Most of them enjoyed the experiments, and quite a number of discussions went on to further improve the understanding on the subject and how the knowledge is applied into the experiments.
Although the teachers were exuberant and seem to enjoy themselves, I think that the teachers were looking for teaching materials(the theory part) that they could use in the future in their own classes. What we delivered was knowledge on how the scientific principles were put in practice(the practical part). There could be a slight misalignment of mutual objectives but I think it is okay. They will have to do a bit of work to translate their Inti experiences to their latter classroom lessons. Better to give them a fresh outlook on things than to entirely satisfy their objective.
1) During my section, when I showed them how to use simulation software for electric circuit, they were surprised and very happy to do that. Even I took this section for 2 and half hour, they did not notice the time went by. 2) They were also happy to spend some time on practicing the connection of circuit and watching the output using oscilloscope.
Well, I think the workshop was conducted very smoothly with many positive feedbacks from the school teachers during the exit meeting. As some of them have commented the duration was not sufficient due to the tight schedule I think we should look into the appropriate period for future workshops like a consistent 2 hours session. Other than that I think the workshop was a great success.
Looking at the comments made by the participants on my session, it would appear that as a general intro it was acceptable, but there might be an expectation that it relates to their immediate subjects or programs. I am pleased with their comments and "scores" although the lowest score for the material is sort of expected since there was not much they got in print. We may try to improve on that in the future. To set the scene, Session 1 was probably appropriate.

From the above, it is clear that the concept of Teachers' Workshop is a viable method of achieving articulation between secondary schools and HEIs in order to make the teaching and learning more effective right from the secondary school level.

The experience of those who were involved in marketing the program, liaising with the two Ministries and also the schools' Principals, was quite an eye-opener. The important thing though is that all such experiences have exposed FOEAT staff to the reality of dealing with external entities and agencies. Such experience in itself was instructive with respect to empowerment and staff confidence.

In line with the tenet of continuous improvement, naturally, improvements will be implemented on both the conduct of the Teachers' Workshop and the range of experiments and demonstrations. These will be carried out before the first workshop next year.

DISCUSSION AND CONCLUSION

The feedback from both the participants and the facilitators is highly encouraging. A tint of wanting to preserve the status quo of *rote learning* was evident from some of the participants' comments received. Quite fortunately facilitators nevertheless pressed on. Such comments proved that *old habits die hard* and that this poses quite a formidable hurdle in moving away from *rote learning*. Not only are students learning by rote but some of their teachers are teaching in a way that endorses rote learning. Given the drawbacks of rote learning, the Teachers' Workshop seems an appropriate medium to help reduce rote learning.

It is therefore serendipitous that the Teachers' Workshop exposed those teachers to less *rote learning* and that FOEAT had embarked on Transformative Learning (Idrus and Koh, 2007). FOEAT must try to capitalize on such juxtaposition and revise its objectives of the workshop to include a deliberate and conscious exposition of Transformative Learning within the program.

From the feedback and other indications, the FOEAT's Teachers' Workshops conducted so far are considered successful. The concept works although the uptake at least for the first two workshops was slow and needing a lot of administrative inputs. This is not unexpected given that such workshop had not been done previously in Malaysia.

The alignment appears to be feasible and with the help of the teachers who had done the workshop, further participation by other teachers is highly promising. Synergy and its impacts will only be observable after several of the workshops were conducted. Again, however, it is highly promising.

Importantly, contacts have been made with many secondary schools in those two states of Malaysia and the teachers who attended the workshop would have gained a lot of insights into the education materials they teach at their schools. They are now able to cite examples of where and how these are used in practice.

In conclusion, the objectives of the Teachers' Workshop were met and the need for closer contact between secondary schools and the university was established.

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World Bank *http://go.worldbank.org/HTKE9NIKF0* (downloaded on 25 August 2008)

Appendix "A"

Pressure in Liquid / Fluid Mechanics

Basically a simple experiment will shows the water fall from different height create a pressure. An equation will be developed to compute such pressure. Extended experiment on pressure in liquid into fluid mechanics in the laboratory will be applied.

Basic Principle of Air Conditioning System

A general explanation of how an air conditioning unit operates and the design considerations of an air conditioning system will be conducted. The group will then be taken to the air- con plant room to observe how it functions.

Electromagnetic Waves

In this section, participants will learn the characteristic of waves from very fundamental to a complex waves. Participants will learn both of these waves apply in engineering. At the end his session, participants will have their own antenna to receive electromagnetic waves from TV broadcast station.

Application of Trigonometry in Engineering Surveying

The concept of an engineering surveying will be explained to the class. This includes how levels and distances are determined.

The use of surveying instruments such as automatic levels and theodolites will be demonstrated. This class will be required to carry out a simple survey afterward.

Quality Assurance in Education

While quality is essential in everything we do and in every product, the one in education is mandatory. The impacts of education on the lives of the students are enormous and profound. Teachers and lecturers have to realize that they either make or break these lives. Either way we are responsible. Of course if we break rather than make them, we would have committed a sin. We do not have the God given rights to do so. Hence we as teachers and lecturers have to be extra careful that we always do the right things for and to our students.

The application of quality and its related concepts and practices in education is therefore extremely important, not only to the students but to us primarily. This session will discuss what quality is in education and how to work towards attaining it. This will involve a number of new concepts such as *Transformative Learning*, *Learning how to learn* and *student empowerment* to name a few.

Pressure on Building Materials

Steel and concrete are basic building materials. Loads applied to these materials create stresses and strains to be developed in these materials.

In this module, behaviours of steel under tension and concrete under compression will be observed in laboratory tests. Results from test will depict behaviour of material under stress which can be described by a mathematical function.

This module will use both maths and physics topics such as ***Function****, the relationship between* ***Forces and Pressure*** *and the effect of a force on a material.*

Strength of beams

Beams are encountered in everyday life. They are structural elements that hold up buildings, bridges, flyovers, etc. Thus to serve their purpose, they have to be structurally sound and adequate. Their internal forces must not exceed the maximum allowable.

This module will involve measuring these forces in beams experimentally. Participants will compare these with theoretical values. As they will already know how beam support reactions are obtained, it will be just a short step away from learning how to calculate such forces.

*This module will use both maths and physics topics such as **Effects of a Force** and **Forces in Equilibrium**.*

Applied Mechanics

There are questions on applied mechanics we ask in our daily life; for instance, how do the acrobatic performers find the balance point of the instrument they are playing; why is our body shift to the right when the car we are sitting turns to the left, and so on. These questions are related to the two major components: statics and dynamics. The former component deals with the forces acting on bodies that are at rest, while the latter component deals with the bodies in motion. Differentiation, integration, trigonometric and solving simultaneous equations are constantly applied in the concept of applied mechanics.

Through the hands-on experiments, participants will be able to relate the mathematical and physics concepts to the real life experiences.

*This module will use both maths and physics topics such as **Function**, **Force and Motion**.*

Electric Circuit

Electrical Technology is widely applied in our daily life, which an electric circuit is the foundation of all.

Within this module, basic circuit structure will be introduces and constructed. Also, while analyzing a complicated electric circuit, simultaneous equation is applied in solving electric circuit network. Moreover, the application of integration and differentiation circuits shall provide a different view of electric circuits afterward.

*This module will use both maths and physics topics such as **Simultaneous Equations**, **Differentiation** and **Integration**, and **Electricity**.*

What is Measurement?

Measurement is the core subject where Quantity Surveying is concerned. It involved the skills of understanding the design drawings from the Architect and Engineers. Once we understand the design concept we need to find out the cost of that particular design. To do that QS must express in writing the detail breakdown of the items which he or she is going to measure and to annotate correctly so that others could easily understand what he or she is doing.

Measurement involved simple usage of mathematics like addition, subtraction, multiplication and more complicated area like trigonometry. So the basic tools a QS must have are a scale ruler and a calculator.

THE EFFECTIVENESS OF BANKING COURSE IN BANKING DEPARTMENT AT STIE PERBANAS SURABAYA

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ABSTRACT

It is assumed that instructional process of a course during a certain period provides students with knowledge of the course itself. Thus, the term of effective is based on the score showing their achievement of the course after the course is finished. It is suggested that a course design and development should be based on on-going information that reflects the course itself during the class process. In addition, the continuous improvement for a course for instructional process in the classroom is required when the college really wants to provide the students with knowledge as desired in the instructional goal. This research attempts to see whether banking course taught to the students really provides them with knowledge of banking after a semester- instructional process. First of all, a test construction is made by having a try out to a group of students. Then, the result of try out is used for revising so that the test attains its validity. The valid test construction is used to measure the two groups of students: one is the group who have got banking course during a semester and the other is the group who haven't got it. Descriptive statistics is used to get mean scores of the two groups. These two mean scores are then compared to see which is higher. It is assumed that the groups who have got banking course get higher mean score than the other group who haven't got it. Based on the result of the analysis, it can be judged whether the course is effective or not.

Keywords: *Effectiveness, Course Design, Course Development, Test Construction, Validity.*

1. INTRODUCTION

This research deals with measuring the students of economics who are studying banking science. This subject is part of the core subject of economics at STIE Perbanas Surabaya (a college of business and banking). The students who study banking science at STIE Perbanas Surabaya, seems to be interesting for the research purpose. The students are learning banking science and other subjects related to economics. However, banking science is considered important in this college.

In connection with the students' achievement, the college has to undertake some efforts in such away that their students' performance can be seen. Thus, to see the students' achievement of banking course is considered important. By seeing the students' performance in achieving the objective of banking course, it is intended to see the effectiveness of such process of teaching and learning. First of all, by measuring the students' performance, the college can reveal how far the students have learned their banking science. In other words, banking science which has been taught to the students can also be understood by means of seeing the students achievement towards the

objective defined in the syllabus of banking course. Secondly, based on the scores taken from the test, it is also aimed to find out whether the process of teaching and learning of banking science is effective. It is said to be effective in the sense that the students, after the program, they are supposed to have achieved the goal set by the teachers as stipulated in the curriculum or syllabus of banking course.

Some research deals with the test as measurement of teaching program and the implication has been done by some researchers. Scriven (1994)'s study on the students' measurement as evaluation for educational institution suggests that program evaluation in education provides the information for quality improvement. This improvement involves the quality of the department programs. This is also supported by the research related to human resources development by Orsburn (1991). It is stated that there is a correlation between involvement of the staff training and the effectiveness of the program. The involvement is indicated by the result of the measurement or the test. The result of the test is said to be picture of the staff's involvement in training program. Another study concerning with the measurement as instrument for educational program improvement is by Richard et al, (1986) stating that there is correlation between teaching practices and class achievement in introductory algebra subject. It is stated that teaching practices should be linked to educational achievement of students learning. Thus, the function of the test in teaching practices is obviously important for educational program improvement.

In order that the test as instrument is valid for measuring the students' achievement, the test items in this research is analyzed. First of all, the test items are tried out and then based on the result of this prior test, the analysis of validity and reliability can be undertaken. Therefore, based on the try out of the test items, it is intended to gain the valid and reliable test items. The revision of the test items should be based on the result of the try out of the test to other group of students. By doing so, the results can be judged to be pedagogically acceptable for finding out whether the process of teaching and learning of banking science is effective based on the test result. Secondly, from the result of the test analysis, some suggestion can be asserted for improvement of banking course at STIE Perbanas Surabaya.

So far, there has not been any test developed for measuring the effectiveness of the process of teaching and learning especially that of banking course at STIE Perbanas Surabaya. Yet, this subject is in fact considered the "icon" of the college because the name of the college, that is, the acronym of "Perbanas" symbolizing that banking science is the compulsory subject for the students. Due to such an acronym, the society has an image that the name of the college is the symbol of center for banking studies and practices. Thus, the research on the effectiveness of such subject will provide the college with some input for redesigning the banking syllabus or curriculum as well as the process of teaching and learning. This effort pedagogically also provides some information so as to make the next step of teaching and learning process much more effective. The problems to be asserted are as follows: 1) how far is the students achievement towards the process of teaching and learning of banking course as the compulsory subject at STIE Perbanas Surabaya?; 2) What should be done by the college based on the achievement of the students towards the banking course at STIE Perbanas Surabaya in relation to banking course?

2. THEORETICAL FRAMEWORK

The process of teaching and learning can be judged to be effective when the students have achieved the goal of the subject or the course which has been defined in the syllabus prior to the teaching and learning process (Brown, 2005). This goal, as a mater of fact, is broken down into specific objectives so that each objective can be measured during a certain period of the course. When the course takes one semester, meaning that during such a semester, there are several objectives to be defined and achieved by the students. Achieving each objective during the course process in each step, the students are finally intended to achieve the goal of the course during a semester. From such a process of achieving the goal, the effectiveness of the course can be seen by means of the test. Thus, this test is the effort of seeing how far each objective as well as the goal of the course is achieved by the students. In connection with such an effort, some factors related to learning process should be described so that the position of students test can be seen as central in educational process.

2.1 Teaching and Learning Measurement

In education system, the process of teaching and learning comprises not only curriculum and materials but also the test of the classroom process or measurement. Hammond (1994) stated that the test or assessment in education provides information about the nature of the teaching and learning made available to the students in schools or programs. Besides that, the test can help department identify needs support in developing opportunities to learn, review practices such as curriculum, the nature of teaching and learning. Like Hammond, Bickel (1994) also advocated that teaching practices to be linked to the educational achievement of students learning. Thus, the test can provide timely information for improving the program implementation.

According to Kupermints (2003), the students test score have been proposed recently as a measure of the educational value added contributed by teachers and schools to students learning. It is argued that if the teachers are effective then it will cause the students learning effective. So, the advantages of the students test or measurement in education is really promising for the policy makers in schools or colleges.

2.2 Syllabus Design

It is clear that any subject to be taught to the students is always related to the syllabus design. This syllabus contains materials which are supposed to be developed in the class room so as to cater for the students with materials needed in learning activities. When talking about materials development based on the syllabus which has been designed by the instructors or lecturers, we should consider not only the students but also other factors, such as method, teaching aids, and even psychological atmosphere related to the class situation (Johnson, 2002:23). In addition, materials, whether commercially developed or teacher-produced, are an important element within the curriculum and are often the most tangible and visible aspect of it (Richards and Rogers, 1986).

According to Richards and Rogers (1986), while the syllabus defines the goals and objectives, the experiential content, instructional materials can put the flesh on the bones of these specifications. Instructional materials can provide detailed specifications of content, even in the absence of syllabus. As it is stated, instructional materials can give guidance to teachers on both the intensity of coverage and the amount of attention demanded by particular content or pedagogical tasks. Furthermore, they can help define the goals of the syllabus, and the roles of teachers and learners within the instructional

process (Wright, 1999). Thus, the best materials can be a useful and professional development tool.

2.3 Criteria of Materials Evaluation

Besides understanding syllabus design and materials development, criteria of evaluating the materials are also important to be known by the teachers or lecturers. Some of the criteria are as follows: 1/.`he general or subject knowledge contained in the materials; 2) views on the nature and acquisition of knowledge; 3) views on the nature of materials for the students' need; 4) role relations implicit in materials; 4) opportunities for the development of cognitive abilities; 5) the values and attitudes inherent in the materials (Wright, 1999).

1) The general or subject knowledge contained in the materials

a) Content areas covered in materials include the use of fictionalized characters and events, general interest (which might reflect the material writer's guess about what might interest learners.
b) Academic subject matter, a focus on banking science and live skills related to banking practices.

2) The nature and acquisition of banking knowledge:

a) The way materials are organized and presented
b) The types of content and activities, which help to shape the learner's view of banking knowledge (such as the examples of the skills applied in banking practices)

*3) The nature of banking science***:**

a) this can be inferred from an examination of teaching materials
b) They relate to technical theories as well as the practice of banking to be acquired by the students.
c) They may be explicitly spelled out in the introduction to the materials

4) Role relations implicit in materials:

a) The amount of initiative and control which learners are allowed to exercise or practice.
b) The extent to which they are active participants in the learning process

5) Opportunities for the development of cognitive abilities:

a) "empty bucket" (the emphasis on the accumulation of banking knowledge)
b) A more active approach, which learners are encouraged to engage in problem solving activities (challenge them cognitively and affectively)

6) The values and attitudes inherent in the materials:

It is possible to evaluate materials for their individual characteristics and, therefore, provide examples of real practical banking and not only for certain students but also the whole students. Examples, one book showed only the performance of skills to be practiced only in certain division of banking system, and more dangerously only by a manual worker. So the materials should also keep abreast of the present development of banking practice.

2.4 Research on Materials in Use

The examples of questions for doing research on materials contain the questions as follows: 1) the aim of the unit; 2) the length of time it took to teach the unit; 3)an indication of how the unit is introduced; 4) a description of the steps in the lesson; 5) a description of any changes that were made to the unit; 6)an evaluation of student relation

to the materials; 7) an indication of intention to use similar materials in future; 8) and indication of the best liked feature of material; 9)an indication of the least feature; 10) an estimation of the suitability of the materials for the designated learner group.

2.5 Materials Design

Materials design exists at the interface of syllabus design and methodology, and issues associated with sequencing illustrate the difficulty of separating syllabus design from methodology. The integration of materials is important, therefore several solutions have been sought to problems of integration, among them, the topic solution, the skill to be achieved, and the real practice of the knowledge to be acquired (Johnson, 2002). All of these should be expressed in the materials which are designed so that the process of teaching and learning can cater for the students and let them achieve the goal of the subject.

2.6 Materials Adaptation

Most commercially produced materials can be adapted to fit a range of needs and goals not originally envisaged by the materials writers. However, before adapting materials, it should be kept in mind that materials from reputable authors and publishers have been carefully written and extensively trialed, and it is therefore advisable to teach such materials at least once in the ways suggested by the author before experiencing and adapting them.

In general, it can be summarized that materials are an important component within the curriculum, and are often the most tangible and 'visible' component of pedagogy. While the evaluation of materials can be carried out outside the classroom (such as a task being greatly facilitated by the checklists and evaluative questions presented in this chapter. It is suggested that the development of evaluation of materials should be largely based on the collection and analysis of classroom data. For that reason, the data derived from the classroom should be taken into account when improving any process of teaching and learning of a certain subject. Banking course at STIE Perbanas Surabaya, for instance, should also be undertaken in such away that the course becomes more effective. The way of getting such data is from the result of the test (Burke, 1999). Therefore, the test which has been designed with validity and reliability can also be used for measuring whether the course is effective or not. If it is not effective, some consideration based on the above aforementioned must be conducted for better improvement. It deals with syllabus design, materials development, or methods so that these factors can be taken into account for the next step by the policy makers, especially the lecturers.

3. SYLLABUS OF BANKING AT STIE PERBANAS SURABAYA

In order that the effectiveness of the teaching and learning process can be pedagogically measured using the constructed test items, the syllabus of banking course should be exactly understood. This is important when considering the test item construction. It is expected that the test items are designed based on the materials stated in the syllabus being used in the class sessions during a semester. Here is the syllabus and the materials being stipulated at STIE Perbanas Surabaya in relation to banking course.

First of all, it deals with the Goal in which the syllabus has the goal in the banking course expected after the students finish the class sessions in a semester. It consists of the following Goal as prescribed e.g., *"After the process of teaching and*

learning during a semester, the students are expected to become an expert in banking industry with global banking outlook. This Goal is then divided into some objectives as follows: 1) *to become a practitioner in banking administration*; 2) *to become a practitioner of financial administration of other than bank industries;* 3) *to become a marketer for services and products of the banks.*

Based on such a goal and three objectives above, the materials of the banking course is designed as follows (as based on the syllabus at STIE Perbanas Surabaya): ***1) Bank Products I*** such as gyro, saving, deposit, clearing, credits, transfers, save deposit box, bank guarantee; ***2) Bank Product II***, such as foreign exchange transfers, banknotes, bank drafts, travelers checks, export-import. By having learned Bank Products I and II, the students are expected to acquire the competency such as *understanding* and *describing* bank products for both domestic and foreign banking transactions.

Another materials are ***3) Domestic Financial Transaction/ Traffics*** such as clearing, transfers, collections, bank guarantees; ***4) Foreign Financial Transaction/ Traffics*** such as understanding of foreign exchange, the development of foreign exchange rate in Indonesia, foreign exchange rates and quotas, sales contracts, terms of payments, letters of credit, UCPDC 600, Documents check list, and discrepancies. From these materials, the students are expected to be able to *understand* and *describe* the functions of banks in relation to the banks roles as both domestic and foreign payment.

The next materials are related to ***5) Bank Auditing*** such as understanding of auditing, Phases of Auditing, Criteria of an auditor, Financial Statement of a Bank; ***6) Banking Accounting*** such as Understanding of Accounting, Process of Accounting, Understanding of Financial Statement, Balance Sheet, Income Statement; ***7) Customer Service and Banking ethique*** such as customer service, primary services, tasks, responsibilities of costomer service, introduction to ethique, product transparancy, KYCP, Good Corporate Governance, Service Excellence; ***8) Account Officers***, such as customers'satisfaction, how to traget market potential, banking product knowledge, using financial statement to credit analysts, working capital analysis. By providing the stuenst with such materials, it is expected that they are able to understand and describe tasks of customer service and account officers; 9) ***Bank Management*** such as Laws on Banking, Kinds of Banks' Services and Products, Bank Activities, Bank Balance sheet, Sources of Fund, Fund Alocation, Cos of loanable bank and cost of fund, Bank Health. From such materials, the students are intended that theyn can get knowledge od bank management; ***10) Credit Management and Credit Support*** such as Credit Understanding, Types of Credits, Decision on Bank Interest Rate, Credit Support; ***11) Syariah Banking*** such as Understanding the Riba (Syariah Interest System), The Difference between Conventional Banks and Syariah Banks, Syariah Bank System, Profit Sharing Calculation. By providing such materials for the students, it is intended that they getknowledge about Syariah Banking other than conventional ones. Thus, they are expected to be able to alocate the investment properly.

The test items are constructed based on the materials above so that the test as measurement can be juged representing the students' knowledge of banking. The goal and objectives are also important factors to be taken into account. So, the test designed here is the representative of the students' knowledge of banking.

4. Research Methodoloy

In this research, the researchers attempts to implement the test or measurement as an instrument to get the data in terms of the students' scores. This test item construction is

based on the materials as stipulated in the syllabus of banking course at STIE perbanas Surabaya. The test consists of 30 items and these items are derived from the materials of banking course. The test items are tried out so that content validity and reliability can be attained for the purpose of students' performance measurement. The content validity is pursuit by means of constrcuting the test items based on the content of the materials given to the students in banking course (Brown, 1986). Especially for the reliability, in educational process many practitioners and teachers have used the formula of Kudder Richardson 21 (***KR-21***). It has been widely implemented for testing and test items construction (Brown, 1986). After the test content validity and reliability are attained, the test items are implemented for testing both the students who have taken banking course and those who haven't.

The results of the test is analysed by means of their mean scores and then compared to see whether there is a difference between the students who have not taken the subject of banking course and those who have. The result is then used for inference whether the process of teaching and learning is effective or not. Suggestions are also taken into account for the purposes of policy or decision in the future in relation to banking course class.

5.RESULTS AND DISCUSSION

5.1 result of the test tryout

Based on the test result of try out on 32 students, the scores are as follows:

Table 4.1.A the scores of the test item try out

Students	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Scores	**15**	**7**	**12**	**16**	**10**	**15**	**10**	**6**	**12**	**10**	**10**	**11**	**9**	**16**	**11**	**8**
Students	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Scores	**10**	**10**	**13**	**8**	**13**	**10**	**12**	**8**	**10**	**7**	**8**	**10**	**15**	**14**	**12**	**10**

Table 5.1.B Mean Score and Standard Deviation

	N	Mean	Std. Deviation
VAR00001	32	**10,8750**	**2,69707**
Valid N (listwise)	32		

Based on the test try out, the next step is finding out the mean and standard for the purpose of test items analysis to get the degree of reliability of the test items. The means (M) and the standard deviation (SD) are as the following. The mean is **10. 87** while the standard deviation is **2.70**. The formula of ***K-R21*** which is used in evaluation of test item reliability is as follows:

$$K\text{-}R21 = \frac{k}{k-1}\left[1 - \frac{X(k-X)}{k \times S^2}\right]$$

k = number of items
X = Mean
S = Standard Deviation

Based on the statistical calculation, referred to Table 4.1.B, the Mean Score is 10.875 and the Standard Deviation is **2.70.** Using the formula above, the reliability calculation can be done as the following.

$$K\text{-}R21 = \frac{30}{30-1}\left[1 - \frac{10.87\,(30-10.87)}{30 \times (2.70)^2}\right]$$

$$= 30/29 \quad [1 - (207.94/218.70)]$$
$$= 1.03\,(1 - 0.095)$$
$$= 1.03 \times 0.0905$$
$$= 0.93$$

Thus, according to *Kudder Richardson* formula, the figure of reliability above 0.80 is considered to have very high reliability of test items. Based on this result, the test can be used for measuring the students' performance. As suggested by Brown (2005) and Groulund (1985) that any test which is used for measuring the students' performance should undergo try out first. Otherwise, it is not considered valid and reliable.

In terms of content validity, again, Brown (1985) and Groulund (2005) suggest that the test items must be constructed based on the syllabus content specification. This is intended to have represented the materials given during the teaching and learning process. Thus, content specification should be designed so that the test shows the skill and knowledge to be studied by the students. In this respect, the content specification is as follows:

Table 5.1.C Content Specification and Items

NO	Contents/Materials	Items
1	Bank Products I	1,2,5
2	Bank Products II	4,7,28
3	Domestic Payment Traffics	8,20,30
4	International Payment Traffics	13,21,22
5	Bank Auditing	3,5,27
6	Bank Accounting	11,23,25
7	Customers Service and Bank Ethics	29,26 14,15
8	Account Officer	12,19
9	Bank Management	10,9,26
10	Credit Management Credit Support	24,16,17
11	Syariah Banking	6,17,18

Sources: the content specification is based on the Syllabus of Banking Course at STIE Perbanas Surabaya

In reference to Table 4.1.C above, the test is assumed to have represented the content of the syllabus of banking course. Thus, it has content validity and high reliability (0.93) for measurement. Therefore, the next step is implementing the test on the intended subjects (the students who have taken banking course and those who haven't yet). The results of the tests of the two groups can be seen as the following:

5.2 Test implementation on two Groups

The implementation was done in the fourth wee of June 2008, when the students were approaching their final exam. This is intended that it wouldn't disturb their effective hours at the college. It was done on two groups. First, it was done on the groups of students who were still taking banking in that semester course and secondly on the students who hadn't taken. The results are as the following.

Table 5.2.A Mean Scores of the Two Groups

	VAR00002	N	Mean	Std. Deviation	Std. Error Mean
VAR00001	1.00	47	**19.7447**	3.03937	.44334
	2.00	58	**17.0172**	4.24467	.55735

Table 5.2.B Test Value of the Two Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
VAR00001	Equal variances assumed	5.193	.025	**3.701**	103	**.000**	2.7274	.73686	1.26605	4.18883
	Equal variances not assumed			3.830	101.566	**.000**	2.7274	.71217	1.31478	4.14010

Based on the two tables above, it is seen that the two means scores of the two groups are proved to be different. The first group (46 students who have got banking) is **19.745** while that of the second group (58 students who have not got banking course) is **17.017.** This difference of means scores is so significant, with the value of 0.000. Again, according to Grouland (1983) when measuring teaching process, the test results above can be considered to have reflected that the teaching process is effective.

6. CONCLUSION

Based on the results and discussion above, there are some inferences to be taken into consideration. First of all, as it is suggested that in educational setting, when schools or colleges attempt to measure the effectiveness of teaching and learning process of a certain subject, any test should be made for students' performance measurement. However, the test items constructed should be made pedagogically acceptable in the sense that pursuing the content validity and reliability of the test items should be undertaken. As the process in constructing the test items for measurement in this study, the test is in fact considered to have content validity due to the test construction which is based on the content of the syllabus of banking course.. In addition, as advocated by educational policy makers and teachers, that in order to have reliability of the test, the test items should be measured by means of KR-21. In fact, based on such formula, the test construction is proved to be reliable and therefore, the test items can be used for the purpose of students' performance measurement.

Having done the test for measuring the students' performance in banking course, it is found that the process of teaching and learning is effective as indicated that there is significant difference between the students who have taken banking course and those who haven't. Thus, it is suggested that the teaching process of banking course should be kept effective by maintaining the resources and some teaching methodologies implemented in the classroom.

However, this research seems to have some limitations due to some reasons. First of all, the results of test items try out was undertaken only to get the content validity and reliability of the test. Thus, for further research, the test item analysis concerning index of difficulty (ID) and Revision on items based on their ID should also be undertaken. Groulund (1985) and Brown (2005) advocated that test items can be used as standard for

they have undergone some analysis such as on validity, reliability, as well as being able to distinguish the smart and non smart students (ID degree). Secondly, the researchers admit that due to a very limited time, the researchers feel that there are some factors related to students' psychological condition during the test. The students were approaching the final exam and they had more assignments. This might have caused them psychologically to feel that they have "a burden". Last of all, the more the test items are tested the more the reliability is. Thus, in the future, these test items are also good for further try out and used again in the same research.

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A STUDY OF IT LITERACY AMONG FIRST YEAR STUDENTS: A POWER OF PERCEPTIONS

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ABSTRACT

The knowledge and skills of computer usage is an important agenda in our daily lives in this IT era. Students are the groups who need to occupy themselves with various computing skills as one of the important elements to facilitate their learning process. This study is done to measure the level of computer literacy among Universiti Sains Islam Malaysia (USIM) first year students from all faculties and the relationship between their knowledge and computing skill levels. Questionnaires are distributed to respondents as a method of information gathering. Analysis shows that students have good computer literacy with high mean of skills and knowledge. Their perceptions indicate their level of knowledge and skills in using computer.

1.0 INTRODUCTION

The Malaysian Ministry of Education has been putting much effort to enhance the scope of IT in education through its network;- a networked computer usage system that allow universities throughout Malaysia to interact through planned activities that are search-skilled, evaluation and information oriented for education purposes.

At USIM, all first year students have to take the Information and Communication subject (UTA 1082) regardless of their backgrounds. Some of the students entering first year have undergone the tamhidi (matriculation) programme which also offers quite a similar course during their studies. Some others use direct entry from STAM, STP or diploma from previous studies. Many of them would have probably experienced using computer and are able to operate computer like those who have had this course during their tamhidi programme or diploma. However, we have no idea of those who have direct entry if they also have the same capability.

2.0 PROBLEM STATEMENT

Students who take ICT subject when entering first year at USIM have different attitudes and came from various backgrounds. This research is done to identify if perception does not matter when it comes to computer literacy. The study will also find out if their level of computer literacy which will then give some hints to instructors if the course syllabus is still relevant with the students needs since in this dynamic education environment, students has become much more advance than before.

3.0 RESEARCH OBJECTIVES

The objectives of this study are as follows:

1. To measure the level of computer literacy among first year students of USIM.
2. To identify if there is correlation between perception and IT knowledge of the students.

3. To identify if there is correlation between perception and skills of using computer among the students.

4.0 LITERATURE REVIEW

The precise definition of computer literacy may vary from group to group. Generally, literate means the ability of a person to read books in their native languages. Computer literacy is the knowledge and ability to use computers and technology efficiently. Computer literacy can also refer to the comfort level someone has with using computer programs and other applications that are associated with computers. Having basic computer skills is a requirement to the students since it will be an asset to them once they graduate. According to Chakrabarty(1979) , computer literacy means learning how to use a microcomputer application and its devices which could produce output from the usage of the computer.

While Dologite (1979) says that literacy means level of knowledge and the ability of a person using computers. This opinion is almost similar to Hunter (1987) who states that computer literacy means the the ability of an individual to operate the computer as a tool that is functionaal in the knowledge society. Anderson and Klassen (1983) who involves in an MCLAA project *(Minnesota Computer Literacy and Awareness Assessment)* suggest that computer literacy is the understanding, skills and attitude required to function effectively in social roles which involves computer directly and indirectly.

Ngan (1994) states that we need to distinguish between the literacy and the awareness of the computer. Computer awareness basically refers to the knowledge on how computer is used in the society, the effects of computer usage towards the social and economy, and its effects towards human lives. Computer literacy does not only mean the awareness but also the knowledge and experience of operating and controlling computers. The diagram below shows the difference between the awareness and literacy of computer. Basically, the computer literacy has a close relationship with the learning and usage of computer.

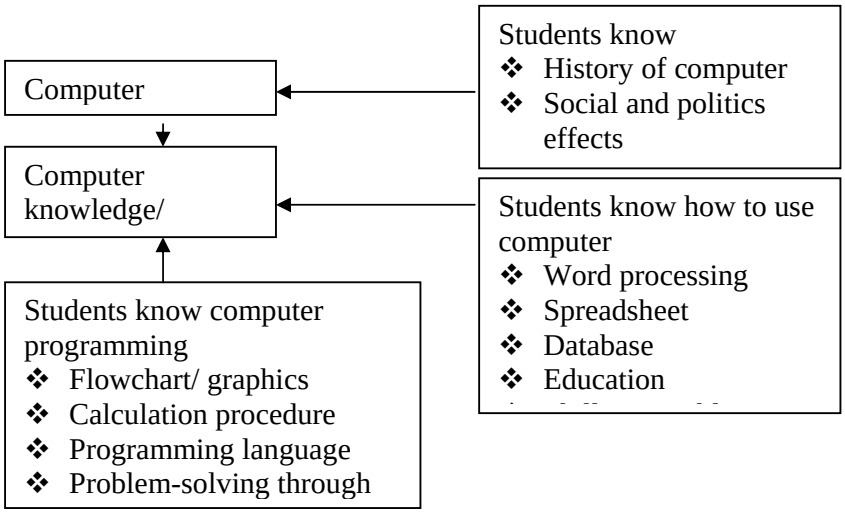


Figure 1: The Difference of Curriculum Contents between Computer Awareness and Literacy

The Level of Computer Literacy

Several studies have been implemented to measure the level of computer literacy among students in Malaysia. A study done by Muhamad Hassan (2003) found that the students' knowledge and skills were at the moderate level. This pioneer study was conducted by Roa and Roa in 1984 followed by a research from Regional Centre for Education in Science and Mathematics (RECSAM) in 1986.

The Perception towards Computer

Interest and perception are two aspects that influence computer learning. It should be stressed out here that the interest and positive perception as well as the awareness about computer are important to facilitate the computer learning. Jay (1990) was in the opinion that attitude factor influences the level of recognising and understanding of computer. He found out that students who have negative attitude would be uncomfortable when exposed to computer-based activities. This opinion was supported by Clement (1981) by saying that students with positive perception towards computer could quickly conquer the computer skills.

A study done by Davis (1989) to 150 company managers in the United States has produced Technology Acceptance Model (TAM). This study uses three main perceptions and these could be defined as:

a) Usefulness	- Individuals have perception whereby the usage of IT at the workplace will enhance the quality and productivity
b) Ease of Use	- Individuals think that computer is easy to be handled to implement the assigned tasks
c) Enjoyment	- Individuals think that the enjoyment of using a computer and the uses of computer will not create problems or stress.

The relationship among these three variables can be seen in figure 2. Each perception has a relation to influence the staff to use IT.

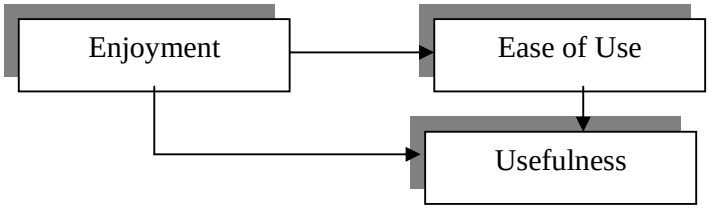


Figure 2: TAM Model

Another study done by Igbaria (1996), managed to collect data from 471 respondents who were at professional and managerial levels at 62 companies. This researcher has tested the perception model in the usage of computer. This model uses six variables and each is clarified as follows:

Variable	Clarification
Perceived Usefulness	Individuals will accept the new technology when it gives value or benefit. In this context, managers were in the opinion that using computers would ease the work and increase the performance.
Perceived Enjoyment	Part of an intrinsic motivation. Individuals have a perception that the uses of computer will give enjoyment
Social Norms	Influenced by the environment, which stresses the importance of using computers. Hence, the society will underestimate or look down to those who do not know how to use a computer.
Skills	The uses of computer depend on the individual skills and understanding levels
Organisational support	The support given by the organisation such as giving incentives and recognition to those who use computers. The organisation will also provide computer training and course
The Uses of Organisation	These are the organisations, which use computers in implementing their working system and do have their own information system. This working environment needs all managers to use computers.

The study has found that all variables stated in the model have positive relationship in influencing managers to use a computer at their workplace.

James E. Walter (1996) has implemented a study on the attitude comparison towards computer among junior and senior graduates at Indiana University, USA, using a measurement tool called Attitude toward Computer Scale (ATCS). In his study, he found out that the senior graduates have more positive attitude towards computer compared to the juniors. This is because the seniors have more exposure to the computer courses at the university and more experienced in using computer when compared to the juniors and more senior graduates own personal computer compared to juniors. James (1996) has also stated that the senior graduates gave their perception that, the uses of computer were beneficial and could increase their enjoyment experience. He also found out that, graduates who are used to the keyboard and other computer devices will have more positive attitudes compared to those who lack in computer exposure.

Hollister and Koppel (2008) in their study discuss how results from retention assessment exams in Information Technology (IT) administered as part of an assurance of learning (AoL) program in an undergraduate program at an AACSB International-accredited business school have been used in the redesign of content and pedagogy in an undergraduate computer literacy course. The goal of this program assessment is to improve student learning. Assessment is not limited to measuring outcomes; the assessment process is the progression of collecting data on student retention, analyzing results to provide feedback, and using feedback to make improvements to the curriculum.

Since required computer literacy competencies are continually changing for high school graduates, it is imperative that universities monitor design and content of the curriculum to provide an adequate computer literacy background for university students (Hindi, Miller and Weng, 2002)

A study done by Schroeder (2007) at one college in the United States of America found out that from 6,300 students taking ETS's information and communication technology (ICT) literacy assessment last year, only 52% could correctly judge the objectivity of a web site, and only 65% could correctly judge the site's authoritativeness. In a Web search task, only 40% entered multiple search terms to narrow the results. And when selecting a research statement for a class assignment, only 44% identified a statement that captured the demands of the assignment.

Their preliminary research findings illustrate that most students do not have the ICT literacy skills needed to complete college-level assignments efficiently. The result may be surprising to the general public because there is an assumption that because students have grown

up with computers, they are ICT literate. Their conclusion was while college age students can use technology, they do not necessarily know what to do with the content the technology provides.

Ruba and Abdallah (2006) investigated 210 Jordanian EFL perceptions of their computer literacy. The findings revealed that the majority of the students reported being fairly proficient to proficient in computer skills such as deleting files (81.43%), copying files (78.57%), formatting a floppy disk (67.15%), and installing a program on a hard disk (64.29%), while most reported being not or a little proficient in computer skills such as using images from a camcorder or digital camera in computers (84.76%), using PowerPoint (80%), and creating databases (78.09%). The results further revealed no significant effect for gender but a significant effect for year of study on students' perceptions of their computer literacy.

A study pertaining to computer literacy also done by Creighton et. al (2006), to the students entering freshmen at College Of Business in Lousiana. This research has shown that while the students are proficient in word processing and e-mail, their general knowledge about computers and technology as well as their spreadsheet knowledge fall short of what is expected in the College of Business. The research has resulted in more time allotted to spreadsheet applications and less time allotted to word processing. The results of the research have also been presented to the Louisiana State Department of Education in hopes that there will be more emphasis placed on spreadsheets in the various computer classes taught in the secondary schools. The research is used to determine if the computer course should continue to be taught and what the content of the course should be.

Messineo and De Ollos (2005) in their study measure the reported experience, comfort level, and perceived skill of 233 students in a medium-size midwestern university to determine how best to approach the use of information technology within departmental curricula. Results show that students view their computer competence differently depending on whether they are using the technology for personal or course-related tasks. Additionally, while the expressed levels of experience and comfort are high for some forms of technology, exposure and confidence with more advanced applications are lacking. Such findings suggest that faculty members may make false assumptions about student preparedness and, in turn, may jeopardize student success. Differences by gender and race/ethnicity also were observed, suggesting that departments need to be aware of the varied experiences of their students.

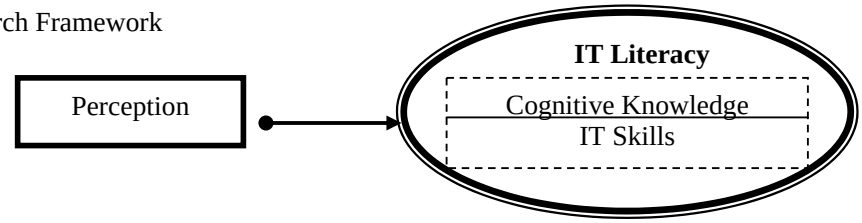
A study done by McDonald (2004) focused on the computer literacy of university students majoring in computer information systems at Georgia State University. The findings may also be as applicable to the higher education system, the training needs of the workplace, and the necessity for life-long learning essential in the technologically-intensive society. Although current University policy states that students must have access to their own computers, this case study indicates that increased access to the technology is no guarantor of the skills required to succeed at school or at work. It is imperative that no assumption is made that students will be motivated to learn the tools they will need simply by having greater access to computers in general. The results of this case suggest that institutions of higher education as well as organizations must provide relevant, structured computer software instruction for students and employees.

The challenge for educators, however, remains. Mechanisms must be created that will allow students to deal with the pace of technology change and the variety of equipment that they will encounter after their educational experience. Universities addressing the issues relating to constantly innovating technologies will produce students with greater appeal to a broader audience and markets. Keeping pace with progress to graduate computer-literate students is an appealing strategy is to make students more competitive for the demands of today's job market.

5.0 RESEARCH METHODOLOGY

The population for this study comprised of first year students of USIM who have to take the ICT subject as a compulsory subject. A questionnaire is used to collect the data required. The questionnaire is divided into four sections: (a) Background, (b) Perception, (c) Computer Skills and (d) Cognitive Knowledge . These four sections is measured on a five point likert scale. The study is performed to assess the reliability of the 3 items of computer literacy ie: perceptions, computer skills and cognitive knowledge.

Research Framework



Data collected from the questionnaire is analysed using statistical package software – SPSS. Correlation coefficient is used for the analysis.

6.0 FINDINGS

6.1. Demographic profiles of the respondents

		Valid Percent
Gender	1) Male	24.5
	2) Female	75.5
Age Group	1) Below 20	44.1
	2) 21-25	55.7
	3) 26-30	0.2
Race	1) Malay	98.4
	2)India	0.4
	3) Others	1.1
Academic Background	1) Commerce	5.8
	2) Art	35.4
	3) Science/Engineering	20.7
	4) Religious Studies	38.1
School	Boarding	11.6
	Ordinary	6.9
	Technical/Vocational	0.2
	Religious/Arabic	81.3
School Location	Urban	53.5
	Suburban	46.3
	Others	0.2
Computer Club	Yes	83.3
	No	16.7
Computer club Membership	Yes	26.9
	No	73.1
Formal Computer Class	Yes	38.1
	No	61.9
Enrolment	Matric	32.1
	SPM/STPM/STAM	67.9
Computer Experience	<1	24.1
	1-2	22.7
	3-4	17.4
	5-6	8.0
	>6	27.8

Reliability Analysis - scale (alpha) Reliability Coefficients
N of Cases = 449.0 N of Items = 73 Alpha = .8976

The Cronbach alpha shows that the data is reliable and consistent by having an alpha of 0.8976 (Nunnaly 1970). There are 449 valid respondents in this study. The demographic profile table shows that the females outnumbered males by about 50%. The respondents are at the range of 21-25 (55.7%), and 20 years old and below (44.1%) and only 0.2 % of them are 26 years old and above. Majority of the respondents are Malays ethnic (98.4%). Among them 38% had their secondary school at Arabic or Islamic stream, 35% were from arts stream and 20% from science and engineering background. Most of the respondents were from Arabic or Islamic School (81%), followed by boarding school (11.6%), and Ordinary (6.9%) and Technical/Vocational (0.2%). More than half of them were from urban schools and 43% are from suburban schools. 83% of them admitted that their schools have computer club but only 27% of them joined the club. 62% of the students never attended any formal computer classes. Only one third of them who entered first year were from matriculation programme. About half of them have experience using computer not exceed two years and one fourth has more than 6 years computer experience.

6.2 The level of computer literacy among first year students of USIM

	N	Min	Max	Mean	Std Dev
Skills of using computer software - DOS	449	1.00	5.00	2.7416	.9843
Skills of using computer software - Windows	449	1.00	5.00	3.5590	.9782
Skills of using computer software - Ms Word	449	1.00	5.00	3.9020	.7555
Skills of using computer software - Ms Excel	449	1.00	5.00	3.4833	.7678
Skills of using computer software - Ms Power Point	449	1.00	5.00	3.7327	.7989
Skills of using computer software - Ms Access	449	1.00	5.00	3.1091	.8500
Skills of using computer software - Ms Front Page	449	1.00	5.00	2.8820	1.6588
Valid N list	449				

Based on the mean above, it can be said that the students are most familiar using MS Word, followed by MS PowerPoint, Windows, MS Excel, MS Access. The students seem are not familiar with DOS and Ms Front Page.

Based on the result below, it can be said that the level of Cognitive Knowledge among first year students of USIM is high. However, some of them are disagree with the statement that computers can think like human being. Apart from that they are also in the opinion of grammar should be learnt with the presence of teachers and computer is widely use by many people regardless of their occupations.

Cognitive Knowledge	Mean	Std. Dev.
Almost everyone in our society is effected by existence of computer	3.9577	.7443
Computer is being widely used by scientists only	2.6927	1.1374
Grammar can be learnt through a computer without the presence of teachers	2.6258	1.0868
The increase in computer usage will create new job opportunities and eliminate some of the existing jobs	3.4499	1.7315
Computer is used in some criminal activities especially in banks (withdrawal and transfer of money)	3.0445	1.2492
The Government uses computers to save and organize much information	4.3207	.6973
Computer is normally used to save information that is being used repeatedly	4.1893	.7272
Password is the most popular method used to protect information from intruders	4.2739	.7839
Computer can think like human being	2.3207	1.1876

Basic components of computer such as printer, mouse and keyboard are categorized under computer hardware	4.1180	.7331
The function of e-mail is to send messages electronically	4.2539	.7182
Computer cannot be used for tasks that require instinct	3.3719	1.1581
The main role of a computer programmer is to code set of computer programs	3.7194	.8165
The basic usage of computer in the library involves simulation and modeling	3.5301	.7732
The physical part of a computer is called hardware	3.6414	.8228
Computer software is a computer program	3.9822	.7498
Window 2000 is a system software	3.9354	.7576
Data processing is involves collecting and handling data	3.8976	.7091
The data processing in a computer involves the activities of searching and summarizing of data	3.7261	.7460
To solve a problem, a computer requires two type of information those are data and instructions	3.7684	.7587

6.3 The relationship between perception with knowledge and the perceptions the skills of using computers among the students.

Correlations		MEAN SKILL	MEAN KNOWLEDGE
MEAN SKILL	Pearson Correlation	1.000	.312
	Sig. (2-tailed)	.	.000
	N	449	449
MEAN KNOWLEDGE	Pearson Correlation	.312	1.000
	Sig. (2-tailed)	.000	.
	N	449	449
I am happy to be in computer environment	Pearson Correlation	.262	.188
	Sig. (2-tailed)	.000	.000
	N	449	449
I like to work using a computer	Pearson Correlation	.242	.189
	Sig. (2-tailed)	.000	.000
	N	449	449
I am comfortable to interact with a computer	Pearson Correlation	.252	.206
	Sig. (2-tailed)	.000	.000
	N	449	449
I like to learn about computer	Pearson Correlation	.088	.020
	Sig. (2-tailed)	.062	.676
	N	449	449
I am comfortable to work using a computer	Pearson Correlation	.265	.192
	Sig. (2-tailed)	.000	.000
	N	449	449
I am in the opinion of working and using a computer is very fascinating	Pearson Correlation	.320	.220
	Sig. (2-tailed)	.000	.000
	N	449	449

** Correlation is significant at the 0.01 level (2-tailed).

The students' perceptions have low positive relationship with students' skills except for one variable that is insignificant; I like to learn computer. Students with higher perception about computer will have better skills in using computer. On the other hand, the students' perceptions have a much lower positive relationship with the students' knowledge. Even though the relationship is low but it means that if the perceptions of the students are high then the students' knowledge is also high. So basically both the skill and knowledge are positively related to perception at 0.01 level or 99 percent confidence level.

7.0 CONCLUSION

Based on the findings above, it can be concluded that students are familiar and possess skills and knowledge with most of the applications taught to them. It can also be concluded that students must have positive mindset when it comes to learning computer

since perceptions could affect their abilities in exploring and mastering the knowledge and skills of computers.

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PRESET OBSERVATION INSTRUMENT FOR QUALITY TEACHING AND LEARNING

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ABSTRACT

The PRESET observation instrument is designed to help teachers develop their teaching skills and strategies. This observation instrument is successfully produced on the basis of several approaches that include the clinical supervision model, the collaborative and reflective model of supervision. The aim of this observation is to help in producing competent teachers and provide a common frame of pedagogical reference for teaching and learning. The proposed observation instrument is carefully designed and the criteria are selected from various observation instruments proposed by Flanders, Brown, Blumberg, etc. The criteria selected are based on the four categories suggested by Onibokun (1984). The four categories are:

1. Cognitive-based: Teacher's knowledge
2. Performance-based: Teaching behavior and teacher personality
3. Competence-based: Teacher's ability to teach by assessing pupil behavior; formative evaluation of pupil understanding.
4. Affective-based: Teacher/class/pupil/teacher interaction.

The paper will explore how this instrument can enhance institutional capacity by not just producing quality teachers, but also strengthening the system. We believed that PRESET can develop a certain skills or competence for the general upgrading of performance ability as it includes the creation of enabling environment with appropriate framework, as well as the involvement of everybody in the system.
(178 words)

INTRODUCTION

Capacity building is an ongoing process through which individuals, groups, organizations and societies enhance their ability to identify and meet development challenges. It involves three main elements: partnership, organizational development and society strengthening. PRESET has the criteria of developing certain skills or competence and for general upgrading of performance ability. Apparently, the teaching profession has always been vulnerable to its critics. Most of the time, teachers are blamed for various reasons like the students' discipline problems, the decline in students' academic achievement and so forth. Hence, there has been a great demand for training teachers to promote better teaching and learning behaviors whereby teachers have to adjust themselves to the latest developments in education and to the suitability of the classroom situations. In order to

nurture the development of teachers as persons and as effective classroom instructors, teacher observation and supervision is undeniable. The idea of introducing 'teacher observation and supervision' is to reflect on the teaching, which we have carried out, for further improvement. PRESET helps individual teachers to exercise their responsibilities and improve their lives and communities through advocacy, negotiation and cooperative action.

The Need for Classroom Observation and Supervision

In Malaysia, it is very rare to find proper classroom observation and supervision being conducted. How often are the teachers in either primary or secondary levels observed and supervised by someone who is appointed by the authority? It is undeniable that some learning institutions do carry out classroom observations but the percentage is too small. In fact, most of these observations were conducted for the purpose of assessing the teachers rather than for teaching improvement. Therefore, there is a need to introduce a classroom observation and supervision procedures for teachers' professional growth and development.

According to Wajnryb (1993), when it comes to teaching, teachers will usually focus on the teaching objectives, the teaching procedures, and the logistics of a particular lesson. This has caused teachers to fail in giving attention to the learning and communication processes of their learners in a classroom to ensure that the learning and communication processes are not neglected. Richard (1990) stated that teachers, especially the pre-service teachers can learn about teaching methodology and the learning process through the observation and supervision procedures. Apparently, formal observation and supervision process will help teachers to:

- develop discussion and understanding in the teaching process;
- create awareness towards the principles of effective teaching;
- differentiate effective teaching and non-effective teaching;
- identify suitable techniques which can be applied in their teaching.

Berieter and Scardamalia (1993) in Dunn and Schriner (1999) claim that experience is not the only criteria for a person to be excellent. To be able to maintain as an expert in the profession, a teacher should always be reflective and aware of the factors contributing to effective and non-effective teaching. Steps should be taken for improvement if necessary. Thus, the best way to implement this concept is through the Observation and Supervision Programme, so that weaknesses and strengths in teaching can be highlighted.

Schon (1987) suggests an approach for achieving higher teaching skills among teachers in which he claims that besides theory, teachers should be more proactive. Teachers should be able to identify problems that occur in their teaching through various angles in a process called "Reflection-in-Action" process. He further claims that among the characteristics of a professional are:

- the ability to identify and solve problems in a particular context;
- the ability to identify and understand the problems that occur in a particular situation

On the contrary, a non-professional only knows how to react to routines and solve the problems that occurred using the same approach without thinking whether the particular approach works effectively or not.

Motivational and competent teaching is the key to effective and quality way of delivering education in school. To be able to achieve effective teaching, teachers should follow the current development and changes, at the same time be motivated to learn new knowledge and are able to adapt themselves with the teaching strategies to upgrade their profession (Shui-Fong Lam, 2001). Among the mechanisms that can be carried out to upgrade the teaching profession are:

- Teaching Appraisal; and
- Peer classroom Observation

These two mechanisms are believed to be able to develop teachers' professional skills. It involves continuous teaching and learning processes and can assist teachers in remembering the pedagogical skills learnt in the early session of their teaching practice.

The effectiveness of the Observation and Supervision Programme is acknowledged by many other researchers, among others Gottesman & Jennings (1994), Joyce & Showers (1983), Miller (1987) and Thomas (1993).

Therefore, the aim of this article is to give an overview of observation and supervision procedures as well as to suggest an observation instrument that may be used to observe classroom teaching and learning behaviours effectively. Apparently, teachers' behaviors are the indications of teachers' abilities to perform various tasks. Thus, examining teachers' behaviors systematically in the context of the classroom should provide overt indications of the teachers' needs and abilities as they are revealed in their work with students. It is believed that through observation, teachers are able to become more aware of their own behaviors and those of their students.

Reasons for Rejecting Observation and Supervision Programme

Most teachers and educators at all levels do not favour the Observation and Supervision Programme due to several factors. Some of the factors are:

i. lack of exposure to the classroom observation concept;
ii. most of the observation done is believed to evaluate and discriminate teacher performance rather than developing the teachers' professionalism;
iii. most teachers are not confident with their teaching ability;
iv. most teachers are not ready to accept criticisms from the observer;
v. most teachers, especially the senior teachers are not opened to critisms and discussion regarding their teaching;
vi. there is no appropriate and standardized instrument to be applied.

Due to these factors, the best step is to identify several instruments used by some of the educational institutions overseas, so that they can be adapted to be used in the Malaysian classroom context. The implementation of the programme should be done at an early stage as to familiarize the teachers with the concept and the objectives of the

implementation of such programme. This is to develop a positive attitude among teachers to give their full cooperation and participation in such a programme.

Who should be Involved?

The pre-service teachers are the main target of this programme. As the concept of observation is still rare in Malaysia, it is wise to give exposure to the teachers at an early stage of their profession, so that the process can be taken as a routine to develop their professional skills. With the positive view from the younger generation of the teaching profession, the programme can then be implemented to the in-service teachers.

The Scenario of the Observation and Supervision Programme in Malaysian Educational Institutions

A study is carried out on the TESL teachers in one of the institutes of higher learning in Malaysia who have undergone the Observation & Supervision Programme. Most teachers are dissatisfied with how the concept of the programme is carried out (Zuwati, 2002). Among the responses given when they were interviewed are:

TEACHER A
"The observer is biased in evaluating the teachers' teaching ability. The female teachers always get higher marks compared to male teachers".

TEACHER B
"The credibility of the observer is questionable as there are negative feedbacks given by the students regarding the observer's teaching performance".

TEACHER C
"I feel that my teaching is effectively carried out, but not in the eyes of the observer. Should I trust the observer and agree to his comments? On what basis did she perceive that my teaching is not effective?"

TEACHER D
"I feel uneasy and nervous when observed by my own colleague. My teaching cannot be carried out as well as planned."

TEACHER E
"I feel that it is unfair for me to undergo a course to improve my teaching as I already have 8 years of teaching experience. It is simply not fair!"

The expressions derived from the interview show that there are weaknesses in the Observation & Supervision Programme implemented. Therefore, a better approach should be searched to ensure that the concept and the aim of the programme can be successfully achieved.

Observation and Supervision Instruments

Observation and supervision instruments are widely used to measure teacher's performance and students' achievement in a particular classroom. The aim is to study, analyze, and make judgements about what the observer sees and hears. Although many

observation instruments are quite comprehensive, there is no single system that is appropriate for all situations. We notice that these instruments have several limitations. Often, observed teachers have negative perception about classroom observation and supervision. This is due to the fact that normally, observation is carried out for assessment and evaluation. Besides, the supervision is widely known as prescriptive rather than descriptive. That is why most of the observed teachers feel nervous and threatened when it comes to classroom observation.

In the process of creating the observation instrument, several approaches and guidelines are taken into consideration to create more effective and efficient observation instruments. Before creating or selecting the observation instruments, we should consider two factors (Weir & Roberts, 1994). They are reliability and validity.

a. Reliability

According to Medley and Mitzel (1963), in observation, we can apply three measures of reliability.

i. A stability coefficient
- Measures made by the same observer on different occasions of the same event.
- This measure is valid for video-based training observers.
- Intra-observer reliability.

ii. An observer agreement coefficient
- Observations made by different observers of the same classroom event, occurring in a single occasion.
- Inter-observer reliability.

iii. A repeated measure reliability coefficient
- Administering the same instrument to the same person on different occasions.

b. Validity

Validity, according to McNergney & Carrier (1981), occurs when an instrument measures what it is supposed to measure. Two types of validity are taken into account. They are:

i. Content Validity which it refers to how well a measuring instrument measures the content.

ii.Construct Validity which refers to the degree to which the scores can be explained.

The proposed observation instrument is carefully designed and the criteria are selected from various observation instruments proposed by Flanders, Brown, Blumberg, etc. The criteria selected are based on the four categories, which are:
1. Cognitive-based: Teacher's knowledge
2. Performance-based: Teaching behavior and teacher personality
3. Competence-based: Teacher's ability to teach by assessing pupil behavior; formative evaluation of pupil understanding.

4. Affective-based: Teacher/class/pupil/teacher interaction.

Description of the Proposed Observation Instrument

This particular observation instrument is called PRESET observation system which stands for Pre-Service Teacher observation. The observation system is specifically designed for the pre-service teacher observation and the observation instruments consist of:

1.Observation Information Page
- to record the basic information like name of the school, observed teacher, class to be observed,
  name of the observer/supervisor, and the phase.

2. Observation & Supervision Schedule
- to let the observer schedules the observation and arranges for the supervision meetings.

3.Observation Instrument
- to be used during observation in a particular classroom.

4.Observation Record
- to record the development of the observed teacher according to the phases.

Procedures for the Use of the Instrument

PRESET is developed to help trainee teachers (pre-service) develop their teaching. It is not meant to assess the teacher. Instead, it provides them with the pedagogical concept and equips them with the methodological and pedagogical needs in teaching. Thus, the process of using this instrument is just like the clinical supervision cycle or stages. They are:

1. Pre-Observation Conference
- To establish relationship between supervisor and teachers.
- To plan and arrange for the observation.
- To discuss what is to be observed in the classroom.

2. Observation
- Actual classroom observation

3. Post-Observation
- Analysis of teaching.
- Discuss the strengths and the weaknesses.
- Plan for further improvements in teaching.

As mentioned earlier the observation and supervision procedures for this instrument follow the clinical supervision approach. However, the process of observation is to be carried out according to the Malaysian context whereby trainee teachers are given 12 weeks to do their teaching practice. Thus, there will be more than one observation.

The observation is to be carried out at least twice. The observer has to record the achievement of the teachers in order to see the development of the teaching. After the final phase of observation, specifically after the post-observation conference, another observation is to be carried out. However, this time, the observation done is to be evaluated and marks are given to determine the students' grades.

The rationale for using this instrument is that it is simple and easy to be used by observers. This observation instrument does not require a highly trained person to carry out the observation. Besides, this instrument uses rating scales which avoid the problem of being judgmental and at the same time promote reliability and validity of the evaluation.

The process of carrying out the observation, in this approach, is more towards collaborative approach rather than directive. This promotes the supervisors to work together with the teacher, make suggestions, understand ideas and share experiences. As we can see, a good rapport between the supervisor and teacher is essential for teacher development.

CONCLUSION

As a conclusion, the PRESET observation instrument is designed to help teachers develop their creativity in teaching skills and strategies. This observation instrument is successfully produced on the basis of several approaches that include the clinical supervision model, the collaborative and reflective model of supervision. The aim of this observation is to help in producing competent teachers and provide a common frame of pedagogical reference for teaching and learning. For organization, PRESET enhances capacity building and may relate to almost any aspect of its work: improved governance, leadership, mission, strategy, and administration.

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ALTERNATIVE TERTIARY-LEVEL STUDENT ASSESSMENT AND FEED BACKING STRATEGIES UTILIZING CLASSROOM-BASED GROUP PROJECTS AND PRESENTATIONS IN GENERAL SOCIOLOGY AND ANTHROPOLOGY: ARGUMENTS FOR THIRD MILLENNIUM SOCIAL SCIENCE EDUCATORS

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ABSTRACT

Traditional views of educators and academicians have maintained the attitude that suitable ways of assessing tertiary-level students in any subject would be through the commonly-applied lecture method and paper-pencil test (ppt). The view include General Education subjects like Introduction to Sociology and Anthropology offered to all college students of De La Salle University-Dasmariñas, Cavite, Philippines. However, there have also been perceptions that at the end of each term or semester, some teachers have complained that their students evaluated them poorly and were extremely bored with the subject. These views continued to flourish among the students since they neither knew nor remembered anything worthwhile. Moreover, they ended hating both the subject and the teacher for not making the course relevant or significant to their skills training and needs. This paper therefore addresses the aforementioned issue in searching for the best and suitable alternative strategy which will not only benefit the Social Science teachers concerned but will address the relevance and significance of institutional capacity-building in teaching and learning on the tertiary level for the Third millennium as well.

This study largely employed the observational method through social experimentation and informal narrative accounts of how students would react to the teacher's idea of administering a long quiz or a series of graded recitations through collaborative group projects like role-playing, editorial cartooning, and slogan or campaign-making instead of the usual paper-pencil test. Additionally, the paper utilized live video excerpts of the students' actual classroom presentations and completed cartoon projects done on Manila paper as units for data gathering and analysis. The subjects used for this study were composed of college students belonging to the 1st to 4th year levels taking up Information Technology, Computer Studies, Nursing, Psychology, Tourism Management, and Hotel and Restaurant Management during the entire school year 2007-2008 (June 2007 to May 2008).

Keywords: *Lecture Method, Paper-Pencil Test, Student To Faculty Evaluation, Alternative Evaluation Strategies, Collaborative Group Projects, Institutional Capacity-Building, Role-Playing, Editorial Cartooning, Slogan/Campaign-Making*

INTRODUCTION

Traditionally, the General Education subjects such as Society and Culture with Family Planning, HIV/AIDS Education, Socio-Anthropology with Family Planning, HIV/AIDS Education, and General Sociology with Family Planning, HIV/AIDS Education, have largely relied on lecture-based teaching strategies, typical paper-pencil tests (ppt) administered by the instructors and augmented with minimal audio-visual support through film viewings and slide show presentations.

Feed backing strategies in this context would largely rely on the results of the tests and reaction papers including written assignments submitted by students. It is, indeed, a highly complex business since college students are instructed through lectures, seminars, laboratory demonstrations, field trips, projects, book and journal reviews, films, slides, and the utilization of numerous information and communication technology (ICT) equipment to enhance their learning experiences, inside and outside the classroom (MacKenzie, Eraut, and Jones, 1976: 37). Lecturing has been considered as the oldest teaching method widely used in universities worldwide. Through many years of teaching experiences, practical wisdom about techniques of lecturing has been generated. Somehow, effective lecturers have to be scholars, writers, producers, comedians, entertainers, and teachers all at the same time to catch the attention of the students but nonetheless contribute to the entire spectrum of teacher and student learning as well. In any case, it has been an admission of fact that very few college professors combine such talents in optimal ways and that even the best are not always in top form (McKeachie, 1999:66). And because of the significant amount of material and content that were covered in these introductory courses, as well as increasingly larger class sizes over the school years, there has been notably little opportunity for any significant instructor to generate student to student and student to faculty interaction. As a result, the students themselves would be relegated to the role of passive learners. Thus, the faculty handling the aforementioned courses, at the end of each semester, would find themselves unclear and confused on whether the students completing course requirements truly learned and comprehended the significance and relevance of the subject to their main formation as Management, Marketing, Nursing, Engineering, or Psychology majors. To a large extent, purely lecture-based class sessions throughout an entire semester would be judged as "dry" and boring since retention of information would be minimal in nature (MacKenzie, Eraut, and Jones, 1976: 38).

With the relatively recent introduction of using web-based projects, however, such as class pages and blogging on the internet about the lessons learned from the subject, as submitted by the students almost nearing completion of their course requirements, the faculty concerned may somehow assess the effectiveness, impact, and relevance of the subjects on their lives and future formation as managers, marketers, entrepreneurs, nurses, engineers, and psychologists. It is believed that these web-based projects have created the potential to enhance teaching effectiveness and to promote the use of higher-order learning strategies, thus contributing to the development of a larger interactive teaching and learning environment.

Web-based projects utilizing internet and other multimedia information technology tools, however, are not enough. Over the past two academic years, specifically from 2006 to 2007 and 2007 to 2008, I began to discover and learn for myself that relatively new, alternative, and "radical" ways of teaching and learning strategies usually through collaborative or group projects have proven to be effective for both teacher and students concerned.

In this paper, I report on the development and outcomes of various alternative teaching and learning approaches and strategies utilized which were to a certain point, experimented on, within the context of handling the basic or general Sociology and Anthropology subjects over the past two aforementioned academic years. The techniques and strategies used to support this initiative were the following: Collaborative group projects like collage making, editorial caricature-making, human tableaux role portrayal, group role-playing or even entire class drama presentations, whole day to overnight field trips (also known as Sociology and Anthropology classrooms in the field) including locally-organized in-campus rallies or social issue awareness drives to commemorate events such as Earth-awareness Day or World AIDS Day or 'Food Production not Reproduction' Days.

OVERVIEW OF THE ACADEMIC YEAR SCHEDULE IN THE PHILIPPINES: Some limitations of the study identified

Our school or academic year in the Philippines begins in June and lasts until October for the first semester while the second semester begins in November and lasts until March of the following year. Our so-called "summer term" begins in April and lasts until the middle of May. In this regard, the first semester has a total of 17 weeks academic time or 107 class days while the second semester only has a total of 16 weeks or 104 class days. The second semester is relatively shorter because of the Christmas break which begins in the middle of December and lasts until the first week of January of the New Year. The summer term, in turn, covers a total of 6 weeks or 30 class days with 2 hour periods per class. In this context, we meet our students during the summer term for a total of two hours each subject. Full-time faculty are then given a maximum total of 6 units or four class hours daily from Monday to Friday.

I am aware that most school terms even within various nations of the Southeast Asian region commence in September and end in June, the following year. My reason for describing the aforementioned may contribute towards understanding the limitations of my study. Usually during the first semester, most class activities are confined to the classroom mainly because of heavy rains and floods. June to November is commonly known as the peak rainy season months when heavy rains, floods, and typhoons abound over the entire archipelago. In turn, late November until May are considered the dry-season months. Thus, I am able to implement and observe more outdoor-based classroom activities during the second semester and summer terms since weather conditions are relatively milder, predictable, and more relaxed than the first semester. Moreover, students during the second semester have relatively fewer enrolled subjects; thereby, providing them with more time to organize and handle such activities by themselves. The summer term serves as the best period to hold outdoor activities or off-classroom activities, usually through field trips, insofar as the students have relatively more free time and are able to hold whole-day to overnight off-campus activities greatly related to acquiring more knowledge from the subjects concerned in a practical way.

HOW GENERAL SOCIOLOGY AND ANTHROPOLOGY BECAME OFFERED COURSES IN THE UNIVERSITY LEVEL: Policies by the Commission on Higher Education (CHED) of the government of the Republic of the Philippines.

Commonly known as Service courses in all educational levels, the Social Studies subjects, known locally as "Araling Panlipunan" and "Sibika at Kultura", including "Heograpiya, Kasaysayan at Sibika" or HEKASI which are subjects of geography, culture, society, and Philippine History are taught and offered in the elementary and high school levels as basic formation courses. From elementary grades 1 to 6 including high school years 1 to 4, these are known as basic introductory courses that generally introduce the student to the field of History, World History, Civics, Politics, Economics, and the Social Sciences. On the tertiary level, however, the Higher Education Act of 1994 or Republic Act (RA) No. 7722 has formulated an updated General Education Curriculum or new GEC apparently to make the same more responsive to the demands of the next millennium and implemented as part of all baccalaureate degree programs in all Higher Education Institutions (HEIs) in the Philippines (CHED Memorandum Order – CMO No. 59, Series of 1996).

Table 1.
***NEW GENERAL EDUCATION CURRICULUM (GEC)**

(Social Sciences) Education AB History

CMO NO. 59, S. 1996 (GEC-A)	ALTERNATIVE (GEC-B)
(Humanities and Sciences) 1. Language and Literature - 24 units	The school should have both (Purely Sciences) Engineering 1. Language and Humanities -21 units
English - 9 units Filipino - 9 units Literature - 9 units	English - 9 units Filipino - 6 units Humanities Subjects – (e.g. Literature, Art, Philosophy) - 6 units
2. Mathematics and Natural Sciences- 15 units Mathematics – 6 units Natural Sciences – 6 units Science Elective – 3 units	2.Mathematics, Natural Sciences and Information Technology - 15 units Mathematics – 6 units Natural Sciences – 6 units Elective (e.g. Mathematics, Natural Sciences, Information Technology) - 3 units
3. Humanities and Social Sciences – 18 units Humanities – 6 units Arts Philosophy Social Sciences – 12 units Basic Economic (with Taxation and Agrarian Reform) General Psychology Politics and Governance (with Philippine Constitution) Society and Culture (with Family Planning)	3. Social Sciences - 12 units (consist of subjects such as Political Science, Psychology, Anthropology, Economics, History and the like provided that the following topics are taken up in appropriate subjects; Taxation and Land Reform, Philippine Constitution, Family Planning and Population Education)
4. Mandated Subjects Life and Works of Rizal Philippine History	4. Life and Works of Rizal - 3 units
TOTAL 63 units	TOTAL 51 units

**taken from CHED MEMORANDUM NO. 4, SERIES OF 1997*

In this regard, 12 units or 4 Social Science subjects out of the total mandated 63 units of General Education subjects have been required for all tertiary level students, regardless of the baccalaureate degree being pursued, i.e. Bachelor of Arts (AB) or Bachelor of Science (BS). The subjects are as follows: Basic Economics with Taxation and Agrarian Reform (3), General Psychology (3), Politics and Governance with Philippine Constitution (3), and Society and Culture with Family Planning (3).

For implementing the aforementioned subjects, the Commission on Higher Education (CHED) released specific guidelines with two broad categories of fields of study: (a) the Humanities, Social Sciences, and Communication and (b) fields other than the Humanities, Social Sciences, and Communication. In effect, the CHED provided Higher Education Institutions or HEIs at their discretion to implement either General Education Curriculum Program A (GEC-A) or General Education Curriculum Program B (GEC-B). Table 1 above summarizes how the new General Education Curriculum through CMO No. 59 should be strictly implemented on the tertiary or university level, private and public (CHED Memorandum No. 4, Series of 1997). Subsequently, the HIV/AIDS subject component was added to General Sociology and Anthropology including the Natural/Biological Sciences and General Psychology last June, 2000 in line with the provisions of Republic Act 8504 or "The Philippine AIDS Prevention and Control Act of 1998" (CHED Memorandum Order – CMO No. 16, Series of 2000).

Insofar as De La Salle University Dasmariñas - Cavite does not have a Sociology and Anthropology department unlike other top universities like the Ateneo de Manila University, University of Santo Tomas, and University of the Philippines system, the teachers handling the subjects concerned are classified as service teachers or instructors since there is no fixed year level where the aforementioned subjects are offered. Our university actually has a total of seven colleges, namely: College of Liberal Arts (CLA), College of Education (COE), College of Science (COS), College of Business Administration (CBA), College of Law Enforcement (CLE), College of International Hospitality and Tourism Management (CIHTM), and College of Engineering and Architecture Technology (CEAT). With this structural setup, the Sociology and Anthropology teachers together with the Community Development, General Psychology, and Art Appreciation instructors of the Behavioral Sciences Department of the College of Liberal Arts handle all students with these introductory subjects from all seven colleges from first to fifth year. For school year 2008-2009, the estimated total student population of our institution would be around 12,000.

METHODOLOGY OF THE STUDY

At the beginning of each term usually during the first day of class, students were already informed of a culminating activity that would make the learning of the subject more meaningful, memorable, and even exciting. It is, in fact, an integral element of the course insofar as it is stipulated in the syllabus before one successfully passes and completes requirements. In this regard, the activity will be held one to two weeks just before final exams week. This would provide the students ample time to prepare as they are given at least 2 to 3 months to brainstorm and organize their respective event.

To motivate the students further, the activity concerned would already be incorporated as part of their final grade aside from the required written exam. The entire class with the class president presiding would then be given the freedom to choose through voting or rising of hands on whether it will be an entire class project which

involves all forty (40) to forty-five (45) students or a small group project with around 5 to 6 members. The students would then be given the option to choose from among the following suggested activities: (1) Role-playing or dramatization complete with script, props, and appropriate costumes of a current social issue currently confronting the youth of the Philippines like unwanted pregnancy, teenage pregnancy, prostitution, drug addiction, or alcoholism; (2) Human tableaux portrayal of a specific module in the course syllabus like simulating the Evolution of Man from the early hominids like Australopithecus Africanus to Homo Erectus to Archaic Homo Sapiens until Modern Man; (3) A variety show through song and dance numbers where Philippine folk songs and traditional music highlight central messages of retaining values, customs, and traditions despite modern times within Philippine society and culture; (4) A variety show with comedy skits, modern songs, and dances that incorporate subliminal yet meaningful messages of today's youth in handling problems and crisis of their own; (5) Culture and Food presentation of native delicacies unique to the Southern Tagalog region known as the CALABARZON or the provinces composed of Cavite, Laguna, Batangas, Rizal, and Quezon; (6) Collage and/or Editorial Cartooning/Caricaturing of a pressing issue which draws the immediate attention of the youth today like Global Warming, Greenhouse gas emissions on the atmosphere, Art of Recycling, Proper Waste Disposal; (7) Awareness campaigns of Earth Day, World AIDS Day, or Food Production Not Reproduction Day; (8) Field trips or Ethnography, which I call, "The Sociology and Anthropology Classroom in the Field" where the students are given the opportunity to closely interact with farmers or fishermen right in their community and at the same time, conduct hands-on planting or fishing activities; (9) A small group community visit to one's subdivision or residential area to determine and closely investigate how peace and order is maintained uniquely by the residents and local authorities; Or (10) a class or group web-page project incorporating all the lessons learned from their introductory Sociology and/or Anthropology classes during the entire semester. Follow-up sessions as regards the class plans including progress reports would be conducted by their teacher to remind them of the forthcoming deadline.

An entire class period with a special venue which is usually one to one and a half to even two hours would be allotted and reserved for their final production by the students themselves. In turn, I would make intensive observations while taking still pictures using my digital camera and video tape their programs while presenting their productions.

At the end of the selected culminating activity, all students were required to submit reaction papers and note down their lessons learned. They were also required to suggest points for improvement, directly addressed to their professor; perchance the activity would be repeated by another class during another semester.

This study employed the observational method through social experimentation and informal narrative accounts of how students would react to the teacher's idea of administering a long quiz or a series of graded recitations through collaborative group projects like role-playing, editorial cartooning, and slogan or campaign-making instead of the usual paper-pencil test (ppt). Additionally, the paper utilized live video excerpts of the students' actual classroom presentations and completed cartoon projects done on Manila paper as units for data gathering and analysis. The subjects used for this study were composed of college students belonging to the 1st to 4th year levels taking up Information Technology, Computer Studies, Nursing, Psychology, Tourism Management, and Hotel and Restaurant Management during the entire school year of 2007-2008 (June 2007 to May 2008).

FRAMEWORK FOR ANALYSIS

Higher education teaching methods and strategies in order to support meaningful and significant learning are commonly applied through the following tenets: Acquisition by utilizing lectures and reading, Practice by employing exercises and problems, Discussion by applying seminars and tutorials, and Discovery by implementing field trips and practicum assignments. For feedback though to occur, the student's reactions in the form of written quizzes and short reaction papers represent the weakest link since there is relatively minimal amount of time to assess, integrate, and guarantee their long-term learning actions from the subjects taken concerned (Laurillard, 2002: 83).

Insofar as Sociology and Anthropology focus on the relevant and contemporary settings of humans in society and culture, it is highly important that the teachers in particular are required to be competently knowledgeable and updated about the information imparted to their students in their respective disciplines. Teaching or effective teaching requires: (1) Careful preparation and monitoring of strategies and techniques of handling the subject, (2) Instructions to students that are clearly stated and related to the goals and objectives of the course, (3) Fostering interaction between teachers and students on several lecture sessions to augment learning, and (4) Producing sound and relevant examination practices. Teaching, especially on the university level involves the transmission, transformation, and extension of knowledge which is very much similar to writing and publishing books, journals and conference proceedings. Essentially, the teachers must be constantly aware of the quality of the material presented in the classroom including their capacity to mentor, tutor, and advise their students. In this regard, feedback from students' evaluations may assist the professors concerned to clearly define and redefine their goals for the course as they are held responsible to continuously update the information for their course material (Benson and Lewis, 1994: 195-199).

Since the college students come from different departments and backgrounds, the relatively wide array of culminating activities which were applied by the classes concerned takes into consideration and supports the learning styles which Dr. Ellen Fiedler (2003) mentions in her article, "Incorporating Learning Styles into your Teaching Strategy". They are as follows:

> **Verbal/Linguistic Learners** where they relate to words and language, both written and spoken. Such learners learn by saying, hearing, and seeing words.
>
> **Logical/Mathematical Learners** where they are adept at categorizing, classifying, and working with abstract patterns and relationships.
>
> **Visual/Spatial Learners** where they rely on their sense of sight and ability to visualize an object.
>
> **Musical/Rhythmic Learners** where students are able to recognize tonal patterns.
>
> **Bodily/Kinesthetic Learners** where the brain's motor cortex that controls body motion of such individuals is the key to their intelligence. In this regard,

these learners do well in touching, moving, interacting with space, and processing knowledge through bodily sensations.

Interpersonal Learners where person-to-person and group communication become very essential and significant to the individuals concerned.

Intrapersonal Learners where such learners thrive by simply working alone or by themselves; and,

Naturalist Learners where observation and understanding of the organized patterns of the natural environment are encouraged.

From the eight aforementioned learning styles, four personality types of students emerged, namely: **Order-seekers**, **Debaters**, **Groupies**, and **Loners**. The Order-seekers would prefer lectures and linear, sequential thinking while the Debaters are more inclined to verbal/linguistic learners. A debater would be comfortable with abstract/random thinking. Fiedler (2003) believes that even bodily/kinesthetic learners and musical/rhythmic learners may be included in the category of debaters. Groupies, for their part, would want to get constructively involved with hands-on experiential learning. Groupies create things together and work effectively well with other people in delivering results. Like interpersonal learners, groupies find a need to work and learn cooperatively in groups. Loners or intrapersonal learners, in turn, refuse to listen to lectures, debates, including group discussions. They are independent, self-directed learners who largely prefer to spend time working long hours in the library, laboratory, or simply in front of a computer. And although they may seem to be not involved, it does not imply that they have refused to learn. Consequently, they want to put meaning into their work by working and creating independently.

In support of Fiedler's view, Olivier and Bowler (2002) already summarized their theoretical proposals for effective teaching through the application of multi-sensory teaching techniques and active-learning strategies. They are as follows:

LEARNING BY SEEING – Using clear, simple, and well-designed visual references and aids like maps, charts, diagrams including photos of global historical landmarks in living color.

LEARNING BY SAYING or Verbalizing – Students orally explain, summarize, express personal reactions, ask and answer questions, and participate in discussions.

LEARNING BY DOING – Provide opportunities to participate in labs, do projects, conduct field studies, role-play, and perform demonstrations and simulations. In effect, physical activity has been incorporated into class work.

LEARNING BY LISTENING – Provide opportunities for the teaching of active listening and development of note-taking skills.

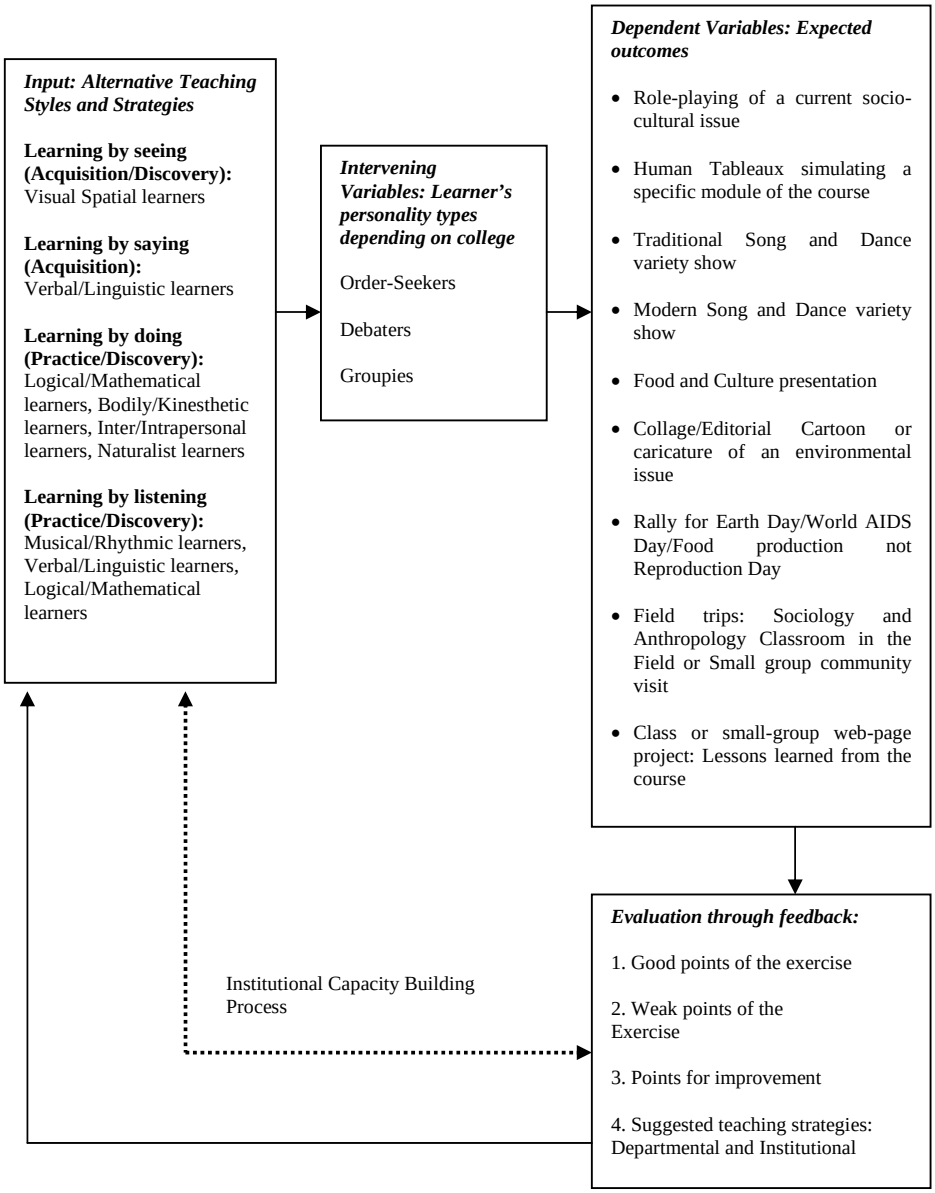
In similar fashion, Professor Guy Bensusan (2002:71-73) summarizes his

thoughts on learning and the acquisition of knowledge especially for today's student and teacher as well:

> *Learning is personal, individual and occurs day-by-day—even if one only becomes conscious of new acquisition from time to time. You cannot learn for others nor they for you; you CAN augment learning with cooperation and non-competitive sharing. Since learning styles are individual in form and pace, nearly any productive path serves initially. Others can be suggested, practiced and acquired. Learners will later augment their own initial learning preferences. Learners learn more by reading, writing, and interacting with others on the subject than by listening to experts. Through their writings and conversations with each other, learners reveal how they think, understand and substantiate; teachers who watch and listen with open minds find clues for fostering growth. Encourage learners (emphasis mine) to have patience with each other and themselves as they build their own stairways. Help them see and practice how to get through the many steps in various ways.*

In summary, all these authors are proposing that teachers should not only be competent and knowledgeable with their subject matter as far as Sociology and Anthropology are concerned. Essentially, the students themselves should be involved in designing and constantly creating a respectful, productive, and optimistic classroom environment. Additionally, they should be encouraged to share their thoughts, successes, hardships, frustrations, and reactions to their studies. Teachers, for their part, should be secure and open-minded with the knowledge imparted by their students. By leaving the lines of communication open between both parties, teachers should also give direct and honest feedback to students about their work in a manner that respects their comprehension skills, strong points or top abilities, and weaknesses or limitations. In turn, teachers should not feel threatened if points for improvement are raised by some students during the final evaluation of the course. Teachers must be constantly reminded that for each semester that passes, there will always be room for improvement. To a large extent, teaching and learning is not exclusive or solely confined to the role of a teacher and/or student since the teacher is also a learner while the student is also a teacher. A diagram of the conceptual framework summarizing the salient points for analysis of the aforementioned is provided below.

CONCEPTUAL FRAMEWORK



RESULTS OF THE STUDY

The outcomes of this study are presented from the perspectives of the teacher and the students. By obtaining information made from detailed notes recorded by their subject teacher throughout the development and implementation of each alternative teaching strategy, as well as comments raised from the reaction papers collected from the students at the end of each semester, I examined some of the benefits and the limitations of the strategies used as culminating activities in their courses. Generally speaking, the subject teacher and the students concurred that the strategies used for the introductory courses in Sociology and Anthropology were very good. They had a positive effect on teaching and learning despite attempts to experiment on the behavioral reactions of the students towards the exercises. To a large extent, they were considered exciting and useful to the student in comprehending the contents and objectives of the course.

I. Comments made on Role-Playing of a current socio-cultural issue.

The benefits of role-playing may be summarized into the following:

- It enables the students to explore by themselves relevant topics of socio-cultural interest and concern through news clippings and anecdotes which the general public may have taken for granted. Regarded as highly enjoyable.

- Through dramatization, the students, who act as both characters and audience, are able to understand, gain more insights, and grasp the nature of the current issue and/or social problem at hand. The activity, in fact, promotes creativity as well.

- It enables the students to conduct real-life interviews with people who have experienced the problem at hand.

- It minimizes stereotyping and prejudice of "problem" people to a considerable degree since it fosters greater understanding and compassion for the people at risk.

- To a certain extent, it enables the subject teacher to gain more insights into the current world of the youth experiencing the social issue or problem.

- Fits all types of learners – Order seekers, Debaters, Groupies, and Loners.

Role-playing, however, has its limitations as follows:

- Relatively difficult for an entire class or even a small group to agree and come to a consensus on the topic to be role-played. Sometimes, much time is spent by the entire class or group on deciding what topic or social-cultural issue to portray.

- Time-consuming in terms of organizational calling for rehearsals and stage productions.

- A lot of money, on the part of the students, is privately spent on costumes, props, makeup, lights, and background music.

- Relatively hard to minimize and moderate in-group conflicts especially when the performance dates is forthcoming.

- Relatively difficult to closely monitor in-group behavior including script contents especially during their informal play rehearsals insofar as their sessions are mostly held outside the university campus like a home or dormitory.

- There is no assurance that all students (regular and irregular) would be able to actively participate in this role-playing exercise.

- A strong tendency of disturbing/distracting other classes close to the room and confusing other subject teachers thinking that a real conflict or fight is ensuing among the students.

II. Comments made on Human Tableaux simulating a specific module of the course syllabus.

The positive effects of this strategy may be summarized into the following:

- A good activity to enhance creativity, imagination, and teamwork including team-building.

- Promotes thorough, in-depth research of the module.

- Students are encouraged to read heavily on the subject matter.

- Promotes the value of academic accuracy in portraying a subject matter.

- Minimizes unnecessary guessing and speculation on the part of the students. Students are not left to chance on the topic.

- Golden opportunities for all students in the class and respective groups to bond, unite, and mend their personality/character differences.

- Greatly assisted the students in understanding and appreciating other courses or subjects which they were taking simultaneously during the semester. In effect, the exercise was not simply a course requirement but a teaching aid for other subjects as well.

- Mostly fits learners who are order-seekers, groupies, including loners who at the beginning refused to participate but eventually agreed towards the end because it was an activity that consequently developed their self-confidence and acceptance in the group.

The limitations of the activity could be summarized into the following:

- Like the activity of role-playing, it was relatively hard to organize the class as a whole and synchronize dates for rehearsals. There was also a great tendency for only one to two people working in the group to produce results.

- Relatively much time was spent on deciding the concept of the human tableaux simulation.

- Also relatively more money was spent on costumes, props, and makeup.

- Also hard to closely monitor discipline through group behavior and moderate conflicts during rehearsals. Their sessions would be usually held off-campus hours and/or in a private home or dormitory.

- A great need or demand for a large classroom or activity area to hold the aforementioned activity. In meritorious cases, you may even be required to hold the activity in a mini-auditorium or use two classrooms. The first classroom would be used as a dressing room or backstage and the second classroom as the performance area. Thus, prior room reservations have to be made in advance.

- Lighting and room ventilation conditions may not be enough and become a hindrance to the actual presentation and performance of the students concerned. Somehow, it may even be a cause for irritation and conflict since their concentration and focus on performing may be greatly affected.

III. Traditional Song and Dance Variety Show

The benefits of this strategy are summed up into the following:

- Allows the students to select from a wide-array of traditional Filipino songs and dances across the archipelago – Luzon, Visayas, and Mindanao. Fits those who have bodily/kinesthetic abilities.

- Encourages in-depth research of the songs and dances selected not only in local libraries but also in venues like the Ayala Museum, Lopez Museum, and Cultural Center of the Philippines.

- Promotes nationalism, patriotism, including deep love and appreciation for the country and culture as well. Also fosters teamwork.

- Introduces the students to conduct interviews with traditional song and dance experts so as to present it accurately.

Beneficial as it may seem, traditional song and dance also has its limitations:

- A strong tendency for the students to alter and even "bastardize" the dance steps if not properly taught and monitored by a dance expert.
- Some difficulty in choosing or focusing on the region being portrayed. Students have a tendency to mix numbers while presenting their program.
- A strong tendency for the students to overtime their production.

IV. Modern Song and Dance Variety Show

The strong points of this strategy are the following:

- Students are given a free hand in choosing the modern songs and dances which contain a central message or messages of the lessons learned from the course. Similar to the latter, this strategy readily fits those who have bodily/kinesthetic abilities including musical abilities.
- Trains the students to develop and sharpen their content analysis skills. Moreover, this activity builds one's self-confidence and minimizes one's shy attitude in performing before an audience.
- Enhances creativity and teamwork/teambuilding among the students including small groups.
- Permits the students and groups to adlib or alter their production right on the spot just in case a mistake is made.
- Becomes truly enjoyable and relaxing since it is relatively easy to produce.
- Relatively cheaper in cost while conceptualizing and producing the presentation.

There are, however, limitations:

- The production in itself including central message to be delivered may be out of focus. Sometimes relatively hard to agree on what to sing and dance because the songs and music changes over shorter periods of time.
- Both the presenters and audience may be unruly and undisciplined throughout the production. In fact, students who

possess the Acquired Hyperactivity Disorder (AHD) may become over-excited with the presentation and largely affect the class or group with their behavior.

- Also having a greater tendency to overtime their production.

- Controlling the noise and affecting other classes nearby would be difficult to implement at times.

V. Food and Culture Presentation

This is a teaching strategy that greatly fits those students who are visual/spatial learners, bodily/kinesthetic learners including naturalist learners and mostly belong to the Hotel and Restaurant Management group. Here are the benefits:

- Enhances their creativity, innovation, and in-depth research on the native food and delicacies of a province and region of the Philippines. Food is a material manifestation of one's culture.

- Serves as a teaching and learning aid for other Hotel and Restaurant-related subjects. Also becomes very enjoyable when finally presented to the class.

- Other students who are not Hotel and Restaurant majors but nonetheless belong to the same block section also learn how to cook and identify the native food and delicacies of a particular province or region which in the past had been taken for granted.

The limitations of this exercise are minimal:

- The cooking of a recipe may not be left to chance. The students cooking and presenting their creations must be accurate and authentic at all times.

- At certain times, costly, expensive, and time-consuming not only for materials and ingredients used per group but even for planning and final implementation of the activity.

- Small as it may be but if the presentation is not presented on time, the food may eventually suffer spoilage and the participants including audience may acquire food poisoning.

VI. Collage/Editorial Cartoon/Caricaturing of a social issue making

This is an activity which requires solid organization and compulsory teamwork within the members of the group. To a large extent, all members must be collegial and manage to maintain smooth interpersonal relations among each other at all times while working on their project. All types of learners are welcome including the loners in the group. The benefits of this activity are:

- Promotes creativity by stirring the imagination of all group members to think carefully of an issue which they will symbolically present through a collage/editorial cartoon or caricature.

- Encourages thorough research work among all members on the social issue being symbolically portrayed through a collage/editorial cartoon or caricature.

- Strengthens the bond and bonding among members of the group while brainstorming their creation or project. Definitely enhances teamwork and teambuilding since it fosters an atmosphere of relaxation, enjoyment, and relative ease of work among the members

- An opportunity for all members to seriously work and contribute their talents and knowledge even if some possess minimal skill in drawing or illustrating.

- This activity also puts to the ultimate test the leadership ability, quality, and skills of the appointed coordinator as he/she delegates tasks including materials to be brought by all group members.

  Enjoyable and relaxing as it may seem, this activity, however, has its limitations:

  - Relatively much time may be consumed in brainstorming and discussing among group members since the activity is done on-the-spot.

  - At times, the group members may not come to a final agreement on what to symbolically present.

  - Relatively difficult to make abrupt changes once the drawing or illustration outlines have already been made.

  - The members may not complete their work on time since there is a time limit given to complete the exercise.

  - Like most group works or activities, there is still a strong tendency to confine most of the work to the appointed group coordinator.

VII. Rally for Earth Day/ World AIDS Day/Food Production not Reproduction Day Activity

A newly introduced concept by our institution, this activity works best if it is organized and produced by an entire class of at least 40 students. The benefits of this exercise are:

- Promotes unity, teamwork, and innovation in the planning and implementation of the project.

- Fosters thorough, in-depth research of the issue at hand.

- Encourages the students to develop their creativity in conceptualizing eye-catching messages for their rallies. By encouraging creativity, the students are able to learn how to budget their resources. They may decide on using a tarpaulin or simply a t-shirt with a central message.

- Relatively easy to grade for the teacher since he could determine the exact number of students who participated in said activity including number of absentees.

- Instantly involves the entire school community and makes them immediately aware of the issue being rallied about.

There are, however, limitations and weaknesses of this activity:

- Some students may resist the implementation of the activity because it may be physically taxing.

- Those students with weak lungs and hearts may be unable to participate.

- Relatively difficult to secure approval from school authorities prior to holding the awareness day rally as some messages may dwell on social and political sensitivities. In other words, there is no way for school authorities to enforce control and censorship on the messages to be rallied.

- Some students may just take the activity for granted and purposively absent themselves from attending and participating.

- Some students may take advantage of the activity by using the rally as an excuse to escape from attending other classes, thereby producing repercussions and misunderstandings among other faculty members who are not fully aware of the mechanics and dynamics of the approved program.

VIII. Field trips – Sociology and Anthropology classroom in the field/Small group community visit.

This is best known as the ethnography or field research exercise as incorporated in the course syllabus. The classroom in the field may, in fact,

require a whole-day to overnight stay with specific visits to farming or fishing communities in a nearby province. It has been required for all students as the output through one's direct involvement and submitted reaction paper is computed into the final grade. The benefits of this exercise are the following:

- Provides primary hands-on experience for both teachers and students to obtain first-hand to updated information about the socio-economic situation of the farmer or fisherman.

- Develops the attitude of what our students can't learn from books and other printed resources in the college library may be easily obtained from our farmer or fisherman respondents.

- Student participants are able to learn new skills as some farmers and fishermen are just willing to teach the students how to plow the field prior to planting or preparing the correct nets just before fishing, respectively.

- The classroom in the field generates newer, in-depth insights of farming or fishing techniques which the students in the past took for granted. For instance, there are at least three types of fishing nets to catch several different types of deep sea fish for sale in the municipality's public market. Such information may not be easily found in the reference books of the library or there may be none at all.

- The classroom in the field also provides opportunities for all student participants, regardless of social class, to reach out to the less fortunate including the immediate nuclear families of our current-day farmers and fishermen while attempting to fully understand their socio-economic plight, hardships, and other coping mechanisms of day-to-day survival. To a certain extent, students who return to their respective homes claimed that it was truly a humbling experience.

- Develops self-confidence among relatively shy students to communicate effectively with other people especially those belonging to the marginalized sector of Philippine society.

- In effect, newer knowledge is generated from the exercise insofar as both teacher and students develop their ability and skill to closely observe things and people around them through participant observation and serendipity.

Although field trips generate more knowledge and produce an enjoyable experience for both teachers and students, it also has its limitations:

- Relatively hard to secure approval for its implementation because the teacher has to write several letters of introduction to various school administrators and inform them beforehand of a proposed field trip. In

other words, he has to deal closely with the bureaucratic structure and play along with red-tape politics and policies strictly required by the institution insofar as the safety and welfare of the students are concerned.

- Also hard at times to convince students and their parents why a field trip is included in the course syllabus as a requirement.

- There is no assurance that all students will participate in the field trip; therefore, the teacher is faced with the dilemma of conceptualizing an alternative exercise. Similarly, there was a time when a student already settled her account and was very much prepared to join the field trip but unfortunately on the day itself, her grandfather died. In this regard, she couldn't join the field trip and no refund was given.

- Quite challenging and taxing for the teacher to closely monitor student behavior and decorum while in the field. Some have to be constantly reminded that they are carrying the name and image of the school even outside of the premises and dealing with the residents of the community.

- A classroom in the field may effectively be implemented only during the summer term because of good weather conditions and that the students generally have more time to spare than during a regular semester. Also quite easy to secure approval from other faculty members to excuse the students from their classes for a field trip during the summer term since students only take a maximum of 9 units or 3 classes unlike the regular semester where most students enroll for 21 to 24 units or 7 to 8 classes.

IX . Class or small-group web page project.

This type of strategy mostly fits students coming from the College of Science (COS) who are pursuing degrees in Computer Studies (Bachelor of Science in Computer Studies - BCS) and Information Technology (Bachelor of Science in Information Technology - BSIT). Rarely does web-page designing and construction appeal to students coming from other colleges like Nursing, Liberal Arts, and Education. To a certain degree, engineering students may opt to use this strategy to complete requirements. Definitely a very costly and expensive undertaking since it greatly demands the latest knowledge in utilizing the hardware in computer technology including software as regards duly licensed web-page authoring tools. Constructing the web-page and putting all components and elements in order represents the first step. The crucial procedure though lies in the uploading and registration of the web-page for others to view.

And although the exercise promoted active group work through close collaboration among the members, the only setback that arose during the time of its implementation was the large tendency for them to leave the work and its completion entirely to the group leader. This strategy usually appeals and works well during the rainy season months or the first semester of each school year.

CONCLUSIONS

The above-mentioned findings has clearly indicated that most students on the college or university level nowadays significantly learn and appreciate the subjects more by doing or performing a task instead of the usual paper-pencil tests, obtaining their results, and hoping that one has successfully passed the subject. These relatively age-old strategies and techniques, today however, are not enough.

Thorough and meaningful assessment of the General Education subjects of Sociology and Anthropology by the students become memorable not only from well-prepared lectures made by the teacher but also when they have remembered what they greatly learned from the course as they went through the exercise. General Sociology and Anthropology are, indeed, highly behavioral in nature. Thus, it is but appropriate to provide our students the opportunity to express their lessons learned by actively interacting with one another through a variety of group projects, role plays, variety shows, and even a field trip or short community visit.

As we constantly design, revise our syllabus, and look for new ways of handling the course each semester, the aforementioned learning styles may seem like a program for individualized learning of each student. Simple as it may be, it is not quite so in practice and reality because the students actually spend a lot of time discussing, conceptualizing, creating, even revising their own presentations at times instantly during the program itself.

As we slowly distance ourselves away from our lecture podiums and provide our students with a variety of different teaching strategies, feed-backing, and assessment methods, we teachers are able to reach the students within their own comfort of learning. No two students are alike since one will always be comfortable with group discussions while the other will learn more readily by working by himself/herself. Additionally, one will be very comfortable studying and learning and perhaps, emerge as the eventual group leader, as he/she acquires knowledge through bodily movement activities including visual stimulation.

This therefore is essentially what institutional capacity-building is all about insofar as you are not only influencing your students which you are handling for the semester is concerned but other teachers from other colleges who may eventually follow suit by using the same strategy as they handle their subjects in their respective departments and colleges. The process of institutional capacity-building is nevertheless relatively very slow as most teachers still resort to the age-old, traditional lecture method. This explains the existence of the dotted line in the framework since the structure and work culture within the institution remains resistant to change while adopting new ideas for teaching and learning.

Nonetheless, as we provide a wide array of teaching and learning strategies in the curriculum or course syllabus, teachers are reaching out and creating possibilities for a larger group of learners which are not only confined to the students but to other teachers as well. By reaching out and providing our students and other teachers with activities that reach them in the ways they best learn, teachers are able to provide more information and feed back to students in a much shorter time. After all, this is what education is – helping both students and other teachers learn individually and institutionally as well.

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A MODEL OF COMPUTER-AIDED INQUIRY-BASED MATHEMATICS LEARNING ENVIRONMENT

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ABSTRACT

Instructional courseware design approaches are often based on either objectivist or constructivist theories [Papert, 1993; Jonassen, 1995; Abtar, 1997; Lisa, 2003]. Objectivism is often associated with prescriptive declarative and procedural knowledge. On the other hand, constructivism emphasizes on conceptual understanding and higher order thinking skills. These two theories are often being viewed as dichotomous. Nevertheless, Mathematics learning requires understanding of concepts as well as mastery of procedural skills. In addition to that, it is generally agreed that learning of mathematics helps to promote thinking skills. As such, any instructional design model based on just one of the two theories appears to be insufficient as a holistic mathematics learning environment. The author attempts to break away from such traditional approach and proposes a new model of mathematics learning that employs inquiry-based learning process as the framework. The design of the model and the integration of the courseware into the learning environment are guided by design principles of microworld. The model relates learning with the inductive process in research. The author illustrates how courseware can be appropriately integrated into the learning process in such a way that procedural skills too can be learned in a constructivist way. The autonomy of the learner in this learning process is being emphasized. The author provides a lesson plan for the learning of multiplications based on this model of instruction.

Conceptual knowledge versus procedural knowledge

Mathematical knowledge is made up of two main components, the procedural knowledge as well as the conceptual knowledge. Procedural knowledge is the knowledge of rules, algorithms and mathematical steps which are built very much upon symbolic representations. The mastery of procedural mathematical knowledge and skills require substantial amount of drills and practices. On the other hand, conceptual knowledge focuses on the understanding of concepts, relationships and connections. The acquisition of conceptual knowledge requires much thinking and deeper understanding of the subject domain. Consequently, to enhance the acquisition of conceptual knowledge, it seems reasonable to propose the setting up of an active learning environment to involve learners in some kind of thoughtful learning process. In fact, there seems to be a general consensus that in the learning of mathematics, emphasis should be placed on learner-centered exploratory learning activities which promote higher order thinking skills and conceptual insights [eg. Papert, 1992; Ellerton, 2004].

Some researchers however, find that the mastery of procedural knowledge helps in the development of conceptual knowledge [Rittle & Siegler, 1998]. There are also researchers who agree that the acquisition of conceptual knowledge enhances the development of procedural knowledge [Haapasalo & Kadijevich, 2000]. If the links between procedural knowledge and conceptual knowledge are in indeed true, then it is

worth looking into various possible ways of integrating the learning of the two components in such a way that procedural knowledge too can be acquired via an active, student centered exploratory environment. And if such a learning environment is indeed found to be viable, then the learning of mathematics would probably become more motivating and would certainly help to promote more thinking among learners.

The contemporary mathematics classroom

Ironically, the existing instructional practices in the contemporary mathematics classroom deviate greatly from what is being advocated by the experts. Most mathematics teachers seem to be complacent and continue to rely on the traditional didactic and expository approach in their delivery of mathematics contents. It appears that very few mathematics teachers are willing to explore new ways of instruction even though they realize that their routine practice may not yield desirable learning outcomes as intended. This could possibly be due to the lack of concrete instructional models to guide teachers in their instructional design. Consequently, they may prefer to stay back in their comfort zone and avoid taking the risk of getting adverse results.

Based on the above deduction, it would certainly be beneficial if we could work toward concretizing some instructional models to assist teachers in their instructional design

The advancement of the technology has helped making courseware authoring much easier. Thus the focus is more on how technology could be applied in designing of learning environments which not only incorporate the above elements, but also make learning of mathematics more fun, meaningful and manageable to both instructors as well learners.

To design an effective instructional model, the following factors need to be considered:

1. The suitability of the courseware in supporting learning
2. The level of interactivity and the degree of learner control
3. The correctness of integrating the use of courseware in the instructional process

These factors will be discussed in the following sections.

Courseware design considerations

Currently, courseware design principles are generally based on one of the two approaches, that is, the behaviorist approach or the constructivist approach. In the behaviorist approach, materials presented in the courseware are highly structured, with the designer determining most of the learning content and learning protocol. The learner thus has little flexibility in the selection of what and how to learn. In other words, the whole learning is based on the designer's epistemology. On the other hand, the constructivist approach emphasizes student-controlled learning. Student-controlled learning here means more than just the control of time and pace. The learning environment has the attributes of the microworld where the learner explores and discovers new knowledge. The notion of microworld will be discussed later in this paper.

Most courseware designers seem to hold a dichotomous view of the two approaches, a case of objectivism versus constructivism. As a result, the design of any computer-based learning environment for the learning of mathematics is geared towards drills and practices of procedural skills, or active discovery of concepts, but not both. This again is

quite similar to the deliberate division of didactic teaching of procedural knowledge versus active learning of conceptual knowledge, mentioned earlier.
In view of the fact that both conceptual and procedural aspects of knowledge are integral to the learning of mathematics, it is necessary to break away from the dichotomous criteria of courseware design or courseware selection. Emphasis should instead be placed on the roles of the courseware in the instructional process. These include:

1. Can it assist the learner to acquire a deep understanding of abstract mathematical concepts as well as the mastery of manipulative or procedural skills?
2. Does it help to enhance the student's thinking skills?
3. Does it help to promote active learning?

These questions point to a methodology combining the best of the two above approaches.

Microworld and the learning of mathematics

Over the last two decades, the computer has been regarded by many educationists as a powerful cognitive tool for the learning of mathematics [Papert, 1984, Lajoie & Derry, 1993, Jonassen, 1995]. Some of the reasons provided by these advocates of computers for learning are:

1. It allows interactive and individualized learning. This enables the learner to build his own knowledge through self-regulated learning. Such a learning process is in line with Piaget's theory of "learning without being taught.
2. With the computer and the use of proper courseware, some of the abstract, formal knowledge can be concretized, thus making learning easier. In addition to that, the computer may also serve as a mind tool, allowing learners to externalize their own thinking.

The concept of the microworld was first introduced by Papert [1980] when he first developed Logo or the turtle graphics. McArthur [1992] later redefined a microworld as a technology that both moves from tutors to tools and from didactic or expository teaching to learning by inquiry or construction. His idea of a microworld includes the following properties:

- A self contained software environments in which users can create different kinds of mathematical objects and have different properties
- The users can use different tools to pursue inquires to study and discover the properties and the relationships of the mathematical objects

Some of the important characteristics of the microworld which can be deduced from the above definitions are as follows:

- It allows learning by investigating, exploring and experimenting
- It is conceptually based and contains the underlying structures of the content to be explored
- It contains the functionality to allow self construction of knowledge
- It allows the learner to think about their own thinking by providing necessary feedback
- It is interesting and easy to control
- It helps in the tedious computation and hence allows the learner to focus on the conceptual aspect of mathematics
- It bridges the gap between abstract mathematics and the real world by providing concrete representations of mathematical objects.

It is of the opinion that in the design and development of any computer-based instructional model, each and every courseware integrated into the model should have most of, if not all the functionalities of the microworld.

Integrating courseware in the instruction using inquiry-based instructional model

Basically, inquiry-based learning process is a process investigation that seeks answers to questions. There are four steps in an inquiry based instruction:

1. Formulating or identifying a crucial question
2. Testing, experimenting and exploring to look for the answer
3. Formulating the concept and answer formulating answer and communicating the answer
4. Concept applications.

The process very often involves observation, gathering data or information, and analyzing data or information to arrive at some generalized knowledge. The activities in the learning process are normally learner-centered and require the learner to demonstrate his capacity to organize, evaluate, analyze and synthesize data and information critically. Thus, it can be said that such inquiry process is metacognitive in nature, emphasizing higher order thinking skills.

However, due to the abstract nature of mathematics, it may not be easy to carry out inquiry-based instruction in the normal class setting. Fortunately, appropriate use of courseware may help to narrow the gap between the abstract world of mathematics and the real world. It is of the opinion that the design of computer-based instruction should take advantage of the speed, the versatility and the capacity of the computer in the following ways:

1. Provide the learner the opportunity to attempt as many times as he wishes so as to achieve desirable results. This helps to make complex and abstract concepts more accessible to the learner.
2. It allows the learner to explore in ways that he likes, and according to his own pace
3. Designed to avoid "telling" the learner but "guiding" the learner to find out "why" and "how" for themselves.

It is quite obvious that these required elements are what a well designed microworld may provide.

The proposed instructional model

Guided closely by the inquiry-based principles, the structure of the proposed instructional model is broken down into four stages (Figure 1):

1. The observation and reflection stage
2. The knowledge conceptualization stage
3. The knowledge articulation and sharing stage
4. The knowledge formation stage

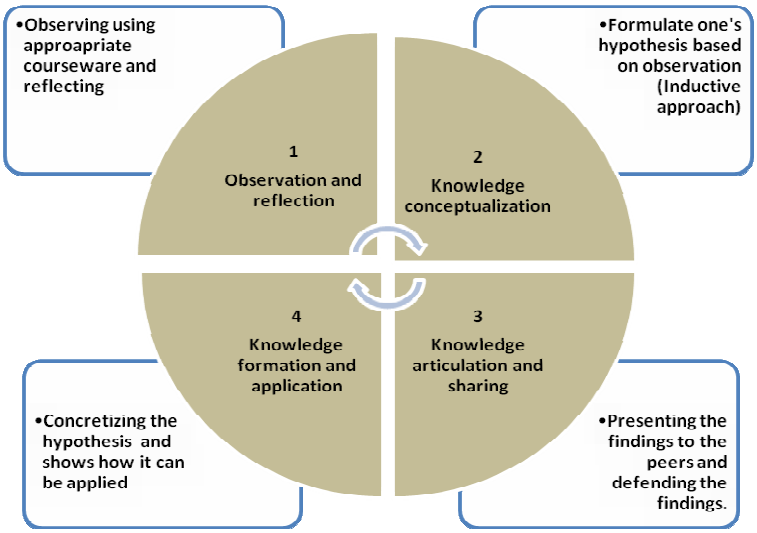


Figure 1: The Four Stages of the Model

Stage 1: Observation and Reflection
During this stage, generic software or task specific courseware may be used for the exploration of mathematical concepts. The design of the courseware should be based on constructive learning principles which allow the learner to investigate mathematical relationships. To ensure that the learning is well focused, it may be necessary to guide the learning process by providing appropriate task questions. However, the learner should be given the autonomy to take full control of his own learning. He works at his own pace. Preferably, the courseware should provide varied or even unlimited activities for explorations to be done at the learner's own pace.

Stage 2: Knowledge Conceptualization
The activities in stage one help the learner to build a mental schema of the mathematical relationships involved. The learner will then undergoes a stage of knowledge conceptualization in which he will formulate his hypothesis about the relationships.

Stage 3: Knowledge Articulation and Sharing
This is a critical stage. The learner, who acts like a researcher, may present to others what he has discovered. Divergence in opinions may help to stimulate beneficial discussions. It is at this stage that each and every learner may seek to defend his own findings in the midst of being securitized and examined by peers.

Stage 4: Knowledge Formulation
The last stage is also a stage of verification of knowledge. Here again, appropriate generic or specifically designed courseware may be employed to help the learner to ascertain his findings about the mathematical ideas that he has acquired. It is also at this stage that the learner begins to internalize the knowledge learned.
The progression from the first stage until the third stage in fact mimics an inductive process in the following ways (Table 1):

Table 1: Comparing Inductive Process with Process in Proposed Model

Stages in the Proposed Model	Corresponding Stages in Inductive Process
The observation and reflection stage	Observation/Information gathering
The knowledge conceptualization stage	Data/Information analysis
The knowledge articulation and sharing stage2	Formulation of conceptual framework

The role of the teacher

Throughout the learning process, the learner plays an active participative role. The teacher should not be over-enthusiastic in any form of intervention. It is probably at the third stage, that is, the stage of knowledge articulation and sharing, that the teacher may play a more active role of facilitating the discussions among students. However, it may not be a good idea for the teacher to provide direct answers to the learner. Instead, well planned questions to guide the learner in his explorations would probably be more useful. It would be more effective if students are able to reach a common consensus about what they have learned.

With the computer becoming more affordable, learning need not be confined to the school environment. In the above example, stage 1 of the lessons can be carried out in the home environment with well thought task questions given earlier, prior to the exploration. In fact, using suitable authoring tools, it is even possible to launch the necessary courseware on the Web for easy access, making learning independent of time and location.

An application of the model

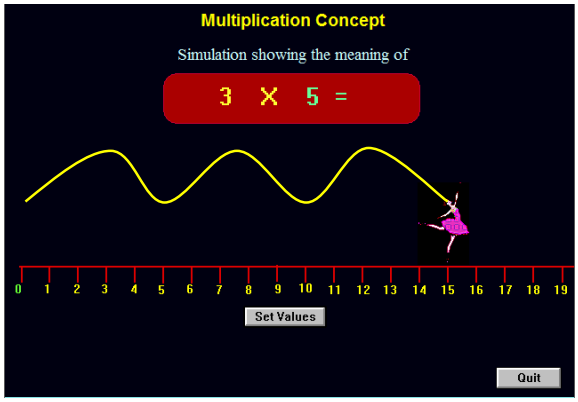
To illustrate the concept of this instructional design, a lesson for the learning of multiplications in primary mathematics has been design. Table 2 outlines a brief lesson plan based on the model.

Table 2: Sample lesson plan for teaching multiplications

Stage	Student Activities	Teacher Activities	Courseware
1. Observation and reflection	• The student clicks to randomly activate a dancing movement. • The student observes change in the movement of the dancer as the value of a and b in	• The teacher begins with a task for the student: Using the courseware provided, find out the meaning of • "a **x** b" (a multiplies b) • The teacher need	• Figure 2.1, 2.2 and 3.1 and 3.2 are the captured images of some of the software used.

	"a **x** b" changes	no intervention unless requested to assist	
2. Knowledge Conceptualization	• This is the thinking process whereby the student tries to formulate a hypothesis based on the observation in stage 1.	• The teacher may get feedbacks from some students regarding their findings.	
3. Knowledge Articulation and Sharing	• This is the thinking aloud stage whereby students in the class present, exchange views and debate on their findings.	• The teacher facilitates the discussion session and tries to promote extensive dialogue among students	
4. Knowledge Formation	• This is the stage where students are deliberately asked to demonstrate their capability to apply the knowledge they have acquired • The students produce, compare and discuss their results	• The teacher gives the next task to students in the class: with the help of the courseware, build the various multiplication tables • The teacher facilitates and reaffirms the learning.	• Figure 4.1, 4.2 are the captured images of some of the software used.

From the above lesson plan, it can be seen that unlike the traditional didactic instructional model, the teacher shifts his role from a "sage on the stage" to that of a "guide by the side". The learning process here is not so much about knowledge or information dissemination, but obviously a process of meaning construction where students try to find connections between facts. The process also requires students to analyze, interpret and to make predictions. Such cognitive activities probably help to enhance thinking in the students.



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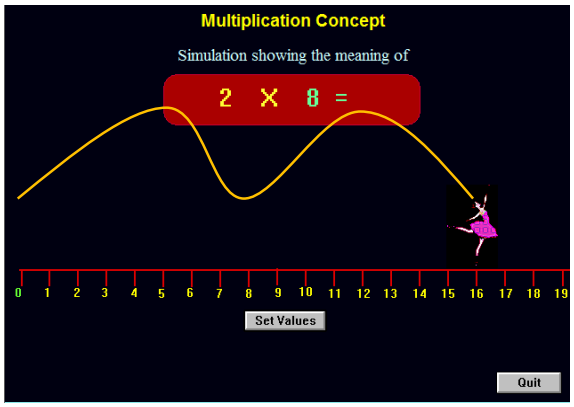

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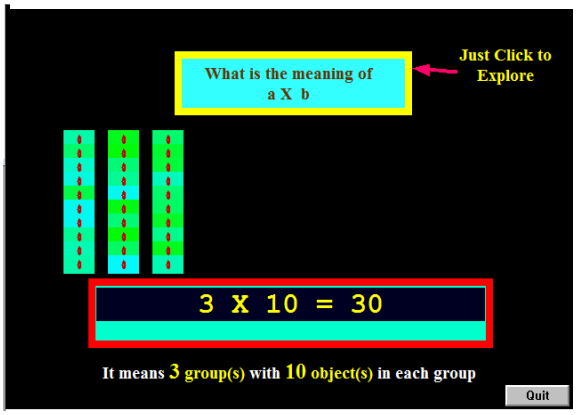

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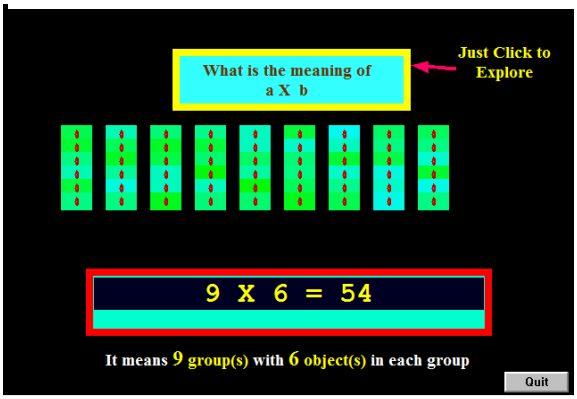

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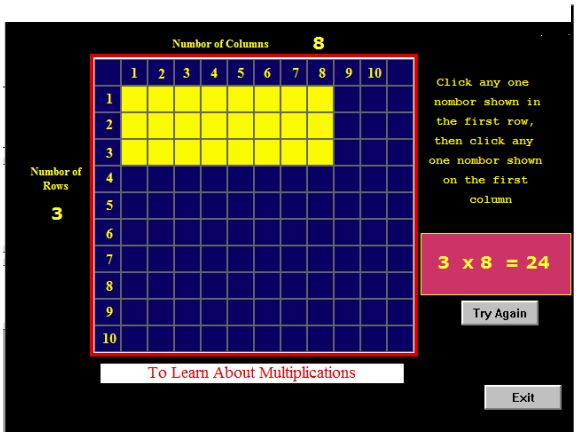

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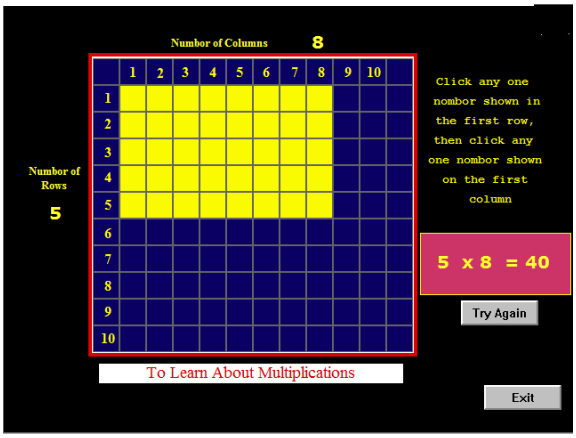

Figure 4.2

Implications for instructions at higher institution

As knowledge life cycles becomes shorter, and new knowledge is ever growing at exponential rate, today's learning at higher learning institution should be focused more on knowledge acquisition skills rather than just dissemination of knowledge from the faculty to the students. Hence, instructional activities, which help to prepare students toward becoming independent learners, should be encouraged. The proposed instructional model seems to have the desired framework for cultivating learners who are able to think, to investigate, to analyze, to make decisions and to apply. All these elements are essential for a one to be an independent learner. . The sample lesson may be elementary. The proposed model provides the structure for the integration of subject content at any level of learning. It may be worthwhile for the faculty to study how appropriate subject contents and suitably designed courseware as well as task questions could be well integrated into the structure.

Conclusion

The model of learning described above is unique in several ways. First, the model provides a learning environment that direct students to participate in the inquiry process in a natural way. Next, the model allows the design considerations of courseware to break away from the traditional dichotomous view of objectivism versus constructivism. The learning activities are designed in such a way that the students carry out exploratory learning, which is basically constructivist in nature, even if the subject domain to be learned is traditionally a procedural knowledge. Thus it can be seen that the model enables constructive learning to be assimilated in the learning of facts, rules, algorithms and procedures. The model also helps to shift the role of the teacher to that of a facilitator.

It needs also to be stressed that this model only provides the scaffolding of a structured learning environment. Another equally important element which contributes to the successful implementation of the model is the quality of the courseware designed for the purpose of learning.

It is too preliminary at this juncture to make extravagant claims regarding the efficacy of the model. There are a number of areas that need to be researched into. Among these are

1. What are the perceptions of the learners towards such mode of learning?
2. How effective is the learning as compared to the traditional mode?
3. Can the principle applied in the design of the model be generalized to the learning other topics in mathematics?
4. What are the factors that determine the effective implementation of such a learning model?
5. How effective can the model be applied for learning at higher institutions?

Each of these questions require further research to help improve and add efficacy to the suggested model.

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TOWARDS SELF-ACCREDITATION OF STUDY PROGRAMS IN MALAYSIA: THE ROLES OF QUALITY-BASED AUDITS *VIS A VIS* STANDARD-BASED AUDITS

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ABSTRACT

An important part of Quality improvement is audits in which there has also been significant development. These appear to begin to converge towards what is increasingly becoming known as Quality-based or Fitness-for-use-based audits.

This paper discusses the newly introduced Malaysian Qualifications Framework and its Establishment and Institutional audits and their potential impacts on improving higher education in the region and thereby enhancing human capital development which results in intellectual capacity building.

As part of this process, it also discusses a method of developing Quality Standards and Quality Assurance for the various critical activities of an academic faculty. The method proposed is logically obvious but powerful and pervasive and can be employed to develop macro as well as micro Quality Standards and Quality Assurance.

The other powerful feature of the method is the rapidity by which shortfalls in the quality management system of an academic aspect are addressed. Such rapid turn-around is not possible with a Standard-based audit system, as the Standards involved will need to be modified first, followed by its evaluation, acceptance and then implementation. In the era of development at the speed of thought, accurate and rapid response to quality issues is non-negotiable. The paper then shows how all these contribute to the capacity of HEIs to responsibly self-accredit its study programs.

INTRODUCTION

Like many developing countries around the world, Malaysia realized that its human capital needs to be transformed in anticipation of further technological development that is arriving somewhat rapidly.

In addition, Malaysia declared some twenty years ago, that it wanted to be the hub of higher education in the region. This has been pursued relentlessly by the government and now boasts almost 50,000 international students in its higher education institutions. It plans to cross over the 100,000 mark in the next few years. Indeed, the international students had not come only from around the region, but as far away as Saudi Arabia and Eastern Europe.

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For both the reasons above, Malaysia's HEI's quality must therefore be comparable to or exceed those in the West and those that have been centres for international students wherever they are.

Until recently, the Malaysian government used one of the divisions in its Ministry of Higher Education to ensure the quality of its public universities and the National Accreditation Board (LAN) to ensure the quality of its private higher education institutions.

In the late 2007 and early 2008, the said division and LAN were combined into the Malaysian Qualifications Agency (MQA) which is tasked to implement the Malaysian Qualifications Framework (MQF). This means that both public and private HEIs will be evaluated using the same standards and requirements. One could therefore expect that the resulting quality of both HEIs will be the same or similar. In turn this will enhance the confidence of potential students from overseas.

One of the most important aspects in implementing the quality practices in the HEIs is the auditing of the HEIs. This paper discusses the differences between the Standard-based audit and the Quality or Fitness for use-based audit and advocates the latter in order to leap forward in improving quality.

Standard-based vs. Fitness-for-use-based audits

As the name suggests, Standard-based audits are evaluations on the quality of an organization using some established standard, such as ISO 9001:2000, the National Baldrige Quality Award Criteria (NBQAC), the European Foundation for Quality Management (EFQM) standard.

In the case of ISO 9001:2000 standard, the auditors would visit the organization twice. The first checks that all the documentation required by the standard is available and complete. The organization will be given time to complete their documentation if not.

The second visit will verify that the procedures stated in the documentation describing the process are in fact carried out to the standard and level stated in the documentation.

Inadequate procedures or procedures that do not follow the Standard and documented processes will attract a Non-Conformance Report (NCRs) or Corrective Action Requests (CARs) which will need to be addressed by the organization within a specified time.

A further Audit may be conducted to ensure that the NCRs and CARs are addressed by the organization.

The NBQAC audit or evaluation is similar in many respects to the ISO 9001:2000 audit, but the audit panel has to determine quantitatively the scores for each of the seven criteria and total them up to then compare it with another *standard* that categorizes the total score to either the organization falls into Excellent, Good and so on.

In brief therefore, Standard-based audits are those that compare what and how the organization operates against specific benchmark or yardstick set by the Standard.

The Fitness-For-Use (FFU)-based audits on the other hand, do not use any established standard. The process in this case is simply validating what is claimed by the organization of its practices. That is, the organization would prepare and submit documentation on certain aspects of its operation or procedures. Such documentation would detail procedures used in its operation or elements of its operation. The Audit Panel would then seek evidence that support the claims made in the documentation, by making a visit for example, and/or interviewing staff and students (in the case of HEIs) as well as other stakeholders as appropriate.

As no established standard is used in this type of audits, the result of the audit is simply an evaluation of whether the self-established standard has been met by the practices of the organization or not. Appropriate reports are then submitted to the organization.

Taking it positively, the self-established standard could in fact be higher or more demanding than that set by external standards. By the same token the opposite could also be the case. In the latter, the Audit Panel which comprises experts in the various areas being audited would be expected to provide appropriate advice in order for the organization to raise its quality *bar*. At the end of the day, this type of audit will produce results which surpass that of Standard-based audits.

However, the HEI in this case will need to learn to develop and establish its own internal Quality Assurance and Standards (QAS). Idrus [2008] has developed these for the various aspects of the HEIs. The advantage of the method suggested by Idrus [2008] is that any HEI would be able to write its own QAS in any areas it needs and at the time it needs. This therefore is a flexible approach that ensures continuing improvement in the quality of the HEI.

Fitness-for-use-based audit therefore logically leads to self-improvement which in turn allows self-accreditation of programs and courses offered by an HEI. Self-accreditation is one of the goals of the Malaysian government in respect of its HEIs. The Fitness for use-based audit is the process by which Malaysian HEIs will attain it.

The Malaysian HE scene

The MQF is based on nine areas or requirements, namely:

1. Vision, Mission, Educational Goals and Outcomes
2. Program Design and delivery
3. Assessment of students
4. Student Selection and Support Services
5. Academic Staff
6. Educational Resources
7. Program Monitoring and Review
8. Leadership, Governance and Administration
9. Total Continual Improvement

each of which is expanded into and provided with a *Basic Standard* and *Quality Development*.

In that sense the MQA is still very much a Standard-based Audit system, even though the objective is *Self-Accreditation* by HEIs. Whilst this might seem contradictory, we must accept of course that the MQA requirements are simply the ***minimum*** requirements. HEIs are therefore free to build on these requirements to raise their profile towards ***excellence***. The contradiction therefore disappears.

In reality, it seems appropriate to speculate that none of the Malaysian HEIs have in fact met all the ***minimum*** requirements as listed above at the moment.

As can be seen from the nine areas listed above, the MQF deals mainly with what could be termed ***accreditation*** of programs and their delivery. This leaves the question about the audit of the institution as a whole and the extent of its establishment.

This requirement has been recognized and the Malaysian government had instituted both Establishment and Institutional audits of private HEIs. It engaged an international consulting company to carry out these audits.

In the period June to August 2008, 200 private HEIs were audited for their establishment. 120 of them were visited and physically audited while the other 80 were given desk audits only. The result of these audits is expected to be announced by the Ministry of Higher Education before the end of the year and appropriate rankings will be publicized in the new year.

Potential issues towards self-accreditation

Inspite of all the precautions considered in implementing a new system, loop-holes exist and will continue to be exploited by those who are less responsible and less ethical.

It is the author's observation that while laws exist in Asian countries, their enforcement is woefully lacking. Hence the blatant and daring contempt of the laws. Some HEIs are not excluded from such practices.

Regrettably, the situation is a *Catch 22*. If the government's grips on the HEIs are not loosened, HEIs will never be able to learn to be empowered. If the grips are loosened however, the potential for cheating escalates. This may push the government to re-institute control.

Then there is the question about training the HEI's internal staff to conduct the self-accreditation not only properly but in the best possible way, so that a higher level of quality is achieved.

A system therefore is needed to ensure that sufficient and serious deterrents are in place to dissuade would-be offenders. In order to ensure that the system works, appropriate examples should be made of offenders.

Citizens should also be "trained" through whatever means available to the government, to reject illegal and damaging practices of organizations including HEIs. One of the reasons for Japanese success is indeed its citizens' fastidiousness. This is a revolution that should be made common in any country.

The above issues should be made well aware to all HEIs and attempts to solve them should be instituted as a matter of urgency.

The *pros* and *cons* of both audits

The *pros* and *cons* of Standard-based audits are given in Table 1, while those of the Fitness for Use-based audits are given in Table 2.

Table 1 - Standard-based audits

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NO.	*Pros*	*Cons*
1	The standard has been "tested" prior to use	The standard may not be appropriate for the case in hand
2	The standard may already have certification that could be used for marketing to elicit the confidence of the customers	The worth of the certification may be depreciated when organizations use it only for marketing and not to improve Quality in the organization
3	Guidance by an established standard projects a firmness that enhances confidence of the customers	Inflexibility can be a serious impediment to progress and improvement as it fences in ideas and stops the thinking outside the box
4	A standard that is well known and widely used increases customers' confidence on the organization	A standard is not normally reviewed and revamped quick enough and is therefore unable to keep up with development both in technology and products.
5	A standard allows evaluation on a level playing ground.	A Standard by its nature is the lowest common denominator, thus meeting its requirements is only meeting the lowest acceptable level, not the highest.
7	For an organization that is only embarking on the Quality Journey, a standard is a good starting point.	Being an instrument that caters for a wide range of industries and applications, it or parts of it may not apply to the case in hand

Table 2 – Pros and Cons of Fitness for use (FFU)-based audits

NO.	*Pros*	*Cons*
1	More appropriate for the purposes in hand, i.e. customized if required	The internal standards to be used need to be developed, set up and tested
2	Can address specific or unique issues in the organization	Need experts to set up the standards or benchmarks
3	It helps to develop better awareness of the Quality requirements, in similar to the way a teacher needs to know more about the subject s/he is teaching as s/he will need to explain the subject to those, some of whom had never been exposed to the subject	The internally developed standard and QA may not be comprehensive for the organization as a whole. May take time to fully develop the idea and practice The internal standard may be too high and thus more demanding than required, or on the other hand may be too low, or below the requirements.
4	Such as system is flexible, as standards can be modified and even re-written if necessary, to suit the requirements at hand. This flexibility also allows immediate changes required by changes in the environment, requirements and so on	If not properly managed, such flexibility may reduce quality level.

The above analyses are based on the author's extensive involvement in implementing quality assurance in higher education in the Asia-Pacific region. Very few if any references are available to make comparison on these observations.

From the above, the following observations may be made:

a. FFU-based audits allow *Kaizen* or continuous incremental improvement
b. FFU-based audits force auditees to acquire more profound knowledge about Quality and the requirements for having Quality
c. FFU-based audits can have their contents customized, thus could be very useful and applicable to more types of organizations and sections within organizations.
d. Standard-based audits allow comparative analysis of the quality of two or more organizations practising quality assurance. Benchmarking could therefore be facilitated if wished.
e. Standard-based audit results could be used for marketing purposes of the organizations or their products and services. Indeed ISO 9001:2000 certification has been and continues to be used for such.
f. Standard-based audits and their results could mislead customers and other organizations that may wish to work with that particular organization, as such audits and their results may not be suitable to use for improving quality at the organization. ISO 9001:2000 for example assures consistency of the organization's products and services. But it is not a system to improve quality.

DISCUSSION

In HE where knowledge is expanding at a very high rate and the *half-lives* of knowledge and technology are reducing at a phenomenal rate (Cheng, 2001), continuous improvement in the HE management system is inevitable.

New concepts have to be introduced by HEIs, both in their organizational management and in their teaching and learning management. In Asia generally, a move to *Transformative Learning* appears to be mandatory if its HEIs are to achieve effective teaching and learning as well as institutional management (Idrus 2004a; Idrus 2004b; Idrus, 2007a; Idrus, 2007b; Idrus, 2007c; Idrus & Koh, 2007).

A Standard-based audit system is not able to cater for such an eclectic requirement for quality improvement of HEIs. This is particularly so if the available time for improvement and the actual half-life of that improvement are relatively short. A Standard-based system ensures that a quality management system exists (to ensure consistency) but no avenues are given to improve the quality of the system or its product and services.

FFU-based system on the other hand ensures that a quality management system exists for that particular "use". Given also the fact that total quality of the organization is the product (not the sum) of the elemental qualities, or in this case the quality of the various new technology being used, new teaching and learning method being used and new facilities introduced, an assurance of the qualities of these elements is an absolute requirement.

Developing Quality Standards and QA

Given that FFU-based audits are predicated on self-developed Quality Standards and QAs, institutions therefore need to be able to do this in a standardized but creative ways. Creative so that the best method for the institution may be appropriately developed. Idrus (2008) provides samples of QSs and QAs for 33 areas in higher education, ranging from *Vision and Mission* to *Space Provision/Planning and Utilisation*.

Table 3 below shows an example of QS and QA for *Students/Staff Ratio*.

Table 3- An example of self-developed Quality Standard and Quality Assurance (after Idrus (2008))

ITEM	STATEMENTS
Quality Standard	That there is a benchmark for the ratio of students to staff in each subject and study program appropriate to the study program and various parts of it, e.g. tutorials, laboratories and workshops
Quality Assurance	From pedagogic, facility, academic and administrative considerations, the faculty has a formula by which each subject taught within the faculty is assessed for tis maximum students per staff member in each of its teaching and learning elements, i.e. there is a maximum students/staff ratio for lectures, tutorials, laboratories and /or workshops components, that subjects must adhere to
	Does the Faculty have an approved method of dispensation in the case of a subject or subjects not taught as regular subjects or that the subject is an option which does not get offered again for several semesters?
	Does the Faculty review regularly the item of Students/Staff ratio with respect to newer teaching and learning methods and technology?
	Etc.

The above may be done by a short-life working party in order to ensure that the QA statements cover a comprehensive array of areas and conditions both current and in the future, or by an individual tasked with the job. It is important that whoever creates the QS and QA must not be shackled by their institution's limitations. In a sense the QA and QS should be developed "from scratch" on a blank piece of paper.

The follow up of course is auditing the institution or its elements, e.g. Faculties, departments etc., against the above. Answers should then be analysed, gaps between what is required and what is available currently be identified and plans to close such gaps formulated for implementation.

CONCLUSION

The continual changes in technology, teaching and learning and knowledge itself require a flexible quality improvement system. From above, it is clear that only FFU-based audit system provides the avenue for it in the case of HEIs.

Self-accreditation involves significant changes in the operation, responsibility level and innovation of faculties and their members. These require enormous flexibility whose quality assurance is not facilitated by standard-based audits system at the moment.

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THE DEVELOPMENT OF A LEARNING ORGANIZATION MODEL OF AN AFFILIATED GROUP OF EDUCATION INSTITUTIONS IN BANGKOK

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ABSTRACT

Change and advancement in the academic system are rapid and progressive. An education institution cannot lag behind in regards to modern education systems, theories, and approaches. Hence, learning and development is a critical ingredient for success in providing teaching and learning process. Marquardt's (2002) suggested the learning of individuals could lead to learning of the whole organization. To achieve this result, appropriate processes must be planned to share individual learning to other personnel throughout the whole organization. Senge (2006) suggested a holistic approach to develop a learning organization through the fifth discipline, i.e. systems thinking that incorporates the disciplines of personal mastery, mental models, shared vision, and team learning. This research project investigated human resource development processes at a large affiliated group of education institutions. This group is one of major private education institutions in Thailand offering Thai and bilingual instructions. It has expanded and opened branches rapidly in recent years, and many talented newcomers were recruited. However, there is a problem of uneven levels of knowledge and competency among teachers, especially knowledge regarding the institution's policies and values. Hence, there is a need to develop and align learning in the organization level within each branch and across the group. This study collected data from all of the 23 top administrators of the group regarding the status and problems in personnel development based on Senge's frameworks. Focus group interviews were conducted to suggest methods to help the development of learning organization for the group. Information obtained was synthesized and a model toward learning organization was proposed.

INTRODUCTION

The advancement in the academe is as rapid as in any other industries. New theories, teaching approaches, and texts and accompanying teaching materials are launched periodically. Education institutions in Thailand must keep up with the pace of advancement to be updated and deliver values to stakeholders. Joseph, Yakhou, & Stone (2005) commented that students and parents are more discriminating in choosing a place to study. Education institutions must deliver values they expected, i.e. to equip students with knowledge and skills and increase their employability. In order to do this, education institutions seek to assess and improve quality on a continual basis.

Learning Organization (LO) is an approach that can be utilized to improve the quality and effectiveness of organizations through the integration of skills and experience among human resources in the whole organization (Yang, Watkins & Marsick, 2004, pp. 31-55). LO aims at incremental development of human resources on a continuous basis so that personnel throughout the organization would keep developing and improving (Blazey, 2007; Dixon, 1999; Pedler, Burgoyne, & Boydell, 1997; Marquardt & Reynolds, 1994; Kline & Saunders, 1993; and Beck, 1992). There is a need to monitor the development in all levels to make sure that they progress in the same direction. Marquardt (2002) suggested that the development in the individual level would lead to

the development in the group level and, eventually, the organizational level. The collective development would result in increased productivity for all parts of the organization. It is essential to see that all developments move toward the same direction. Moreover, personnel's willingness to participate in the development program is also an important factor in the self-development process.

LO was implemented for the first time in Thailand at the Siam Commercial Bank (SCB) in 1996 (Sukontachit, 2006). The program yielded objective improvements in several aspects. Hence, several organizations started to follow the lead and applied the concept in their organizations. LO was used in various industries ranging from manufacturing firms to service firms. Education institutions are of no exception. This research project, therefore, aims at proposing a learning organization model for the said affiliated group of bilingual education institutions in Thailand by investigating its status and problems regarding human resource development.

The Affiliated Group of Education Institution*

The first school in the group was established in 1964 with 410 students and 16 teachers. The group has been dedicating to the development of personnel to keep up with the dynamic advancement in the field of education. The first bi-lingual school in the group was established in 1993. In 2006, the group owns 18 education institutions with 39,336 students and 3,198 teachers with plans to expand further.

The group has a policy to maintain the same standard in all branches. Personnel who work in each branch should have knowledge about the group and academic competency. During the expansion, the group was facing problems when many new teachers were recruited for each branch. Newcomers had limited knowledge and insight about the group's visions and missions. The proficiency and competency level in academic and language were not equivalent. Some held a bachelor degree while some held a master or a doctoral degree. This situation was further complicated among bi-lingual schools where many native English speakers were recruited as well as locals. Some personnel had high academic knowledge but low English proficiency while some teachers, especially native speakers, were fluent in English but had lower level of knowledge in the field of education, Thai culture, and organizational knowledge. Some talented newcomers could not adjust and socialize into the group and had quit. There was also a problem of workforce diversity. Personnel in each branch tended to have a focus only within their own branch without learning about other branches. The group was searching for approaches to adjust and smooth down the discrepancies of knowledge and competencies among personnel, and LO seemed to be an appropriate solution to the said problems of the group. This study, therefore, aimed at investigating the operations of the group and suggests an LO model for this purpose. This model would assist in the development of the organization in a more even and holistic manner. LO paradigm would help each personnel assess themselves and correct their weaknesses together with others to proceed toward the common organizational goals while, at the same time, satisfying their personal goals (Senge, 2006).

LITERATURE REVIEW

The learning organization approach was developed in response to changes, complexity, and uncertainty in the environment (Khadra & Rawabdeh, 2006). Dixon (1999) pointed out that central concept of a learning organization is the intentional use of

learning processes to continuously transform the organization. LO seeks to provide true learning to personnel for both personal lives and works.

Learning organization is an organization whose personnel are determined to develop and utilize their potentials to create the results they truly desire on a continual basis (Senge, 2006). Organization members in all hierarchies should take parts in the development of the organization (Kline & Saunders, 1993). Organizations should support the learning of members and create climate for such learning (Marquardt & Reynold, 1994; Pedler et al, 1997). Organizations should promote excellence in individual employee and vice versa (Marsick & Watkins, 1994). Argyris (1999) suggested that developments occur from

The group's top administrators felt uncomfortable to reveal the group's name to the public. They perceived that discussing problems of the group would create a negative image to them but they allowed the researchers to discuss other information in the paper as long as the name of the group was not mentioned. Hence, the group's name was omitted from this paper.

constant monitoring and improving errors in organizations. Large errors are easy to spot but minor errors are easy to be overlooked. Flaws resided in each person cannot be resolved by the organization. Individuals must realize and correct their own deficiencies. Corrections of errors would lead to the development of the individual, groups, and eventually, the organization. Furthermore, Senge (2006) discussed that individuals usually did not realize their negative habits and behaviors. Many did not know they were trapped in the "vicious cycle" and thought they could not make any choice but have to comply, in a responsive manner, with situations or the environment and hence did not seek for the way out so they pushed bluntly further in the wrong direction (Senge, 2006, pp. 47-51).

Learning organization promotes a culture of learning and makes sure that personnel learning are shared and applied toward the organization's development (Agarwal, 2005). Senge (2006) incorporated several concepts into his best selling "The Fifth Discipline" book based on the systems paradigm, the first edition was published in 1990 and second edition was published in 2006. He suggested organizations should practice the disciplines of personal mastery, mental models, team learning, shared vision, and the integration of these concepts, i.e. systems thinking or the fifth discipline. These disciplines were a foundation for core learning capabilities of the organizations. These concepts should be treated as disciplines rather than just concepts, i.e. personnel should practice them rigorously. In order for organizational development, individuals in organizations should open their minds and be receptive in order to realize their flaws and improve in an appropriate right direction. They should learn in teams to respond more effectively to the rapidly changing environment rather than to separate themselves from others. Segregated individual competencies would yield little and diffused development to the organization as a whole. The visions of the organization must be shared so personnel would know how and in which direction they should move in alignment with others. An important notion was that all of these disciplines were needed together at the same time, not in a sequential manner or with differentiated emphasis.

Personal Mastery

According to Senge (2006), personal mastery is involved with clarifying and seeing reality objectively. The discipline involves self-clarifying what is really matter to a person and identifying one's highest aspirations. Learning refers not only to the

acquiring of information but also learning about oneself and expanding the ability that truly matters to us. Rowley and Gibbs (2008) proposed that an important aspect of personal mastery is the understanding of the value of our learning to others. They further argued that individual's development would contribute to the development of the whole organization. When all, or majority of, members realize their true objectives in lives, they will seek for ways to improve their abilities toward those objectives on a continual basis.

Mental Models

Mental models are deeply ingrained assumptions about the world (Senge, 2006). It refers to the way we look at and interpret meanings in the world. Senge further described that this discipline calls for exposing one's internal self to the world for scrutiny. Personnel should open their minds and accept their weaknesses as a starting point for development. Apart from self-scrutinizing, personnel should allow others to assist in identifying their potentials to improve. The transformation toward a learning organization should also incorporate ethical ethos and the considerations of consequences of organization activities beyond economic perspective (Rowley & Gibbs, 2008). In Asian culture where people are highly conscious of face saving (Hofstede, 2005), showing of weaknesses or flaws are not welcomed. There is a need for careful and delicate considerations regarding the practice of this discipline.

Shared Vision

The discipline of shared vision refers to the skills of leaders to draw genuine visions rather than nicely written sets of vision statement (Senge, 2006). Leaders should visualize the "pictures of the future" (Senge, p. 9) so the personnel could see the organization's future. Personnel should infuse personal visions into these visions in order to choose the right path to proceed for both themselves and the organization. These visions should be shared among followers rather than imposed for compliance. Compliance could not create long-lasting commitment. A vision is truly shared when people have a similar picture and are committed to one another having it, not just to each of them, individually, having it (Senge, p. 192). Personnel should really understand and see the visions as well as commit to them. Visions should be reviewed, shared, accepted on an ongoing basis and an important issue is an ethical consideration of the stakeholders' interests (Rowley & Gibbs, 2008).

Team Learning

Team learning refers to the process of thinking and learning together rather than isolated (Senge, 2006). These thinking and learning should be aligned into the same direction in order to create real impacts which, in term of LO, are results that members truly desire. Dialogues and discussion are necessary to enable exchange of information and knowledge among personnel. Through team learning, the collective thinking and action, and hence wisdom, could be promoted (Rowley & Gibbs, 2008). Learning together in a team manner would help the sharing of knowledge and information throughout the organization.

Systems Thinking

Senge (2006) maintained that systems thinking discipline is a discipline that help us seeing the interconnectedness of things around us and the whole pattern rather than bits and pieces of the system. Personnel should think systematically and see themselves as subunits that are connected to each other in the whole system. Their behaviors affect others' and vice versa. They should have the whole picture of the organization in their minds and know their locations on the picture. Systems thinking discipline helps

integrating other four disciplines together. It is involved with the ability to see the big picture and the understanding of the relationships among subsystems (Rowley & Gibbs, 2008).

The practice of these disciplines would lead an organization toward LO. In the next section we discussed the methodology of the project which included two rounds of interviews, one-to-one and focus group.

METHODOLOGY

This paper aims at developing a suitable LO model for the group of 18 affiliated education institutions. Senge's (2006) Fifth Discipline was used as the framework for this study. The researchers examined the characteristics and problems regarding personnel learning in each institution in the group. Semi-structured interviews were performed to collect data. The results were analyzed and focus group interviews were performed afterward among administrators to come up with an LO model for the group.

The unit of analysis in this project was each institution in the group. Principals and heads of schools and colleges represent each institution. The key respondents in the study were top administrators of the groups consisted of 18 principals from 18 institutions and 5 regional directors who supervised them. All of them own a graduate degree and had worked in their current position with the group for more than 5 years. We had an assumption that administrators possess information and knowledge about the characteristics and problems of their institutions. This project was approved by the president of the group and he informed the administrators to provide accurate information so the researchers would help creating the LO model for the improvement of each institution and the group. All administrators were willing to participate and provide information. All of them volunteered in both rounds of interview. The researchers scheduled two rounds of interview. The first round was individual in-dept interview and the second round was focus group.

First Round Interview

In the first round interview, semi-structured in-depth interviews were conducted with each administrator at his/her office. Information regarding the characteristics and problems of each institution were elicited following the framework suggested by Senge (2006), i.e. system thinking, personal mastery, mental models, shared vision, and team learning. Questions asked involved the characteristics and problems regarding the practice of each discipline among personnel, for example, "How would you describe your subordinates' personal drive to seek knowledge?", "Do your subordinates like to work as teams?", "To what extent do your subordinates think systematically?", "How logical are your subordinates?", "Do your subordinates share information and knowledge?", and etc. Informants were asked to provide specific examples to clarify their answers. Each interview took approximately 50-60 minutes. The information was content analyzed to find common characteristics and problems regarding LO in the group from the responses. The researchers called several informants to clarify some of their points afterwards and they answered willingly.

Second Round Interview

The characteristics and problems regarding LO informed from the first round were set up as the structure for the second round interview. The second round interview was conducted in the form of focus groups. Administrators were assigned into groups of

4-5 people at a time at a place chosen by each group. The researchers explained the LO concept to the participants and asked them to discuss methods to solve problems elicited from the first round interview. The researchers facilitated the focus group discussion. Suggestions from previous literature regarding the development of LO (Chang & Lee, 2007; Jamali & Sidani, 2008; Kenny, 2006; Khadra & Rawabdeh, 2006; Watkins & Marsick, 1998) in terms of organizational culture, leadership, strategic planning, learning climate, employee participation, reward systems, and empowerment were offered during the discussions to stimulate ideas. Each focus group interview took approximately 3 hours. Information obtained were then analyzed and synthesized into the model for LO of the group.

RESULTS

The first round interview

The informants classified personnel into two groups: those who had less than 3 years tenure (newcomers) and those who had 3 years or more tenure (seniors), since their knowledge about the group and behaviors were considered different. The seniors were more seasoned and mature and possessed more knowledge regarding the group. Content analysis of the first round interview revealed that:

1. In terms of personal mastery, the informants revealed that the organization was rather successful in recruiting enthusiastic and knowledgeable personnel through effective selection and compensation systems. The personal mastery of personnel was satisfactory. They possess high level of skills and academic knowledge and were active in developing themselves. However, the organization had the policy to rotate job positions periodically so that personnel would be exposed to jobs in other positions. The said rotation brought about interruptions during the transition into new jobs because those who were assigned to new job position usually did not provide adequate job clarification to those who assumed their previous position. The rotation brought confusion and stagnant in some works as well. Moreover, the group recruited new personnel rather often. The rearrangement of job to these new personnel also created interruptions in the work flow. Although most personnel were capable and seek for development but there were of some uncertainty regarding to which skills each person should acquire for his/her job. There was no clear understanding of what kinds of skills each person should pursue for the success of their career at the group.
2. In terms of mental models, many personnel especially newcomers were newly graduates who were young. They did not have much experience in socializing with people. Many were self-centered and were not open to critiques. Some did not realize the benefits of accepting other people's opinions and sharing their concerns. These personnel did not have confidence and feel embarrassed or scared to express their opinions or to ask for assistance from others. Newcomers did not have much knowledge about the organization so they did not have much information to communicate with others. Hence, personnel did not have sufficient knowledge about each other to enhance self-development. Many would not look into themselves to analyze their own deficiency. One of the reasons could be that they were not acquainted with others well enough to disclose and expose their internal feelings. This problem also occurred with seniors but more among newcomers. Hence, this is a major barrier to LO at the group.

3. In terms of shared vision, the participants described that many personnel did not realize the overall visions and objectives of the organization. They lacked skills and sufficient organizational information. Hence, they did not know whether their personal visions went in the same direction of the organization or not. This negatively affected the commitment to the group. Their performances were based on instructions rather than genuine understanding about what and how tasks should be done in the organization. They did not know what kinds of behaviors would contribute to the benefits of the organization. Moreover, personnel focused on the short-term, immediate objectives rather than the long-term ones.
4. In terms of team learning, most personnel liked to work in team. The work practices and structures need cooperation within teams. However, there were problems in that most teams consisted of few people and they share learning among group members but not with other teams. The inter-team relationships were at low level. Furthermore, there were problems based on the diversity of ages and tenures. Newcomers usually were younger than the seniors and they did not have as much organizational information. Hence, they felt they were inferior and should pay respect to seniors, as in Thai culture, by listening to them rather than offering opinions. Hence, they did not want to extend or share their opinions with others, especially with seniors. Learning in teams was then limited in its scope and capability.
5. In terms of systems thinking, personnel with less than 3 years tenure had different problems from seniors. This discipline was difficult to assess among newcomers. Their behaviors did not reveal whether they think systematically or understand the whole picture of the organization or not. Most retreated into their works only. In addition, they did not have authority or responsibility to make decisions in the scope that covered works in other units. They revealed opinions minimally so the administrators could not observe if they could see the interconnectedness among units and works in the organization level or not. Moreover, the newcomers could not adjust well to changes in the institution's environment. They did not possess much knowledge about the norms and regulations of the group so they could not make decision in response to changes in the work flow or in the environment and had to rely on supervisors or seniors to make decisions in such matters and comply with them. Based on the above reason, they could not handle emergency problems. They seemed to be hesitating and were not confident in making decisions. This might also be a result from either the lack of understanding about the whole organizational system or they might want to listen first to seniors. In addition, they tended to respond to immediate problems instinctively without referring to work procedures. This could negatively affect the work process in other units. They might lack an understanding regarding the interconnectedness among various departments. Lastly, the newcomers lacked the acquaintances with other personnel in the group so they did not relate much with the colleagues in other groups or departments.

   For personnel with more than 3 years tenure, the key respondents revealed that, firstly, most had sufficient level of understanding about the work systems of the group. They had experienced working with the group for a while and were exposed to the norms and culture of the group. Secondly, most of them showed sufficient level of systems thinking but still at a small extent. Thirdly, when personnel from the head office were assigned to work in other branches under the expansion projects, they focused more on setting up the work system at the new branch rather than the

interaction with other staff at the main campus. As a result, they became concentrated on the administration of each location and lost track with the big picture of the organization.

The second round interview

Information obtained from the focus groups was analyzed to determine the approaches to solve problems and develop human resources following each of the disciplines. In general, series of training and activities should be offered in several areas to create understanding and commitment to the LO disciplines.

Personal mastery

The administrators reported that personnel did not have many problems in this area. Personnel in the group were educated and had some degrees of understanding in the direction in their lives. However, the organization should assist them in forming and realizing their personal visions and objectives they want to attain in their lives more clearly. Furthermore, the organization should build up creative tension (Senge, 2006) through motivation, inspiration, threat, and reinforcement so that personnel will have internal drive to develop further and facilitate them. These motivations or reinforcements should be on a continual basis to create repeated behaviors so the personnel will absorb them into the sub-conscious level.

Mental models

Emotional intelligence training should be offered so the personnel will not take critiques personally and be able to depart from the vicious cycle (see Tanchaisak, 2005; Wattanapanit, 2006). The development of emotional intelligence would prepare personnel to think logically and be willing to listen to feedback for personal improvement. Moreover, the organization should create proper feedback mechanisms that can generate accurate and impersonal feedback for employees together with methods to improve their performances based on objective evidences. Supervisors and colleagues should be trained properly to provide feedbacks, especially when they are negative ones.

Shared vision

Strategic plan and strategy map (Kaplan and Norton, 2004) can assist in explaining the relationships among personnel and positions in the organizations and the way personnel contribute to the whole organization. A clear strategy map would create a sense of shared vision and clear understanding for every single position in the whole organization. The map should cover the action plans together with their key performance indicators. As Goh (2003) had put it, among others, clarity of mission and vision, leadership commitment and empowerment were building blocks of a learning organization. Conflicts between personnel's objectives and the group's objectives should be clarified. Moreover, attempts should be made to point out the common objectives between the group and the personnel. The learning chain (Maqsook, Walker, and Finegan, 2007) should be established in order to promote learning along its strategy map to deliver values to all stakeholders.

Team learning

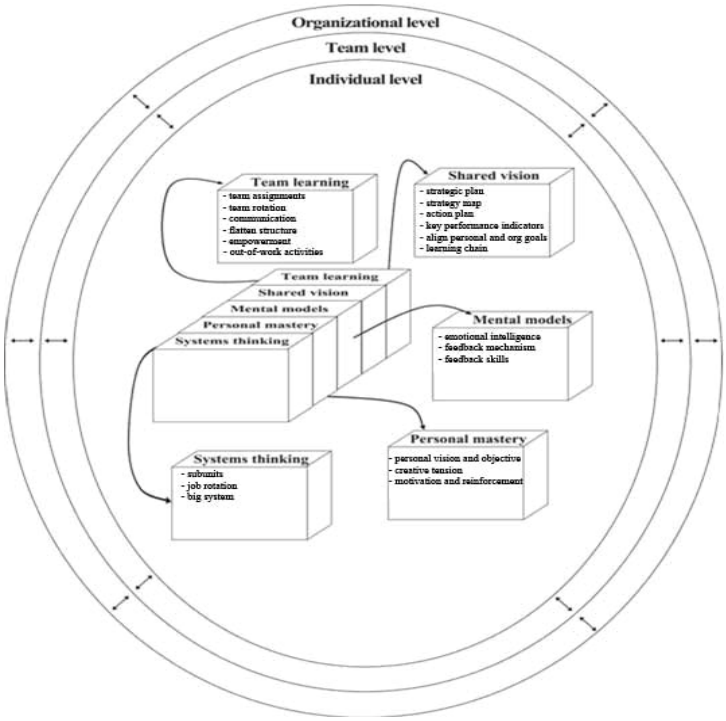
Job assignments should be assigned in teams to enhance acquaintances and sharing of information among team members. Team member rotations should be performed after a period of time so the personnel would work with and get to know others. Make communication routine jobs. Supervisors should support open discussion forums. The organization structure should be flattened. Empowerment and group problem solving could help the development of a learning organization (Goh, 2003). Lastly, out-of-work activities should be promoted because they help building rapport and trust as the basis for teamwork.

Systems thinking

Training should be offered to personnel to learn tasks in all subunits and draw a frame of reference for them to perceive the pattern and interaction among tasks in different units. Job rotations should still be performed but there is a need for clearly written job descriptions and a more systematic work flow and documents to refer to. The positions rotated should be similar to previous job performed because learning of much different jobs will be too confusing. Personnel would be able to understand and follow the linkages, sequences, and position of each task in the big picture. This should include skills in systematic thinking.

The LO model developed for the affiliated group of education institution based on the information collected and organized according to Senge's (2006) five disciplines and Marquardt's (2002) individual learning toward organization learning context were summarized in exhibit 1.

Exhibit 1. The model of LO for the affiliated group of education institution



DISCUSSION

The participants in this project gained more understanding regarding the methods to promote learning among personnel. This process also helped the administrators better aware of the influences that personnel could have on the organization, i.e. without the development of the five disciplines, the organization could hardly develop. In order to become a learning organization, the group was dependent on personnel's learning. Series of training should be offered regarding personal development and direction of the development.

Personal development

The practices of personal mastery, mental model, and team learning could help developing in the individual level. The practice of personal mastery could motivate a person to seek continuous development. The practice of mental model could make a person open his/her mind to accept his/her weaknesses as a basis for development. The practice of team learning could promote the sharing of information and supporting colleagues for learning from others' experience.

Personal Mastery

Continuous improvements of the personnel could not be imposed and or commanded but have to start from within. An alignment of organizational and personal objectives has two benefits, in the individual level, it provides motivation, and in the organizational level, it provides an understanding of shared vision which will be discussed later. Organizations should help employees clarifying their personal objectives and show the alignment of those objectives with the organizations'. An understanding of mutual objectives would create a genuine drive to seek for individual betterment in job and career in order to attain personal objectives and goals. Without internal drive to seek for betterment, learning would not be continuous.

Mental Model

When personnel are less emotional and receptive to evaluations, a good feedback mechanism and feedbacks would help their personal development. Feedbacks benefit the personnel only when they are willing to listen. Emotion, including the losing of face, is one of the factors that hinder people from accepting feedback. Practice of emotional intelligence would be a good starting point. If personnel are loaded, they would not have a proper mental model for improvement, i.e. they are not open their mind for development.

Team Learning

Learning in the team context would be more effective than learning alone. Organizations and colleagues possess more experience and information than a single individual. The sharing of knowledge would enable individuals to learn from others' experience and could avoid faults other personnel had made before. Moreover, learning in team would help strengthening the unity of the organization. Out-of-work or informal activities would promote friendship and trust among colleagues as the basis for sharing of information and knowledge. The design of a flatten organization, teamwork assignments, and empowerment of employees would further support exchange of information and knowledge throughout the organization. Leaders should help followers learn from each other. An important advantage of teamwork is the integration of diverse opinions to

create innovative outcomes. People should be allowed to express their different perspectives in order to grow. Leaders should be exposed to different opinions and come up with the best mixture of those opinions in order to apply in each situation.

Direction of the Development

The disciplines of shared vision and systems thinking could combine individual development into team, and eventually, organizational development. The practice of shared vision could help personnel understand the visions of the organization and head in a suitable direction. The practice of systems thinking could enable personnel to understand the interconnectedness among colleagues and work units.

Shared Vision

Organizations should use strategic plans as the guiding principle for operations. The plans should clearly incorporate visions, missions, goals, objectives, and strategies so that all personnel would have the same understanding about the organization. Strategic map would help personnel to realize the effects of their contributions, and hence their values, to the organization. It also helps unifying the efforts in all units toward the same direction. The alignment of personal and organizational goals creates synergy and lessens activities that depart from the true goals of the organization. Personnel could understand what is preferred. Furthermore, the learning chain would specify what kind and contents of learning are preferred for each job and how they link with each other. The learning would be more effective and direct to the strategies, and hence, the goals of the organization.

Systems Thinking

The practice of disciplines and organizational operations are subunits within a larger system. Each discipline and activity affects and is affected by other disciplines and activities. They can not be practiced in separation of each other. Personnel should practice thinking systematically, or step by step, and understand the relationships among individuals and units in the organization. The practice of systems thinking help personnel to be aware of the effects they could create in the organization and the direction they should pursue.

CONCLUSION

In conclusion, the practice of the disciplines would lead to personnel's learning in the direction that matches the overall objective of organizations. The development of individual, in the right direction, would contribute to the development of the organization as a whole. The disciplines are interrelated, for example, development in mental model enhances the development of personal mastery, and vice versa. The participation in the process contributes significantly to LO. Leaders should commit to the LO building process to realize the full advantage of LO. Future research should be conducted to measure the results from the implementation of this LO model in the group. Moreover, this study focused on administrators, future research should collect information from personnel in order to have a more complete scenario. Furthermore, more empirical evidences are needed to warrant the implementation of LO further in the future both in the group and other organizations.

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THAI LEARNERS'DISPOSITION TOWARDS WEB-BASED METHODS OF SUPPORTING THE LEARNING OF ENGLISH AS A FOREIGN LANGUAGE

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ABSTRACT

This study is an investigation into the significant factors affecting learners' dispositions towards the use of web-based methods used to support the learning of English as a foreign language. A theoretical framework was set up to guide the study including methods of data collection and analysis. The analysis of interview data and observer notes revealed a number of emergent factors, which are also important in explaining dispositions in the use of web-based methods in learning a foreign language.

Sixty-seven English language learners from science- and English-based major subjects, two English language teachers and two university staff participated in the study. Questionnaires were the primary form of data collection used as a supplement to the main data from interviews and observer notes. Results from the questionnaire analysis reveal that among numerous variables, attitude was the core component and had the highest correlation with learners' intention to use the method. It was also found from the questionnaire analysis that there was an interdependence of a significant number of learners' dispositions towards web-based English learning. Data collected from the interviews revealed that despite some difficulties encountered in learning English, learners had an overall positive attitude towards using web-sites provided in the study. Among the various difficulties which were reported as constraints to the use of the methods, learners' personal limitations, particularly their inadequate English ability, seemed to outweigh the problem of computer applications. In addition to the limited English background, some learners in this study did not to attend the web-based sessions either because they did not consider the attendance as a priority or because of a lack of self-autonomy in learning English.

INTRODUCTION

Thailand, like most countries throughout the world, has adopted computer technology to facilitate teaching and learning activities. Concerning language study, almost all language teachers are well aware of the problems currently facing Thai learners in learning language. It is noticeable especially with English, which is the principal foreign language taught in Thailand. Language teachers' main concerns are with the fact that learners rarely have the opportunity to practise their language skills with native speakers in daily life. Computer-based technology is the exciting new tool which attracts the interest of both teachers and learners. This is because it potentially allows learners to communicate with native speakers, and people throughout the world, in their own time and at their own pace. Consequently, computer-based applications have been integrated into language study in various countries, including Thailand.

Although the application of computer technology to English language study in Thailand has been initiated and carried out for almost 20 years already, the development is still in its infancy. One reason is that, computer applications are only an adjunct to the

language class. They provide a supplement to and extension of English study in only a few colleges and universities. The more effort is made in using computer-based applications, the more evaluation is necessary in order to safeguard quality improvement. Policymakers also need to know precisely how computer-based application enhances language learning. Similarly, teachers need to know whether the learners make more progress or acquire more language skills through the use of computers, and whether they like this method of studying or not. All of these reasons inspired the research into the effectiveness of web-based resources in supporting Thai language learners in their study of English as a foreign language at undergraduate level.

Apart from the teachers, language learners play an important part in the learning process. However, it is apparent that little research has been theoretically conducted into the effectiveness of computer-based applications in supporting English study in Thailand. The wish was to research the effectiveness of web-based resource designed for this study. This research was carried out with reference to the views of learners who were selected to participate in language-learning activities in the environment of a web-based method. Questions about the effectiveness of web-based learning in my study were answered by different variables as they affect considering learners. These variables comprise cognitive, affective, contextual and behavioural factors. Each of these variables plays an important role in the acquisition of a second language in a web-based learning environment. The examination of these variables was also relevant to an evaluation of the effectiveness of web-based resources. The results of this study indicated how each factor impacts each of the many aspects of the learners' use of computers in learning language.

In relation to the objective of evaluating the effectiveness of web-based resources in supporting English acquisition by Thai first year undergraduate learners, the following research questions were formulated.

Research question:

What are the dispositions of Thai undergraduate learners towards web-based methods of supporting the learning of English as a foreign language (EFL)?

a. What are learners' perceptions about web-based methods of supporting their English learning?
b. What factors affect learners' intentions to use web-based methods to support their learning of English as a foreign language?
c. What part do other contextual factors play in using web-based methods in learning English?

PREVIOUS STUDY

To research the effectiveness of computer-based applications, according to the study by Jamieson & Chapelle (1986), it should be evaluated from two perspectives: the superficial and the pedagogical. The former perspective focuses on functions, appearance and facilities provided by the computer system while the latter considers course content and the students.

A number of research papers have been conducted from the pedagogical perspective in which the emphasis was placed on learners' characteristics. The learners' characteristics are likely to be important in evaluating computer-based applications. Firstly, there was some research by Warschauer (1996) which dealt with the motivational aspect of learning language with computers. His study shows that language learners'

motivation in using a computer is likely to be different from when studying other subjects. He cites several examples of research focusing on learners' motivation in language study through the use of computers. For example, significant research by Chapelle (1983) investigated how learners' cognitive and affective characteristics such as field independence, ambiguity to tolerance, motivational intensity, and anxiety in computer-assisted language learning (CALL) could be used as predictors of success in second language acquisition.

The next piece of research, a report on 'Attitudes towards information technology at two parochial schools in North Texas' by Christensen (1997), compares the attitudes towards IT of students and teachers at two schools. The result, as expected by the researcher, was that students in the school where technological facilities and qualified staff were available were more likely to enjoy computer application activities than students in the other school. In regard to teachers' attitudes, the result was similar to the attitude of the students. Teachers in the school which was well equipped with computer technology had a more positive attitude toward computer usefulness than those in the other school.

Further, a study of the motivational aspects of language learning through computers has also been made researched by Davey et al (1995). The results of this study show that a suitable environment for a computer-based application can offer a high possibility for language learners to participate in activities and their level of motivation can be seen as soon as they interact with the CALL activities. The last piece of research, another study by Kamhi - Stein (2000) confirms learners' 'participation patterns and attitudes' toward the web-based bulletin board (BB) discussion in WebCT. Learners were found to participate highly and had a positive attitude towards a web-based discussion forum. This web-based discussion forum is used as a tool to encourage learners to develop their knowledge through collaborating with their peers and teachers.

THE NEED FOR AN INTEGRATIVE THEORETICAL FRAMEWORK

In regard to an investigation of the effectiveness of Web-based resources, an integrative theoretical framework should be developed and applied in order to address questions posed by research. Such a framework appears to be essential because it may guide towards those concerned with the understanding of the nature of human behaviour in using the resource. This includes a clear understanding of both the learners' characteristics and the web-based resource with which they work. It is likely that there are several issues in relation to learners' uses of the resource in acquiring language. Thus, firstly, theories from the area of behavioural science should be helpful for an explanation of learners' behavioural, affective, and cognitive development resulting from the use of Web-based resources. Lastly, the process and particular affective and cognitive elements revealed by theories of second / foreign language acquisition as the ideal factors for acquiring language through the use of the Web resource should also be taken into account.

The reason computers are integrated to the process of language learning is that they are potential tools for both keeping learners' motivation high, and enhancing their language acquisition. Thus, a significant part of investigation is to evaluate the effectiveness of computers in supporting the language learning process. According to a number of theories of language learning, a learner's acquisition of language involves several mechanisms and processes. Therefore, the effect of computer applications to these mechanisms and processes is focused upon in this study. This investigation can

give a picture of how learners' cognitive, behavioural, and contextual characteristics, including their practical use of computer applications in their language learning, influence their language acquisition. Consequently, these investigative approaches can be regarded as research into the effectiveness of computer-based resources.

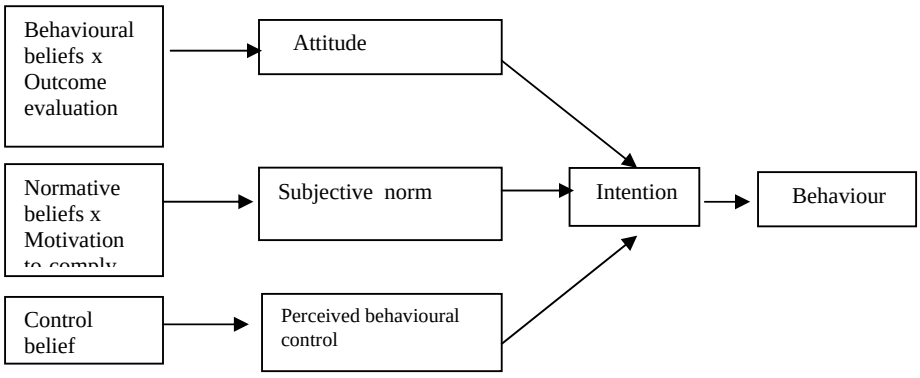
THEORETICAL FRAMEWORK

The main objective of the present study, as stated earlier, is to evaluate the effectiveness of the web-based resource designed for the study. It will be conducted by investigating learners' behaviours, which are formed according to a number of factors. However, the behaviour itself will not be directly examined, but the combined factors which form learners' intention and subsequent actions or behaviours were focused upon. To address all research questions in this research, a theoretical framework was developed to integrate these interacting and inter- dependent factors. All these factors are the essential elements derived from the two contribution theories as follows.

1. Theories of Reasoned Action and Planned behaviour by Ajzen and Fishbein (1980)

These theories were used to examine learners' cognitive / affective factors which underlie their behaviour in learning English by the use of web-based methods in the Thai context. In the model of behaviour proposed by these theories, people's behaviour is directly derived from their intentions. Thus, elements or a combination of elements which form their behavioral intentions were examined. An examination of cognitive and affective factors can predict learners' behaviour in web-based learning.

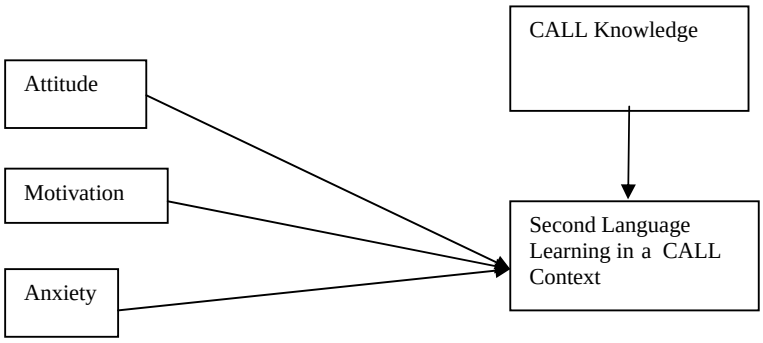
According to these theories, the four main components of a person's intentions are attitude, subjective norms, perceived behavioral controls and beliefs. The research also focused on beliefs because the belief system is the foundation of all of these three components, (attitudes, subjective norms and behavioural controls). Within the framework of this theory, attitude refers to a person's belief that his / her performance leads to a consequence, and also included is an evaluation of this consequence. Subjective norm means a person's belief in his / her important referents concerning an action, including motivation to perform the action recommended. As for perceived behavioural control, it is a person's belief in his / her power to perform an action. All of these factors form the basis of the intention, action and behaviour of a learner when using a web-based resource.



Theories of Reasoned Action and Planned behaviour by Ajzen and Fishbein (1980)

2. *The second language acquisition / learning theory by Gardner (1988) & Richard – Amato (1996)*

A vast body of literature has reviewed the theories of second language acquisition / learning from different perspectives and within different contexts. However, the socio-educational model introduced by Gardner & Lambert (1959), Gardner (1988) is the most influential in the study of motivational and attitudinal factors in the field of second language acquisition. In Gardner's (1988) theory of second language acquisition, although varied factors such as language aptitude, personality, attitude and motivation are determined as the related factors to second language acquisition, it is apparent that motivation is the first and most important variable because it indicates how active learners are, and what degree of effort they expend in learning the language. Gardner also relates the motivational factor to the attitudinal factor, which is regarded as the next most important determinant in acquiring language. Therefore, motivation is closely associated with attitude in learning a second language. Learners who have a good attitude towards the target language community will also be highly motivated to learn the language. Although several researchers from the past have found the issues of second language acquisition to be complicated and varied within different contexts; the role of attitude and motivation as the significant predictors in second language acquisition still has influence.

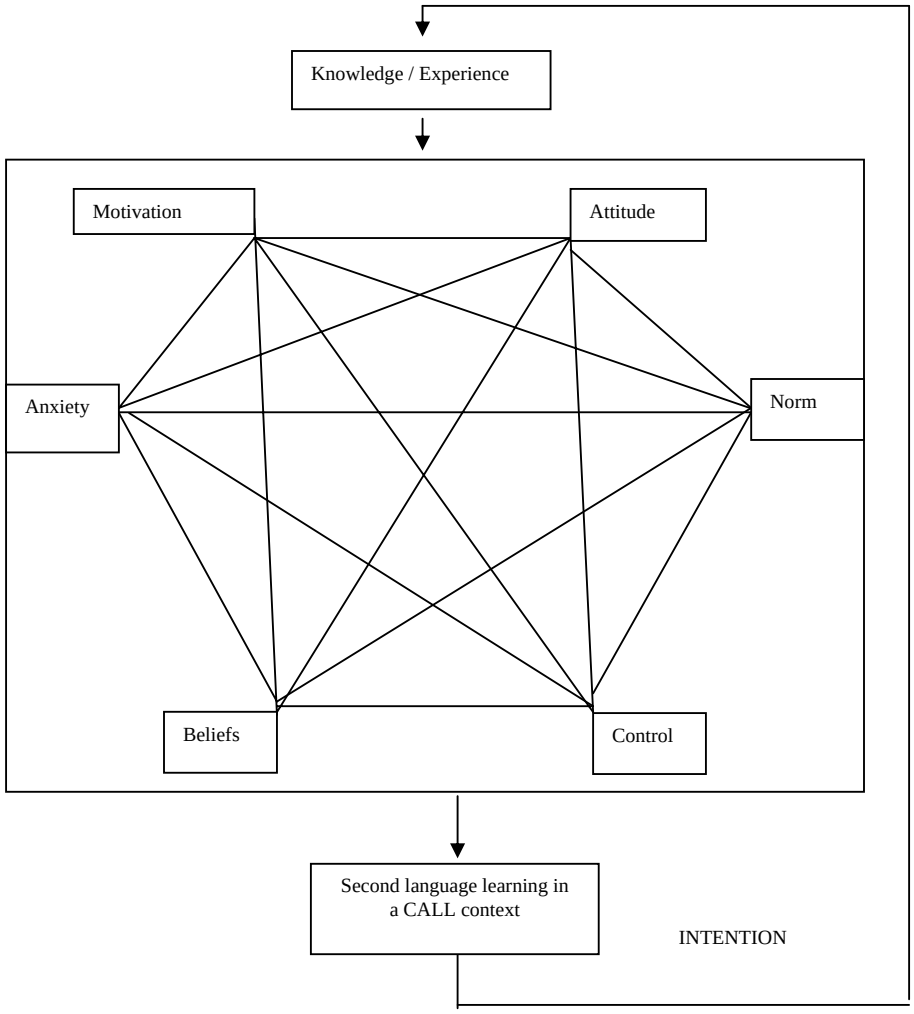


The second language acquisition / learning theory by Gardner (1988) & Richard – Amato (1996)

Refined Model

The theoretical framework as previously illustrated is proposed as the model for this research. The model can be used to address all research questions. It is the combination of the three theories as stated. The main part of the model is concerned more about the essential factors from the two theories: theories of reasonned action, and planned behaviour and second language acquisition. It comprises the complex factors which are interrelated with each other. All factors from these theories are attitude, motivation, anxiety, norm, control, and beliefs. As attitude is the common factor in the two theories, it is used as the connector. The link is supported by findings from several theories in the area, for example, a study by Jamieson and Chapelle (1988). This shows that several factors such as motivation, attitude and anxiety are the predictors of language learners' success in the computer-based application environment. In addition, evidence from the study by Warchauer (1996) also states that learners' knowledge and experience in using computers influence their success in learning language through the use of computers.

Therefore, the theoretical framework for research is refined and the refined model is shown as in the following:



RESEARCH METHODS

Sampling methods carried out in this study could be summarized as in the following:

Stage One: Although a group of 105 learners were invited to participate in the study, only 67 learners were found to be volunteers. Thus, they constituted the questionnaire samples. These questionnaire samples comprised leraners from various years of study and different major subjects. They also differed in terms of their learning English and computer experiences.

Stage Two: As the study proceeded, there were only 30 learners who regularly attended the class. Six learners representing regular class attendees as well as six non-completers were purposefully selected to be the interview samples.

The learners interviewed were split into two groups based on their attendance record at the web-based sessions. The group of learners interviewed in the study was both

English and non-English major learners. Learners of both fields were also in the group of both regular attendees and non-completers of the web-based sessions. It was thus clearly seen that all learners in the study started learning English in primary schools. However, they had varying backgrounds and experience in learning English and computer use. Although English is a compulsory subject for all Thai learners, there are some differences in English learning between the private and public primary schools in Thailand. Learners in private primary schools start learning English in year-1, whereas in public schools they start learning English in year-5. However, they need to pass the Basic English course as well as the course of basic computer use in their first year at university. The non-English major learners in the study were all learners majoring in Computer Studies. Thus, their background, interest and goal were addressed to computer study rather than English learning. Their motivation to use web-based methods of English learning also seemed to be different from the English- major learners.

The methods of data collection comprise questionnaires, transcripts from tape recording of interviews with learners and teachers and observer notes. The main method of analysis of the learner questionnaire in the study is frequency-distribution. The frequencies and percentages were performed in order to generate frequency-distribution histograms of responses to each questionnaire item. Results of questionnaire data were used to be a spring-board for the qualitative data analysis of all learners' dispositional constructs. This analytical method concerns two principal processes: unitizing and categorizing. The former process involves dividing chunks of information into units. Subsequently, these units represent bases of categories. The latter process is about bringing all relevant content into the categories. This process includes a clarification of the meaning of each category and an identification of sub-categories and relations among categories (Sapsford and Jupp, 1996). Further, the properties or all items of data which were put into the same category were then be compared and contrasted. The comparison and contrast of categories created a relationship among a number of categories, which provides a basis for research interpretation.

In order to examine the relationship between a set of variables which are factors influencing learners' intention to use web-based methods in learning English as shown in the theoretical framework, the questionnaire items representing each dispositional factors were given to the questionnaire samples. Respondents were asked to indicate their agreement or disagreement on 7-point scale ranging from Strongly Disagree to Strongly Agree. A learner who strongly agreed with the questions representing each dispositional factor from the theoretical framework would get a high score for each of them. The following table represents the questionnaire items following the theoretical framework of this study.

Dispositional Factors	No.	Items to be rated
Attitude	1.	- I have a good attitude towards using web-based methods for six hours in my English class during the following weeks.
	2	- Using web-based methods in my English learning for six hours in the following weeks will improve my English.
	3	- Improving my English is necessary for my future.
Subjective Norm	4	- Most people who are important to me use web-based methods in their English learning.
	5	- My teacher thinks that I should use web-based methods in my English class during the following weeks.
	6	- Generally, I like to do what my teacher thinks I should do.
Perceived Behavioural Control	7	- For me, the use of web-based methods for six hours in the following weeks will be possible.
	8	- It is mostly up to me whether or not I use web-based methods for six hours in the following weeks.
	9	- I believe that I can find enough time to use web-based methods for six hours in the following weeks.
	10	- It is easy for me to have time to use web-based methods for six hours in the following weeks.
Intention	11	I intend to attend the six web-based sessions during the following weeks.
Motivation	12	- I prefer using web-based methods, rather than the traditional methods, in learning English.
	13	- Using web-based methods in learning English is a good way to learn more about foreigners and their culture.
Anxiety	14	- I feel more tense and nervous in using web-based methods in learning English than learning with the English teacher .
	15	- Using web-based methods in learning English makes me anxious.
Belief	16	It is important to use web-based methods in learning English.
	17	Using web-based methods in learning English is easy.

The sequence of questionnaire items representing each disposition

RESULTS

The findings of the questionnaire data analysis have shown that although there were two groups of learners, English and non-English major learners, both groups held similar dispositions towards an intention to use web-based methods for learning English. Their intention to use the methods stemmed significantly from the favourable attitude towards the use of the web-based methods. All the learners believed that the methods would improve their English learning. They also believed that their English teacher thought they should use the methods (Subjective Norm) and that they were able to use them (Perception of Control). All these three main constructs of The Theory of Reason Action and Planned Behaviour were found to be related to other disposition constructs of the model of motivation in second language learning comprising motivation, belief and anxiety. Results of correlation analysis of all constructs assigned in the theoretical framework of the study revealed relationships between all the learners' dispositions and their subsequent intention to use web-based methods. A negative relation was also found between anxiety and all the other constructs. This negative relation showed that the low anxiety learners appeared to hold favourable attitude, positive motivation, belief, and intention to the use of the methods.

As all of the questionnaire constructs were used as a springboard and assessed through an interview. The questionnaire findings reflected degrees of similarity with the main finding of the interview results. All of the learners (comprising the both groups of six class attendees and six non-completers) as well as teachers interviewed held a favourable attitude towards web-based methods of learning English. However, it was found that there was one group of learners who withdrew from the web-based sessions designed for the study. Although all the learners held a favourable attitude towards the use of the methods, not all the learners used them for English learning. The major intervening factors, which hindered participation of web-based sessions, were their ability in English as well as the ownership of computers.

To conclude, the particular findings from this study lend support to the findings of previous researchers such as Gardner (1988), DÖrnyei (1994), Brown (1994), and Williams and Burden (1997) that focus on the importance of relationships between attitude, L2 motivation, and other dispositional and non-dispositional features affecting classroom language-learning. A distinct contribution to the literature of those L2 motivation-based features in classroom language-learning is made on the focus of relationships between attitude, L2 motivation and other clusters relating to the context and environment of learning language with computer, learners' background and experience in both learning language, and the use of computers. These features have been proposed from this study to be added into the complex of features in learning language with computer applications. In this sense, the findings of this study also confirm interactions between each feature comprising both learners' dispositions and the context or environment in which learning language is taken place. Each of these features is found to influence the others and these interactions can help provide an explanation in the picture of learning language through the use of computers.

Moreover, part of findings of this study also confirms another link between second language learning and the sociocultural theory focusing on the context of learning language as illustrated by Lantoff (2000). It is clearly found from this study that the focus of second language learning with web-based methods not only relied on the learners' perceptions and dispositions towards the methods, but also their ability to learn and use language to communicate with others through the use of computers. In the context of classroom language learning through the use of computers, even if the learners are initially motivated to use computer in learning language because of their possible positive attitude towards both the language itself, and the use of computer-applications, several environmental features or the context of learning language (such as a lack of teacher instruction, grades, background and experience both in learning language and computer use) may possibly hinder the continuous participation or persistence in that learning of language with computers.

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SELF-DIRECTED LEARNING READINESS AND THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AMONG STUDENTS IN A MALAYSIAN UNIVERSITY

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ABSTRACT

In a competitive environment of the twenty-first century, university students can no longer study solely on "traditional' way of learning. Students are expected to be self-directed learners where much of their studies are carried on their own initiative and effort. The pendulum in a university teaching is moving away from teacher-centered learning, towards more self-direction in learning among the students.

Pursuing with self-directed learning will be a new learning style among students at university level. One of the factors that can be associated with the willingness of them to practice this style is personality traits. This study was conducted to examine whether students were ready to pursue self-directed learning as their new learning style and to seek the relationships of the levels of readiness of self-directed learning with their personality traits. This study used a quantitative approach. The survey instrument was distributed to a sample of 470 final year undergraduate students. On the average, the students perceived themselves to be ready with self-directed learning style. The component of *Positive orientation to the future* was the most important in contributing to the readiness in self-directed learning. There was a positive and strong correlation between personality traits and readiness in self-directed learning style. The findings will be useful to educators and policy makers in universities and those designing flexible learning program for students.

Keywords: *Self-directed learning, Self-directed learning readiness, Personality traits, Malaysian university*

INTRODUCTION

A university is the highest learning institution that provides education to students. The aim is to produce excellent and quality graduates who will contribute to the success of a country. In order to realize this, the university should adapt an excellent approach for the students in their learning styles. Self-directed learning should be practiced to avoid students becoming passive. In this learning style, students should be more responsible for their own learning and collaborate with other learners and use resources such as information communication technology.

The pendulum in university teaching is moving away from teacher-centered learning, towards more self-direction and responsibility of their learning, by the student. Self-directed learning, student-centered learning, self-planned learning, self-initiated, self-teaching, self-regulated learning, autonomous learning, independent study, they are frequently carried out alone. Broadly defined, self-directed learning refers to activities where primary responsibility for planning, carrying out, and evaluating a learning endeavor is assumed by the individual learner (Brockett, 1983).

Students who are self-directed learners must have the skills in identifying and critically analyzing information, logical and independent problem solving and effective

goal setting, time management, ability to complete a task, communication and interpersonal skills such as allocating responsibilities and managing conflict. All these will be expected in the student as well as the ability to do their learning with minimal supervision and be self-motivated and proactive.

The "Personal Responsibility Orientation" Model (PRO) developed by Brockett and Heimstra (1991) substantiates the theory proposed by Candy (1991) and Knowles (1975) that self-direction in learning comes from internal and external influences. The authors believe that an individual's personality characteristics are just one element that influences the processes of self-directed learning. These personality characteristics serve as starting points for understanding self-direction in learning and coupled with autonomy and personal choice, serve as the catalyst for self-directed learning to occur.

Some attitudes that support self-directed learning are easier to develop than others. One of the most fundamental is *confidence in oneself.* A "can-do" learner leads one to take the initiative in learning. Closely related to this attitude are two others: *accepting responsibility for your own learning* and *viewing problems as challenges rather than obstacles.* The successful self-directed learner believes that the primary responsibility for learning belongs to the learner, not the instructor, professor, or trainer. Therefore, this study is important for educators and policy-makers to understand and explore the extent of readiness of students in self-directed learning as a new learning style.

There are two objectives of this study. They are: 1) To identify the students' level of readiness in
self-directed learning as their new learning style, and 2) To determine the relationship between the levels of students' readiness in engaging self-directed learning and their personality trait. The hypothesis is: 1) There is no relationship between personality traits of students and their readiness in pursuing self-directed learning.

LITERATURE REVIEW

Readiness in Self-Directed Learning

Self-directed learning refers to the dispositions and capabilities of learners to accept responsibility for planning, seeking out learning resources and implementing and evaluating their own learning (Brookfield, 1988). The theory on self-directed learning in this research is based on the concepts and ideas of Knowles (1975) and Guglielmino (1977). During the late 1970s and early 1980s, Guglielmino (1977) initiated groundbreaking work on self-directed learning readiness building on the adult learning orientations of Knowles (1975).

Guglielmino (1977) develops the "*Self-Directed Learning Readiness Scale*" (SDLRS) to assess adult readiness for independent learning. As part of her dissertation work in 1977 at the University of Georgia, Lucy Guglielmino develops and field tested the *Self-Directed Learning Readiness Scale*, a Likert-type questionnaire with five response options per question (Guglielmino, 1977). The SDLRS is later expanded to its current 58 items. The SDLRS has become the most widely used instrument for assessment of self-directed learning readiness (Merriam & Brockett, 1997). Guglielmino's (1977) 58-item survey encompasses eight underlying self-directed learning readiness factors. They are: 1) Openness to learning opportunities, 2) Self-concept as an effective learner, 3) Initiative and independence in learning, 4) Informed acceptance of responsibility for one's own learning, 5) Love of learning, 6) Creativity, 7) Positive orientation to the future, and 8) Ability to use basic study skills and problem solving skills.

Guglielmino asserts that these factors correlate favorably with the definition of a highly self-directed learner as defined by the Delphi survey of the experts (Guglielmino, 1977, p.3) which is "a highly self-directed learner, based on the survey results, is one who exhibits initiative, independence, and persistence in learning; one who accepts responsibility for his or her own learning and views problems as challenges, not obstacle; one who is capable of self-discipline and has a high degree of curiosity; one who has a strong desire to learn or change and is self-confident; one who is able to use basic study skills, organize his or her time and set an appropriate pace for learning, and to develop a plan for completing work; one who enjoys learning and has a tendency to be goal-oriented."

Personality Traits of Self-Directed Learners

Self-directed learning is viewed as a personality characteristic; and instructional method (Brocket and Hiemstra, 1991); and as sociological and the pedagogical view (Long, 1989). The sociological dimension emphasizes the social isolation of the learner. The pedagogical dimension stresses the procedures carried out by the learner. Long (1989), however, suggests that research must look to another dimension: the psychological control of the learning. Brockett and Hiemstra (1991) who observe that research presents two views of self-directed learning: as instructional method and as personality characteristic, says that the first perspective involves a process which the learners assume primary responsibility for planning, implementing and evaluating their learning. The second dimension centers on a learner's desire or preference for assuming the responsibility for learning (Brookfield, 1988).

Torrance and Mourad's (1978) study provide supports for the construct validity of the SDLRS instrument. Significant positive correlations are found between self-directed learning readiness and the following: three measures of originality, the ability to develop analogies in the description of photographs, creative personality, creative achievements, and right hemisphere style of learning.

Oddi (1985) develops an instrument designed to identify what she refers to as "self-directed continuing learners". The Oddi Continuing Learning Inventory (OCLI), a 24-item Likert scale, grow out of Oddi's concern over the lack of a theoretical foundation for understanding personality characteristics of self-directed continuing learners. The development of this instrument is an outgrowth of the need to distinguish between personality characteristics of self-directed learners and the notion of self-directed learning as "a process of self-instruction" (Oddi, 1985).

Percy and Ramsden (1980) indicate that the ability to organize time, being disciplined, and being sufficiently open-minded and patient individuals as traits of independent learners. Furthermore, one of the most important habits of the successful self-directed learner is the habit of persistence—the refusal to be deterred from reaching a goal because of problems, boredom, or other factors or events that might derail a less determined learner. Habits such as systematic planning, productive organization of learning media and materials, and completing tasks within the time scheduled can streamline and anchor effective e-learning.

METHODOLOGY

A survey research method was adopted to address the research questions with questionnaire as the instrument. It was partly adapted from Guglielmino's (1997) *"Self-Directed Learning Readiness Scale" (SDLRS)*. The questionnaire was pre-tested and a pilot study was conducted. The survey instruments were distributed to a total population of 470 (N = 470) respondents. They were from the Faculty of Information Management, Faculty of Office Management and Technology and from the Faculty of Communication and Media Studies of Universiti Teknologi MARA, Shah Alam, Malaysia. The total response rate was 87.23% or 410 responses (n = 410).

Data Analysis

In this study, the statistical analyses conducted were a combination of descriptive statistics and mean ranking. The Pearson's correlation coefficients were used to test the relationship between the self-directed learning readiness components and the personality traits. The variables in the questionnaire were based on a 1 – 7 low-high scale. Therefore, when respondents marked 5 or more (5 to 7) in the scale, this indicated that the respondents could be considered as practicing the principles of a self-directed learning. The internal consistency reliability for this study was determined and tested using Cronbach's Alpha. The values for the understanding of the concept of self-directed learning style and personality traits were all in excess of 0.8, while those for the eight components of readiness in self-directed learning style ranged from 0.602 (openness to learning) to 0.842 (positive orientation to the future).

FINDINGS

In this study, about half (50.2%) of the respondents come from Faculty of Communication and Media Studies followed by 30.5 per cent from Faculty of Information Management, and 19.3 per cent are from the Faculty of Office Management and Technology.

Demographic Profile

More than three-quarters (76.8%) of the respondents are female, while 23.2 % are male. The majority of them (82.9%) falls into the < 25 age grouping while those in the 25 - 29 age group and > 30 age group account for 15.9 per cent and 1.2 per cent of the sample respectively.

Levels of Readiness of Self-Directed Learning And Personality Traits

The summary statistics for the individual statements for each of the eight components representing the levels of readiness of the respondents in self-directed learning style are shown in Table 1. The results show that the respondents are ready for self-directed learning as the mean scores for all items exceed 5.0, except for two items under *informed acceptance of responsibility of one's own learning*. The statements are: (1) *I like to be a leader in group learning situations* (mean = 4.98); (2) *In a classroom, I do not expect the teacher to tell all class members exactly what to do at all time* (mean = 4.86). However, even though the means are slightly lower than 5, they are very close to 5 and hence on the average the respondents can be considered as ready for these aspects of self-directed learning.

Table 1: Levels of Readiness for Self-Directed Learning Style

Statement	Mean	Std Deviation
1) POSITIVE ORIENTATION TO THE FUTURE		
1.1 I like to think about the future	6.11	1.00
1.2 I want to learn more so that I can keep growing as a person	6.07	0.97
1.3 I will never be too old to learn new things	6.02	0.95
1.4 I look forward to learning as long as I live	5.77	1.02
1.5 I can make myself do what I think I should	5.77	0.98
1.6 I think as problems as challenges, not stop signs	5.72	0.98
1.7 I try to relate what I am learning to my long term goals	5.61	1.04
Overall	**5.87**	**0.71**
2) LOVE OF LEARNING		
2.1 The more I learn, the more exciting the world becomes	5.89	0.95
2.2 I think learning is fun	5.83	1.12
2.3 I enjoy discussing ideas	5.65	1.04
2.4 The people I admire most are always learning new things	5.56	1.19
2.5 There are so many things I want to learn that I wish that there were more hours in a day	5.48	1.10
Overall	**5.68**	**0.75**
3) ABILITY TO USE BASIC STUDY AND PROBLEM SOLVING SKILL		
3.1 Learning how to learn is important to me	6.04	0.92
3.2 I'm happy with the way I investigate problems	5.50	0.98
3.3 I don't have any problem with basic study skills	5.37	1.13
3.4 I really enjoy tracking down the answer to a question	5.18	1.05
Overall	**5.52**	**0.72**
4) **INFORMED ACCEPTANCE OF RESPONSIBILITY OF ONE'S OWN LEARNING**		
4.1 If I don't learn, it's my fault	6.00	1.20
4.2 I am responsible for my learning - no one else is	5.89	1.07
4.3 No one but me is truly responsible for what I learn	5.79	1.05
4.4 I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education	5.64	1.13
4.5 A difficult problem doesn't bother me if I'm interested in something	5.42	1.15
4.6 n a learning experience, I prefer to take part in deciding what will be learned and how	5.35	0.99
4.7 I like to be a leader in group learning situations	4.98	1.29
4.8 In a classroom, I do not expect the teacher to tell all class members exactly what to do at all time	4.86	1.23
Overall	**5.49**	**0.68**
5) INITIATIVE AND INDEPENDENCE IN LEARNING		
5.1 I love to learn	5.90	1.04
5.2 I know what I want to learn	5.62	1.09
5.3 If there is something I want to learn, I can figure out a way to learn it	5.48	1.05
5.4 If I discover a need for information that I don't have, I know where to go to get it	5.41	1.01
5.5 If I have a great idea, I can develop a plan for making it work	5.40	1.03
5.6 I can work very well on my own	5.35	1.08
5.7 Understanding what I read is not a problem for me	5.16	1.15
Overall	**5.47**	**0.75**
6) CREATIVITY		
6.1 I have a strong desire to learn to learn new things	5.67	1.01
6.2 I like to try new things, even if I'm not sure how they will turn out	5.54	1.07
6.3 I have a lot of curiosity about things	5.34	1.13
6.4 I'm good at thinking of unusual ways to do things	5.19	1.08
Overall	**5.43**	**0.79**
7) OPENNESS TO LEARNING OPPORTUNITIES		
7.1 I'll be glad when I'm finished with learning	5.72	1.25

7.2 I'm interested in learning as some other people seem to be	5.69	1.02
7.3 I'm better than most people are at trying to find out the things I need to know	5.33	1.07
7.4 I don't like dealing with question where there is no one right answer	5.13	1.34
7.5 If I can understand something well enough to get a good grade on a test, it doesn't bother me if I still have questions about it	5.12	1.13
Overall	**5.40**	**0.73**
8) SELF-CONCEPT AS AN EFFECTIVE LEARNER		
8.1 I learn several new things on my own each year	5.80	1.02
8.2 I know when I need to learn more about something	5.75	.97
8.3 I can tell whether I'm learning something well or not	5.38	1.03
8.4 I think learners are leaders	5.34	1.28
8.5 I am capable of learning for myself almost anything I might need to know	5.29	1.00
8.6 If there is something I have decided to learn, I can find time for it, no matter how busy I am	5.22	1.16
8.7 I am an effective learner in the classroom and on my own	5.20	1.03
8.8 I can think of many different ways to learn about a new topic	5.09	1.01
8.9 I can learn things on my own better than most people	5.00	1.15
Overall	**5.34**	**0.70**

The level of readiness for individual component and the overall level of readiness as represented by the respective mean scores are provided in Table 1. The overall mean score is 5.52, with a standard deviation of 0.61. The size of the mean score implies that, on the average, the respondents perceive themselves as being ready for self-directed learning style. The various statistics indicate that the mean score is representative of the majority of respondents.

By individual components, the respondents perceived themselves to be relatively most

ready for the new learning style as they have a *positive orientation towards the future* (mean score = 5.87). This is followed by the fact that they *love learning* (mean score = 5.68); that they *are able to use basic study to solve problem skillfully* (mean score = 5.52); that they *accept responsibility for their learning* (mean score = 5.49); that they have the *initiative and are independent in their learning* (mean score = 5.47); that they are creative (mean score = 5.43); that they are open to learning opportunities (mean score = 5.40); and that they are effective self-concept learners (mean score = 5.34). The mean scores which are very close to their equivalent mean scores indicate that each mean score is representative of the majority of the respondents.

Table 2: Summary Statistics for Personality Trait

Statement	Mean	SD
1. I have the desire to be "good" at something	5.94	0.89
2. I have imagination	5.92	1.01
3. I have a sense of humor	5.76	1.04
4. I set goals in learning	5.68	1.01
5. I am able to work independently	5.59	1.03
6. I have patience	5.53	1.17
7. I am able to think creatively	5.53	1.05
8. I have self-discipline	5.51	1.12
9. I have self-confidence	5.51	1.11

10. I can think critically	5.49	0.96
11. I am able to stand up for my own ideas	5.47	0.99
12. I have a strong inner voice	5.47	1.06
13. I am able to argue in order to clarify thoughts and concepts	5.40	1.00
14. I am persistent	5.40	0.98
15. I have perseverance	5.38	0.97
16. I am good in solving problems	5.36	0.98
17. I am intelligent	5.36	1.09
18. I am a risk-taker	5.35	1.16
19. I am an active thinker	5.35	1.04
20. I am able to think "outside the box"	5.34	1.03
Overall	**5.52**	**0.70**

The summary statistics for the personality traits presented in Table 2 shows that the respondents are very positive about themselves as all the mean scores exceed 5.0. The results show that the respondents claim that they do have positive personality traits that is, having *the desire to be "good" at something* (mean score = 5.94) as the top in the list. This is followed by having imagination (mean score = 5.92), having sense of humor (mean score = 5.76), set goals in learning (mean score = 5.68) and able to work independently (mean score = 5.59). Even though the mean score of "I am able to think "outside the box" is the last in the list, the mean score (5.34) is still above 5.0 indicating that the respondents are positive about themselves.

Correlation between Personality Trait and Self-Directed Learning Style

A correlation analysis was carried out to determine the association, if any, between personality traits and readiness in self-directed learning style, as well as between the former and the individual components of the latter. The results of analysis are presented in Table 3.

Table 3: Correlation between Personality Trait and Self-Directed Learning Style

Components of Self-Directed Learning	***r***	***p*-value**
1. Self-concept as an effective learner	0.768	0.000**
2. Ability to use basic study and problem solving skill	0.700	0.000**
3. Creativity	0.666	0.000**
4. Informed acceptance of responsibility of one's own learning	0.663	0.000**
5. Initiative and independence in learning	0.662	0.000**
6. Positive orientation to the future	0.660	0.000**
7. Love of learning	0.589	0.000**
8. Openness to learning opportunities	0.488	0.000**
Overall	0.784	0.000**

** Statistically significant at the 1% level

There is a positive and strong correlation between personality traits and readiness in self-directed learning style. The coefficient of correlation which is 0.784 is statistically significant at the 1% level (r = 0.784; p<0.01). It is concluded, therefore, that better personality traits result in higher levels of readiness in self-directed learning style.

The association between personality traits and each of the eight components is also positive, with the Pearson's correlation coefficients ranging from 0.488 (weak) to 0.768 (strong). *Self-concept as an effective learner* is the component of readiness in self-directed learning style having relatively the strongest correlation with readiness in life-long learning (r=0.768). These are followed by *ability to use basic study and problem solving skill* (r=0.700); *creativity* (r=0.666); *informed acceptance of responsibility of one's learning* (r=0.663); *initiative and independence in learning (r=0.662); positive orientation to the future* (r=0.660); *love of learning* (r=0.589); and *openness to learning opportunities* (r=0.488). All coefficients of correlation are statistically significant at the 1% level ($p<0.01$).

CONCLUSION

On average, the students perceived themselves to be ready with self-directed learning style. By individual components, *Positive orientation to the future* is the component that the respondents feel to be relatively the most important in contributing to their readiness in self-directed learning style. This is followed, in descending order of relative importance, by love of learning, ability to use basic study and problem solving skills, informed acceptance of responsibility of one's own learning, initiative and independence in learning, creativity, openness to learning opportunities, and self-concept as an effective learner. This implies that the students from the three faculties are at the stage where they are ready for self-directed learning style.

There is a positive and fairly strong correlation between personality traits and readiness in self-directed learning style. This positive relationship is also manifest in all the eight components of the new learning style, with *self-concept as an effective learner* having the strongest correlation with personality traits, while *openness to learning opportunities*, the weakest. This implied that students with positive attitude have higher levels of readiness in self-directed learning style.

The research indicates that the students in this study in general are prepared to self-direct their own learning. This new learning style will bring changes from the traditional learning style. The new learning style will eventually promote discovery, with students constantly engaged in finding, organizing, analyzing and applying information in creative and novel ways to solve problems to the learning. It will acculturate the new generation of students to be more creative, innovative and productive.

Several directions for further research may be suggested from the results of the study. Future studies may also investigate on how to improve the readiness in self-directed learning styles among university students. The other future studies may investigate on how learner's attitude may effect readiness in self-directed learning.

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LEARNING AND TEACHING: HIGHER EDUCATION'S INSTITUTIONAL CAPACITY BUILDING BLOCKS IN THE KNOWLEDGE ECONOMY

Sub Theme:Learning & Teaching to enhance institutional capacity

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ABSTRACT

The twentieth century ended with a historically unparalleled explosion in knowledge generation and management in every area of human endeavour. The explosion of knowledge and its management has continued unabated, indeed in an accelerated manner in the new century. This phenomenal increase in knowledge is no doubt consequent on the parallel technological advancement and information management. As would be expected the explosion in knowledge has transformed the nature of the global economic activity with the most prosperous economies being almost exclusively knowledge driven: in fact such economies are now described as being knowledge based. An analysis of the historical antecedents of the knowledge explosion that characterised the twilight of the last century and which has accelerated in the new reveals a significant association with Higher Education reforms in a number of the countries mostly of the West. These reforms which have re-defined learning and teaching in practice, no doubt have been instrumental to the economic capacity building in those countries. In this conceptual paper, we will examine the nature of the transformation of learning and teaching which culminated in the advent of the knowledge based economy. On the basis of this and, identified elements of organizational effectiveness we will propose a model of capacity building in Higher Education and demonstrate its effectiveness and sustainability.

INTRODUCTION

For several years, academic activities in further and higher education were consciously or otherwise described as teaching and learning. In the last few decades however, the arrangement of the words 'teaching' and 'learning' has been reversed: it is now quite often referred to as 'learning and teaching'. It seems that with the rearrangement of the words comes a shift in where greater emphases lie in terms of activities and possibly importance; or rather the rearrangement reflects the current priorities. Prior to the commencement of higher education reforms in the developed countries of the west, teaching always came before learning. Since the reforms however, most of the time learning comes before teaching. This signifies a change in emphasis which may not initially be apparent until the associated change in direction becomes obvious. Coinciding with these reforms is a heralded phenomenal change in the global economy. The change has considerably affected every aspect of the economy of

individual nation and has indeed altered the nature of factors of production and their relativity. It could be argued that never in history has the dictum 'knowledge is power' truer than at the present. This is because knowledge is currently playing a startling role in determining the prosperity of a nation. Without a doubt knowledge has also become the key to success for individuals and entire corporations; thus we may safely say that in the little over 900 years of establishing the university higher education has never achieved a greater measure of notable influence. It is apparent that the most prosperous economies are knowledge based and consequently intellectual property has assumed a most valuable economic currency. There have also emerged multibillion, multinational corporations and financial institutions whose major assets are their intellectual shrewdness. Thus the primary factor responsible for the development and wealth of entire nations and individuals is now intellectual Capita: knowledge and the ability to manage knowledge and information (Pawloski 2004). The extremely fast developments of nations without any natural resources such as Hong Kong and Singapore and, the explosion of ICT corporations, the likes of Microsoft, Google and Nokia to mention a few symbolize what will dominate the global economy in the years ahead (Pawloski 2004). Since knowledge has assumed such an unparalleled dominance over the global economy both now and potentially in the future, it is imperative to contextually examine its source and factors that produce it. This essentially will be to enhance its functionality, improve efficiency and maximise the gains of higher education.

A seemingly circuitous relationship between the phenomenal development of global economic world order and that of a re-structuring of tertiary education exists. At the moment the key components of the changes in tertiary education in the developed economies include a dramatic expansion and greater access to students of varying backgrounds; consequent changes in school curriculum, teaching and assessment, changes in the condition of academic work, and changing structures of accountability and professional accreditation (Nixon 2002). Another feature of this change is that the increase in student population has a characteristic heterogeneity than was previously not the case; women and part-time students making up a greater proportion of the total. Similarly, demographic changes with respect to students' age on entry were also taking place with nearly one in three entrants being aged 21 or over (Nixon 2001). Overall the pattern of student enrolment was such that, by 1990, more mature students entered higher education in Great Britain than young students with 80 percent of all mature students located in the new universities (National Commission on Education, 1993). Intriguingly, this seems to be the pattern in those developed countries following their various higher educational reforms. Thus, the traditional image of transition at 18-plus from school or college to university had become for many institutions anachronistic (Nixon 2002).

In addition to the massification are the introduction of such concepts as employability and employability skills, life long learning, concerted continuous acquisition of transferable skills etc. It is no longer adequate just to be core skilled, one has to combine it with the soft or what is otherwise called transferable skills. This is what indeed transformed learning and teaching into building blocks. The transformation has not come cheaply as vast sums of money are being spent by various governments to execute this gigantic project. For example in the 1990s, the United States of America (USA) spent in excess of 635 USD billion, a sum which is much larger than that spent on national defence or retirement benefits (The Economist 16.01.1999 pg. 57). It is noteworthy that this is no longer limited to the developed world but indeed many developing countries are getting very much involved. Another dimension to this is an

increased international education activity which has now turned into a multibillion dollar venture. The synergy between learning and teaching in higher education has, in an unprecedented manner phenomenally affected the relationships between individuals, institutions and generally the way things are done in a lot of ways. Of particular interest to our present discussion is the relationship between the duo- economy and tertiary education which has changed for ever. This is possibly an understatement and it could be safer to say that henceforth the only thing that would be certain about them is continuous change, and change brings about change. In addition the notion of education for life seems to have redefined who an educated person is. It is increasingly getting clearer that a contemporary educated person is somebody who has learned 'how to learn', and who continues learning, especially possibly by formal education, throughout their lifetime. Indeed, anecdotal evidence suggests that never in history has higher education attracted such a proportion of 'elderly' learners as it presently has. The likelihood is that this trend will continue with increasingly higher proportions. This is because societal age demographics are changing with many more people growing up to very old age and still being both physically strong and mentally alert: thanks to ever improving medical care and increasingly more efficient health technology. These people will potentially be offered the opportunity of acquiring the necessary skill to ensure their continued employability relevance in the ever changing knowledge society.

Learning and teaching, institutional capacity building and employability

What is employability?

Defining employability has not been very easy. This is because employability and rate of employment and/or unemployment are intertwiningly related. In many cases the terminologies relating to employability have been inappropriately applied to say the least. As a consequence there have emerged several definitions of employability. The term employability being a complex one has been defined by several workers based on international research evidence on 'defining employability'. For example, the Enhancing Student Employability Co-ordination Team (ESECT) of the Higher Education Academy (HEA), UK's definition of employability, whose rationale can be found in Yorke (2004), is that it consists of a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy. Employability therefore implies something about the capacity of the graduate to function in a job, and is not to be confused with the acquisition of a job (as in getting employment), whether a 'graduate job' or otherwise. There is therefore a difference between employability and getting employment which may be similar to measuring employment rate. Be that as it may, it is not plausible to talk about employability without reference to employment and/or unemployment. We must without much ado admit that it is rather an arduous exercise to measure graduate employability. While it could be argued that the absence of a common definition for employability has made higher education teachers interpret it as an intrusion on the proper concerns of academic life, Knight and Yorke (2004) interestingly but rightly assert that a concern for 'academic employability' aligns with a concern for academic values and the promotion of good learning. We will like to succinctly put it this way: the concern of academia regarding the skills of university graduates is in perfect harmony with the attributes of employability. Although there are various definitions of employability we have made our choice because of its

relevance to our discussion in that it is inextricably linked to higher education graduate employment. The obvious significance of this is that the university has become strategically indispensable in the new economic world order, much more so for its human capacity building.

Knowledge, the new world order, human and institutional capacity building

Apparently it is impossible to disentangle employability as a concept from human capacity building. Thus an efficient and resourceful human capacity building programme will undoubtedly inculcate the elements and virtues of employability in its 'products'. We will like to argue that these products: 'the human capacity' is indeed the ingredient for building a virile institutional capacity. It will not only be able to generate the necessary capital, it will also be able to efficiently build and successfully manage the various institutional capacities. It is increasing obvious that the economy of the knowledge based society will inevitably be far more competitive than any societies before it and/or possibly those we may ever know or imagine. The reason is that with knowledge and information being universally and freely accessible especially in these days of the World Wide Web (www), there will be no excuse for non-performance; there will be no 'poor' countries, there will only be ignorant countries (Drucker 1994). We cannot agree more with Drucker. The pace of generation and acquisition of knowledge has been phenomenal and seems to continue unabatedly. Indeed Drucker back in 1985 observed that on the verge of the 21st century the number of knowledge workers (professionals with a higher education) in the USA was higher than that of physical workers. Furthermore there is a transformation in the value of natural resources especially those not subject to cartel agreements as they become less important in determining the wealth of nations while technologies and financial resources are on the ascendancy (Pawloski 2004). Thus education has become the centre of the knowledge based economy, and the school its key institution. What knowledge must everybody have? What is "quality" in learning and teaching? These are of necessity the central concerns of the knowledge society, and central political issues. In fact, the acquisition and distribution of formal knowledge may come to occupy the place in the politics of the knowledge society which the acquisition and distribution of property and income occupied in the politics of the western world over the two or three centuries that have come to be described as the Age of Capitalism (Drucker 1994).

The newly found role of knowledge as 'the arbitrator and economic status determinant' has secured for it a presumed centre of attraction. There is invariably a sudden attention to teaching in relation to research. Prior to this happening it seemed that teaching was regarded as being 'inferior' to research; indeed many people in academia did not regard 'teaching' as a form of scholarship. It therefore was regarded as a second fiddle to research. However the educational reforms in those countries of the west notably, Australia, Canada, the UK and USA teaching has rightly assumed the status of a 'scholarship'. The model of the 'scholarship of teaching' in these nations' universities is one that other countries could benefit from when it comes to this aspect in their higher education reforms. One of the notable features of this model is the professionalising or rather re-professionalising the academia with respect to teaching as well as research. In a number of these countries it is now expected of new entrants into academia to be educated in the art of teaching and enhancing learning in higher education. Even established hands including professors are encouraged to formalise their experience and knowledge of higher education teaching by relating these to the theories of principles and

practice of learning and teaching in higher education. In the current parlance this is regarded as academic governance which encompasses issues in learning and teaching, assessment, student progression, course development, tutoring, mentoring etc. It has been described in certain quarters as enriching students' learning experience. Indeed in the UK (and a host of these countries) it is now becoming mandatory to provide evidence of formal instruction in higher education teaching or a commitment to one for new faculties. Of course, a programme of continuous development is also available for all academics even after they have formally acquired their initial education in pedagogy. Evidently in those countries where this system has been adopted, anecdotally, the standards of learning appear to be improving significantly.

The other strands of this package that need be addressed include a continuous and constant review of courses and curriculum development in a manner that will incorporate aspects relating to new findings in the subject areas. In addition, courses which are relevant to the acquisition of skills that are necessary to function well in the global knowledge economy's world of work should be introduced from time to time as emphases change or new skills become evident or identified: this is inescapable for sustainability of performance. Furthermore, lecturers and professors should also be encouraged to use pedagogies that will enable students to acquire the right skills and attitudes that promote employability. Many teaching activities that promote good learning in a particular subject also promote employability in general. Employability and subject-specific learning are complementary, not oppositional. What the 'employability agenda' does is to encourage teachers to use pedagogic approaches that are likely to enhance general employability whilst dealing with the specifics of the subject. These approaches tend to fall within the scope of the phrase 'active learning'. Some may cover an extended time-span and relate to the programme as a whole (for example, work-based learning, years abroad, and perhaps problem-based learning); others may be activities within study units (for example, inquiry-based activities, projects and dissertations), and yet others may be used within single teaching sessions (such as case studies of various kinds, solving small-scale problems, and peer assessment) (Yorke 2004). Inserting employability activities in the curriculum is subject to challenges and opportunities. Amongst the challenges are lack of space in the curriculum; a culture in many institutions that excessively stresses research; and the need for stakeholders and champions with the time and energy to drive change. However, there are opportunities in many modules for small changes to have 'win-win' benefits by demonstrating the commonality that exists between academic activity and employability (Knight and Yorke 2004). There are some teaching approaches whose relationship to student employability is quite well known – for example, work experience. Researchers agree that students with work experience are more likely to get jobs on graduation than those without, which led the Dearing Review (NCIHE, 1997) to recommend that work experience should be a student entitlement.

Finally it is important for us to note that a major feature of the knowledge economy is that it has its own language which is English. However there seems to be a spate of renewed phenomenon of nationalism which has also assumed a global dimension although it appears to be more noticeable in South East Asia. This potentially has a negative effect on the development of the workforce for the global economy. Indeed there is strong evidence that nation states that jettisoned the English language for a local/national language as their lingua franca have a slow down in their economic capacity development which has paralleled the level of illiteracy in English. Not surprisingly therefore language and business experts are unanimous in their observation

that the 'Malaysian language experiment' has significantly weakened the country's rate of economic development which could last for many years to come even after reverting to English as the main language of instruction in schools and colleges. With the language of commerce in the knowledge economy being English, it is a challenge for higher education practitioners in those countries where English is not the official language to come up with solutions to a prospective lack of proficiency in the English language by their students. For the universities in those countries to produce graduates that will truly be equipped for the knowledge economy/society they had rather changed their language of instructions to English or find a way of improved proficiency in English for their students. It is very instructive that several universities in China, Japan, Hong Kong and South Korea to mention a few countries have started to run several of their courses in English. This confers an international educational advantage on these universities in addition to attempting to ensure that lessons are learnt from the ill-fated Malaysia language experimental model.

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STUDENT LEARNING STYLES AND ACADEMIC PERFORMANCE

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ABSTRACT

Several studies have shown that many factors determine the academic performance of post-secondary students. Among them are their satisfaction towards the learning environment, interest in the study materials, secondary school academic background and learning style preferences. A student's learning style preference refers to the way they respond to stimuli, acquire and use information in a learning context. The objectives of this study are to ascertain the dominant learning styles of a special group of pre-university students and to investigate the relationship between their learning style and academic performance. Several different instruments have been developed for the purpose of investigating students' learning styles. For this study, the Grasha-Riechmann Student Learning Style Scales was administered to determine students' learning preferences in six learning style categories. The subjects of this study were first year students at the International Education Center (INTEC), Universiti Teknologi MARA Malaysia. These government-sponsored high-achievers were undergoing their preparatory programmes before pursuing their degree at reputable universities in Australia, New Zealand, the United Kingdom and the United States. Cluster analysis was used to identify their dominant learning styles, while discriminant analysis was used to identify the determinants of academic performance in the final examination at the end of the first year. The results show significant relationship between academic performance and learning style. Other significant predictors of academic performance are their attitude towards the learning environment and secondary school academic achievement in core subjects. Some of the implications of these findings for teaching and learning are also discussed.

Keywords: *Learning Styles, Cluster Analysis, Determinants, Discriminant Analysis*

INTRODUCTION

A student's learning style preference refers to the way they respond to stimuli, acquire and use information in a learning context. Several studies have shown that academic performance of university students is related to their learning styles. The objectives of this study are to ascertain the dominant learning styles and to discover the relationship between learning style and academic performance of a special group of students. The subjects of this study are first year students enrolled in pre-university courses who are high-achievers as they have been awarded government scholarships based on the results of the *Sijil Pelajaran Malaysia*, a national examination for all final year secondary school students. They have to undergo a preparatory education in the International Education Centre (INTEC), University Teknologi MARA before pursuing their degrees abroad. Upon completion and successfully meeting their sponsors' academic requirement at INTEC these scholars then pursue their tertiary education at prestigious universities in the United States of America, the United Kingdom, Australia and New Zealand, among others. Since the study is limited to this specific group of students, the findings will not be generalized to students from other educational background.

LITERATURE REVIEW

There are many instruments available to study students' learning styles. Some are designed for general purpose and others are for specific area of studies. Among them are Index of Learning Styles (Felder and Spurlin, 2005), Kolb's Learning Styles Inventory, Pharmacist's Inventory of Learning Styles and The Grasha-Riechmann Student Learning Style Scales (GRSLSS). Irrespective of the instrument used, many studies have shown that learning style plays an important role in the academic performance of college students. The accommodation of students learning styles in the learning environment have resulted in improved test scores while a mismatch in learning characteristics and learning environment resulted in poor students' achievement (Andrews, 1990; Dunn *et al.*, 1995; Klavas, 1994).

Learning styles also differ from one ethnic culture to another. In a study among Chinese, Filipino, Korean, Vietnamese, and White students in California secondary schools, Park (1997a**)** came to a conclusion that Vietnamese showed major preference for group learning, whereas Filipino showed minor preference and Whites showed negative preference. Park also observed that middle and low achievers had minor preference for group learning and that high achievers had negative preference for group learning. However Slavin (1983) found that academic gains could be achieved by cooperative group learning as was proven among African and Latino students. Students who participated in the study demonstrated improved social skills and have a better understanding of cultural differences than those who did not.

Park (2000) discovered that among Southeast Asian students there is no statistically significant difference among high-, middle-, and low achieving group in their favorable preferences for learning styles. These Southeast Asian students show either major or minor preference for group learning compared with East Asian students (Koreans and Chinese) who showed negative preference for group learning (Park 1997a, 1997b). However, the subjects of Park (2000) study were Southeast Asians immigrants:

Cambodians, Hmong, Lao and Vietnamese whose profile is different from the subjects of the current study.

Several other studies found that the more independent thinking students were more successful in higher education (Porter & Cano, 1996; Diaz & Cartnal, 1999). Similar results by Cano (1999) found that dependent students are more likely to receive disciplinary action due to lower CGPA compared to the more independent students. Thus, the study concluded that as scores in learning styles moves up the scale from dependent to independent so does the ACT scores and CGPA, which are indicators to academic success.

METHODOLOGY

Subjects

The subjects of this study were first semester students undergoing various preparatory programs at INTEC. Table 1 shows there are almost equal proportions of males (50.9%) and females (49.1%) in the sample, but a slightly higher proportion of those who studied at government day schools (51.6%) compared with those from residential schools (46.1%). The majority of the current student population is the Public Service Department (JPA) scholars and this is reflected by the corresponding sample proportion (78.5%).

Table 1: Profile of the Sample

Variable	Category	Percent
Gender	Female	50.9
	Male	49.1
Sponsor	JPA	78.3
	MARA	12.9
	PETRONAS	1.6
	State Government	4.5
	Others	2.7
Type of School	Government day school	51.6
	Government residential	46.1
	Private day school	1.0
	Private residential	1.2

Instrument

For this study, the GRSLSS is chosen as it focuses on the student's interaction with the facilitator, other students, and the learning process itself. Gauging these characteristics will give a reflection about how they will adapt to a new learning environment overseas. The use of the GRSLSS, therefore, allows for measurement of learning style, identification of potential preferences for teaching style, and measurement of social interaction. This self-administered instrument comprises of 60 items that is designed to identify six major learning styles. Ten questions are assigned to each learning style construct and answers are recorded using a 5-point Likert scale. The individual learning styles are described in Table 1 (Ritchie, 2006). The pilot study results showed that the

items in the Avoidant dimension were scored very low and thus excluded from the final instrument. This exclusion is not expected to affect the results of the study.

Table 1: Grasha-Riechmann Student Learning Styles Dimensions

Dimension	Characteristic of Learners
1) Independent	Like to think for themselves and confident in their learning abilities. Prefer to work alone.
2) Dependent	Show little intellectual curiosity and learn only what is required. Look for authority figures for specific guidelines on what to do.
3) Collaborative	Work well with others and enjoy cooperative learning and working in groups.
4) Competitive	See the classroom as a win-lose situation in which they must win and enjoy competitive activities.
5) Participant	Eager to learn course content, enjoy learning, and take responsibility for his/her own learning.
6) Avoidant	Do not want to learn the content, do not enjoy learning and avoid taking part in course activities

Data Analyses

Cluster analysis was used to segment the subjects into clusters of similar characteristics in terms of learning styles, while discriminant analysis was used to understand the characteristics of the resulting clusters better. Academic performance is measured by the final grades obtained by the students for their semester-end final examination. Relationship between learning styles and academic performance was analysed using association analyses as the grade that represents performance is a categorical variable. Graphical presentations were produced using SAS macros developed by Friendly (2000).

DISCUSSION OF RESULTS

Reliability of GRSLSS and Correlation between Dimensions

The Cronbach Alpha values (Table 2) show that the items used to measure the five respective dimensions of learning styles are reliable, especially for Dependent, Competitive and Collaborative learning styles. The correlations between most of the learning styles (Table 3) are significant but low. The highest correlation is between Collaborative and Participant learning styles (0.356) which means that those who are more collaborative tend to be more participatory in their learning approach. Another meaningful relationship is between Competitive and Participant (0.350) learning styles. The results also indicate a low positive relationship between the Independent learning style and the Competitive (0.237) and Participant (0.164) learning styles. These indicate that people who are more independent in their learning styles also tend to be more competitive and to a lesser degree, participative. There is also a positive relationship between dependent and competitive earning style (0.336), which implies that dependent learners tend to be more competitive than independent learners. There is also no evidence

of differences in learning styles between male and female students and between those who studied at day school and residential school**.**

Table 2: Cronbach Alpha and sample items

Dimension	Cronbach Alpha	Sample Items
1. Independent	0.67	i) I learn a lot of the content in my class on my own ii) When I don't understand something, I try to figure out myself.
2. Dependent	0.75	i) I want clear and detailed instructions on how to complete the assignment ii) I rely on my teachers to tell me what is important for me to learn
3. Collaborative	0.72	i) Working with other students on class activities is something I enjoy doing ii) I enjoy discussing my ideas about course content in my class
4. Competitive	0.75	i) It is necessary to compete with other students to get a good grade ii) I like to solve problems or answer questions before anybody else can
5. Participant	0.62	i) It is my responsibility to get as much as I can out of a course ii) I do all assignments well whether or not I think they are interesting

Table 3: Correlation between learning style

Learning Style	Dependent	Collaborative	Competitive	Participant
Independent	0.065	0.017	0.237*	0.164*
Dependent	-	0.178*	0.336*	0.198*
Collaborative		-	0.162*	0.356*
Competitive	-	-	-	0.350*

Segmentation by Learning Styles

Initial segmentation of the subjects based on the learning style scores resulted in three clusters. A discriminant analysis shows that the resulting clusters are not very distinct. Hence, further cluster analysis was carried out to identify two clusters only. The following categories are used to indicate the level of each learning style based on the mean scores: (1) Low (<2.8); (2) Moderate (2.8 –< 3.8); and (3) High (3.8 or higher). A cut-off point of 3.8 (high) is used to differentiate the two clusters. Figure 1 shows the plot of the median scores of each learning style by cluster which shows that the levels of all learning styles are higher for Cluster 2 than Cluster 1. The nature of differences is similar for four of the five learning styles, except for Participant dimension. On the average, all of the subjects are highly collaborative and dependent but not very competitive and independent. However, Cluster 2 members are highly participative while Cluster 1 members are moderately participative.

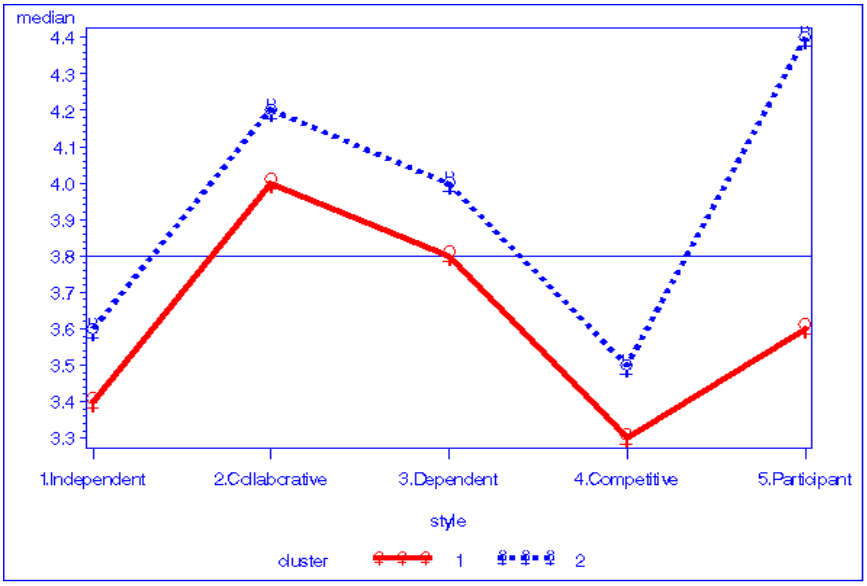

Figure 1: Comparison of median scores for each learning style by cluster

Learning Style and Academic Performance

Figure 2 shows that there is an association between cluster and grade. In particular, those who are participative (Cluster 2) achieved better grades (blue region) that those who are not (Cluster 1). Analysis on the association of academic performance (grade) with the level of individual learning style (Low, Moderate or High) does not reveal any significant relationship except for Independent learning style (Table 4). Specifically, highly independent learners tend to score better grades than those who are less independent.

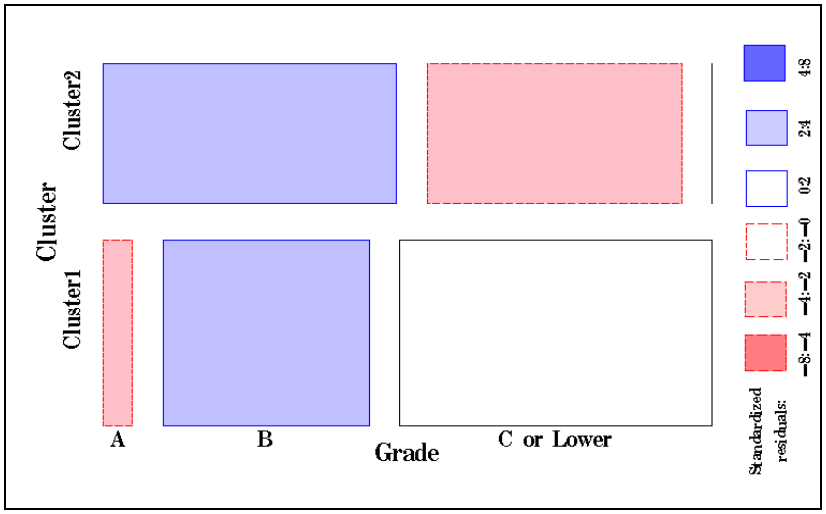

Figure 2: Association between learning styles and academic performance

Table 4: Relationship between individual learning style and academic performance

Learning Style	χ^2 Test Statistic	*p*-value
1. Independent	14.158	0.007
2. Dependent	5.260	0.262
3. Collaborative	3.873	0.423
4. Competitive	0.128	0.998
5. Participant	11.224	0.024

Other Determinants of Academic Performance

Table 5 presents the association between the first semester grade and other variables. Females scored significantly better grades than males and those who scored well for the major SPM subjects (Modern Mathematics, Additional Mathematic and English) also did well. However, since the subjects were high-achievers, the variation in grades was very small. Since the language of instruction is English, the results also show a significant relationship between their usage of the language at home and grades. However, their parents' educational attainment and satisfaction with INTEC has no effect on their grades.

Table 5: Determinants of Academic Performance

Variable	χ^2 Test Statistic	*p*-value
Gender	7.764	0.021**
SPM grades of major subjects (aggregated)	19.312	<0.001**
Speak English at home	8.123	0.017**
Father's education	4.975	0.290
Mother's education	3.343	0.502
Satisfaction with INTEC	1.967	0.742

CONCLUSION

The results indicate that in general the first semester pre-university students are highly collaborative and dependent learners, but moderately independent and competitive. However, some are distinctly more participative than others. Even though there is no strong correlation can be concluded between learning style and academic performance, there is an indication that those who are more participative tend to perform better academically at the end of their first semester at INTEC. There is also an indication that highly independent learners (ignoring the level of the other learning styles) are more likely to achieve better grades than those who are not.

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THE OPEN UNIVERSITY MALAYSIA (OUM) LEARNING MANAGEMENT SYSTEM (MYLMS): EVALUATING THE EFFECTIVENESS OF ONLINE FORUM DISCUSSION FOR QUANTITATIVE SUBJECTS

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ABSTRACT

The blended pedagogy adopted by OUM for its open and distance learning (ODL) comprises three components; self-managed learning, face-to-face interactions and online learning through myLMS. The nature of online learning requires high commitment from the learners, especially self-managed learning and collaborative online learning. Learning quantitative subjects such as financial mathematics in a conventional environment is very demanding and it is difficult to grasp by a majority of learners, what more learning such subject through online learning. Interactions between the academic staff or tutors with the learners and also amongst learners are important. Thus it is critical that quality and effective teaching and learning progression take place in online forum discussion for such subjects. A study is carried out to explore the effectiveness of OUM's online forum discussion for the subject of Mathematics for Management (BBMP 1103). The effectiveness of the online forum discussion will be measured based on the community of inquiry model (Garrison, Anderson and Archer, 2000). The effectiveness of online forum participation will be evaluated using the three essential elements in online learning process – teaching presence, social presence and cognitive presence. The outcome of this study will be useful to facilitate effective and quality teaching and learning process for quantitative subjects via e-learning.

Keywords: *Learning Management System, Community Of Inquiry, Self-Managed Learning, Financial Mathematics, Online Communication, Peer Interaction*

1. Introduction

Over the years, there has been rapid growth on the dependency of information and communication technology (ICT) for open and distance learners around the world. For Open University Malaysia (OUM), the first ODL institution in Malaysia, ICT has increasingly become an inseparable component of learning and delivering of educational materials for learners in OUM.

The advancement of internet technology has allowed for greater freedom and flexibility in terms of place, pace and time to learn via e-learning. E-learning, even though it allows for autonomy and freedom to learn, does require a lot of

self-discipline. In ODL mode or e-learning, the absence or lack of traditional classroom face-to-face interaction between the learners and the tutors is substituted with online forum. OUM delivery mode comprises three different but complimentary delivery modes: (i) self-managed learning, (ii) face-to-face interaction, and (iii) online learning; with more emphasis on self-managed learning. Hence it is critical that via online forum, learners are able to bridge the learning gap that exists due to the minimal number of face-to-face meetings.

OUM has developed its own e-learning management systems aptly called My Learning Management System (myLMS) whereby learners and instructors can interact in their online forum. The main objective of the online forum is to support and strengthen the teaching and learning process. All OUM instructors are expected not only to provide face-to-face tutorials but also to support and facilitate learning via the online forum. The online discussion and interaction are valuable in the sense that learners are able to learn outside the classroom and most importantly learn from their peers collaboratively.

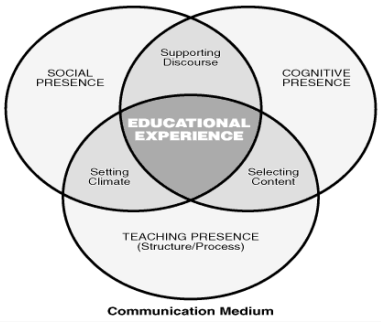
A number of researches have been conducted on the formation of learning communities in order to create better learning environments. Theoretically, the success of online forum depends heavily on the students and instructors' active participation in the forum. Active participation refers to the promptness of reply of learners and instructors as well as the quality of the posting. However, as lamented by Hung & Chen (2001), despite so many creative efforts at designing chat-rooms, discussion forums, bulletin boards and other similar applications, the online-learning tools still fail to attract and sustain dialogue amongst participants.

The problems highlighted above are common issues faced by a majority of the ODL institutions worldwide. ODL learners are geographically dispersed and they can be very lonely and lack motivation in an ODL environment. Hence, it is critical that online instructors play a visible and significant role in motivating learners in terms of providing adequate and proper guide to the learners. Online instructors can play a significant role in determining the extent to which interactions are beneficial to learners. Instructors' main objective is to ensure that learners explore and learn important concepts and applications through the online discussions. Through the exchange of ideas, experiences, resources, and knowledge between learners-instructors and learners-learners shared experience rather than an experience that is shared is created (Lock 2002). This is crucial as one of the conceptual frameworks of ODL is Constructivism Theory (Huang 2002, Lock 2002). Constructivism is the theory that learners can acquire or construct new knowledge based on prior experiences and knowledge (Huang 2020).

Learning quantitative subjects such as mathematics, finance and accounting in a conventional environment is very demanding and it is difficult to grasp by a majority of learners, what more learning such subject through online learning. How does one acquire knowledge of fundamental mathematical concepts and skills to solve mathematical problems in the ODL mode? Thus, it is critical that quality and effective teaching and learning progression take place in online forum

discussion for such subjects. This paper will address this issue and will suggest the action that needs to be taken to assure quality teaching and learning experiences of ODL learners.

Figure 1: Community of Inquiry Model



Source: The Community of Inquiry model. R. Garrison, T. Anderson, W. Archer and L. Rourke et al., University of Calgary

The most accepted model for online learning (Figure 1) is the Community of Inquiry (CoI) model by Garrison, Anderson and Archer (2000). They have suggested that online learning occurs through the interaction of three domains: cognitive presence, teaching presence and social presence. This online community of inquiry serves as "a conceptual framework that identifies the elements that are critical pre-requisites for a successful higher education experience".
Arbaugh et al. (2007) further defined the three elements as follows:

- Social Presence is the ability of participants to project themselves purposefully and socially within a community of inquiry;
- Cognitive Presence is the extent to which participants critically reflect, (re)construct meaning, and engage in discourse for the purpose of sharing and confirming understanding; and
- Teaching Presence is the design, facilitation, and direction of cognitive and social processes for the purpose of realising personally, meaning and educationally worthwhile learning outcomes.

2. Conceptual Framework

This study applies the framework for online collaborative learning based on the community of inquiry (CoI) model adapted from Garrison, Anderson and Archer. This paper focuses on one component of the online learning model: Teaching Presence. We will look at the instructors' commitment perspective to evaluate the effectiveness of online forum discussion for a quantitative subject, Mathematics for Management (BBMP1103). The subject is chosen based on the following criteria:

i. The subject was offered in January 2008 with total number of 815 learners and 12,051 total posting made by learners;

ii. In total, there were 30 instructors assigned to teach this subject via face-to-face and online forum with a total posting of 1,588;

iii. It is a foundation subject and one of the core subjects for those taking the business programmes at the Faculty of Business and Management; and

iv. The subject is considered as one of the challenging foundation subjects, combining basic calculus, algebra and financial mathematics.

We undertake the study with the following objectives:

i. To evaluate and measure the Social, Teaching and Cognitive presence for BBMP1103 online forum; and

ii. To recommend steps to be taken by OUM in order to improve or increase the effectiveness and quality of BBMP1103 online forum discussions based on our observation and also best practices.

For the purpose of this study, an instrument of 34 questions rated on a five (5) Likert scale developed by Swan et al (2008) was used to evaluate and measure the teaching, social and cognitive presence in the online forum. The researchers act as observers and look through each forum searching for Social, Teaching and Cognitive Presence and rated the 34 questions accordingly.

In summary, the roles of online instructors in the myLMS forum were investigated. Among others, the following were observed in the online forum:

i. Regular postings and prompt replies;

ii. Effective use of the myLMS forum as a communication platform;

iii. Encourage learners to interact with the other course mates;

iv. Contribute and stimulate new ideas among learners;

v. Provides timely and quality feedback; and

vi. Answers questions posted in a committed attitude.

3. Findings and Discussion

A total of 30 tutor forums were observed and rated on CoI's three elements: namely, teaching presence, social presence and cognitive presence. The overall results are as follows (Table 1):

Table 1: Mean score for each CoI elements

Characteristics of Teaching Presence	Mean Score
Teaching presence	2.94
Social presence	3.60
Cognitive presence	3.16
Overall means	3.19

It is observed that Social Presence is the highest (mean score of 3.60) indicating learners are comfortable interacting with their peers via online forum, hence collaborative learning does take place. We did observe many circumstances where learners help other learners to understand certain concepts or topics. This result concurred with Rourke & Anderson (2002) where their study revealed that students preferred peer interactions to the instructor. It is also worth noted that there is an improvement in the level of peer interaction compared to study done by Othman et al. (2005) on OUM learners. The increase in peer interaction is due to many factors such as improved and stable myLMS platform, affordable computer peripherals, increase in computer skills and literacy, fast internet access (wireless and broadband), increase accessibility to information, and online communication has become second nature to almost everyone.

Cognitive Presence scored a 3.16, close to the neutral score of 3, indicating a balanced agreement and disagreement of the existence of triggering events, exploration, integration and resolution characteristics in the online forum. Even though Cognitive Presence is an important component, however in this study a neutral score is expected. The subject chosen is a foundation subject that only introduces fundamental concepts and does not require higher level application of mathematical concepts, and hence the exploration, integration and resolution characteristics cannot be observed in the majority of learners.

As Teaching Presence is the core role of the online instructors, hence from our observation, the score of 2.94 is a distress signal for effective learning to take place. In an ODL environment, teaching presence is vital as it can make a significant difference in the engagement and attention of learners. Learners need clear guidance, feedback, and motivation from their instructors in order to manage their self-learning effectively. Therefore, this study will focus on the three characteristics of Teaching Presence in order to make learning experience via online forum more meaningful, enjoyable and satisfying.

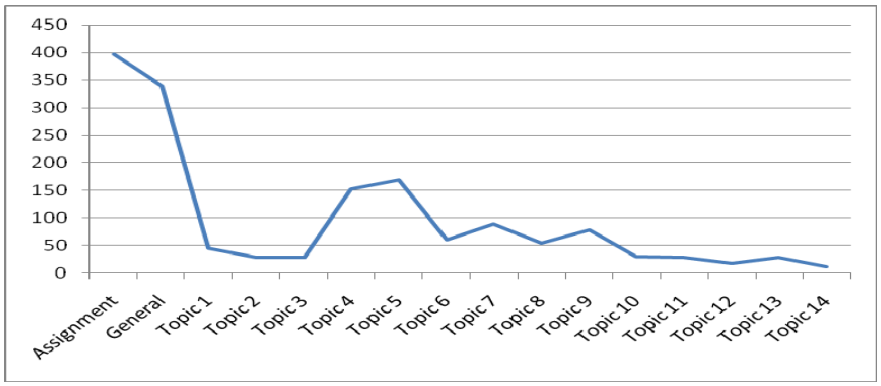
Table 2: Mean Score of Teaching Presence Characteristics

Characteristics of Teaching Presence	Mean Score
Design and Organisation	2.78
Facilitation	2.97
Direct Instruction	3.08

From the result (Table 2) it is observed that Design and Organisation characteristics in Teaching Presence scored 2.78 indicating the online instructors are weak in planning and designing their courses. We observed that the majority of the online instructors have inadequately disseminated the information such as course goals, important topics and also clear instructions on how to participate in online learning activities. It is found that approximately more than 50 percent of the online instructors did not emphasize the important course goals and topics in their communication to the learners.

The mean score for facilitation is 2.97; indicating that online instructors have not played their role adequately in setting the right atmosphere for online learning to take place. It is observed that a majority of the online instructors are only active in discussing assignments and earlier topics. Participation rate for later topics became minimal and infrequent (Figure 2).

Figure 2: Instructors Posting Trend (BBMP1103) for Jan 2008 Semester



Other factors that may contribute to the lack of Teaching Presence among these groups of online instructors are:

i. Instructors possess different teaching styles and teaching preferences;

ii. Instructors are newly appointed, thus lacking experience in online teaching;

iii. Senior instructors are complacent and hence do not utilise online teaching effectively; and

iv. Instructors lack ICT skills and literacy, thus unable to make the most of myLMS forum.

The different number of students for each forum is the limitation for this study. This is due to the number of tutorial classes assigned to tutors as certain tutors are given more than one tutorial. Besides, there were inconsistency in the posting frequency by both learners and instructors. 40.9 percent of the learners made between 0 – 5 postings during the period of observation, this includes 19.1 percent of learners who did not participate at all (Table 3). While out of 30 instructors, 43.3 percent made less than 30 postings (Table 4).

Table 3: Frequency of Learner Posting for BBMP1103 online forum for Jan 2008 Semester

Frequency of Posting	Number of Learners	Percentage (%)
0	156	19.1
1 – 5	178	21.8
6 – 10	135	16.6
11 – 15	108	13.3
16 – 20	84	10.3
> 21	154	18.9
	815	**100.0**

Table 4: Frequency of Online Instructor Posting for BBMP1103 online forum for Jan 2008 Semester

Frequency of Posting	Number of Instructors	Percentage (%)
1 – 10	6	20.0
11 – 30	7	23.3
31 – 50	5	16.7
51 – 99	7	23.3
> 100	5	16.7
	30	**100.0**

4. Suggestions and Recommendations

As the result of the above findings, we have made several suggestions and recommendations based on current practices of online learning. We hope the incorporation of these measures in OUM teaching of BBMP11003 via online mode will enhance the effectiveness of its forum.

Firstly, it is necessary to add Equation Editor command in the forum. We observed that online instructors and learners faced difficulties to express

mathematical functions in the normal forum interface. The Equation Editor must not be a hindrance by slowing down the system. Online instructors must be trained to use them, and they in turn should be able to train their learners.

Secondly, tools that enable online instructor to reply via audio or video (web cam) feedback should be added to myLMS forum. Ice et al. 2007 study indicate that audio feedback can enhanced learning; and from the instructors perspective, audio feedback can reduce the time required for instructors to provide feedback compared to texts reply.

Thirdly, SME are advised to prepare and provide additional exercises/ worksheet with answer keys to be uploaded in the forum. This is to enhance the learners' skills in solving mathematical problems and to increase the level of communication among peers and between tutors-learners as well. In addition, tutors are encouraged to provide constructive comments on students' answers on the exercises uploaded.

Finally, frequent reminder through short messaging system (SMS) can be sent to all instructors by the Centre for Tutor Management and Development (CTMD) e.g. fortnightly basis. This is to ensure online instructors are active, responsive and consistent in their postings or participation level throughout the semesters.

5. Further Research

This study is a pilot research on the effectiveness of myLMS forum for BBMP1103. We propose to further this research by investigating the correlation of the effectiveness of myLMS forum and learners' performance for that semester. This future study can further explain the importance of the online forum to learners' performance in order to enhance the teaching and learning process.

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ANALYSING STUDENTS' PERCEPTION ON THE EFFECTIVE TUTORS USING FUZZY SET OF GROUP DECISION MAKING

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ABSTRACT

This study is carried out to analyse learners' perception of effective tutors in Open University Malaysia (OUM) based on various criterion that we have identified. We analysed their perception using method known as Fuzzy Set of Group Decision Making Model. This method usually conducted in a multi-criteria environment, which mostly dependent on the subjective judgment of decision makers and is influenced by the uncertainty and vagueness of each individual preference. The model is proven suitable for quantifying imprecise information, reasoning and decision making based on vague data. This study aims to provide OUM an insight look and further knowledge on the attributes of effective tutors. It can be used as a rule of thumb when appointing external tutors. Effective tutors are vital in enhancing and achieving the objectives of teaching and learning process. The findings show that the proposed evaluation model allows decision makers to express their opinions about tutors' performance by using a more realistic qualitative and fuzzy decision making. It is a suitable tool that can assist decision makers to better evaluate tutors in order to select suitable and effective tutors so that teaching and learning process can takes place.

Keywords: Fuzzy Set Of Group Decision Making, Effective Tutors, Decision Makers, Linguistic Variable, Triangular Fuzzy Number, Group Decision Making

1. Introduction

Distance education is becoming one of the most widespread and prevalent modes of continuing and furthering education. Teaching in open and distance mode is an extremely challenging function. Tutors and teaching staffs' support is essential for learners to successfully engage in the learning process. Due to recent developments in education such as demanding parents or students, governmental policy with respect to accountability and accreditation, education providers had increased their efforts to measure and improve the effectiveness of the educational processes they offered. As a result of this, there is a growing need for an instrument or procedure that can be used to measure the effectiveness of teaching and learning specifically for open and distance learning (ODL) institutions.

Tutors' role are significant to enhance teaching and learning in open and distance institutions because tutors are the one whom interact directly with learners. An effective tutor would be able to lead a group of learners through analysis phase and discussion regarding practical and realistic theories that are likely to be encountered. Effective teaching produces beneficial and purposeful learner learning through the use of appropriate procedures, Diamond (1987).

Meanwhile according to Wotruba and Wright (1975), effective tutors should demonstrate (i) knowledge of subject and enthusiasm in teaching, (ii) good organisation of subject matter, (iii) effective communication (iv) positive attitudes toward students, (v) fairness in evaluation and grading and (vi) flexibility approach in teaching.

This paper identify the factors that are important to learners on their tutors using Fuzzy Set of Group Decision Making Model for January 2008 learners in OUM without gender and subject taken as consideration. Two important steps in Fuzzy Set of Group Decision Making Model are identifying the characteristics of effective tutors and determining the weightage of each characteristic given by learners. However, students' perception of the characteristics will varies due to individual personality, learning style preference etc. It is very subjective and it may be perceived differently by different learners for a particular tutor. What are the main attributes of effectiveness seek by Open University Malaysia learners in their tutors? Parayitam, Desai and Phelps (2007) study showed there is an extremely high correlation between construction of the course content, communication, satisfaction and effectiveness.

It is a widely accepted practice for most American universities and colleges to use student's evaluation of faculty (SEF) to measure instructional effectiveness of tutors. On the positive side, academicians, argue that the SEF are highly reliable, moderately valid, and can assist tutors in improving their methods of instructions. Available empirical evidence suggests that learners' ratings can lead to changes in course delivery and thus making it a favourable method of evaluation (Mc Keachie, 1996). On the other hand, critics argue that (i) SEF are biased in that learners tend to give higher ratings when they expect higher grades in the course, (ii) SEF encourage tutors to lower down the level of courses to keep learners happy at all costs (iii) SEF ratings are often leveraged by cosmetic factors that have no effect on student learning, and (iv) SEF are a threat to academic freedom in the sense tutors may feel inhibited from discussing controversial ideas and presenting challenging questions to students because they fear that learners may express disagreement through SEF (Braskamp & Ory, 1994). Despite these arguments, SEF continue to be an important and frequently used approach in assessing tutors' performance in most higher learning institutions.

Edward Sheffield (1974) had listed ten characteristics of effective teachers most often mentioned for teaching in universities are:

- Master of the subject;
- Lectures well prepared;
- Subject related to life , practical;
- Students' questions and opinions are encouraged;
- Enthusiastic about the subject;
- Approachable and friendly;
- Concerned for students' progress;
- Has sense of humour, amusing;
- Warm, kind, sympathetic; and
- Teaching aids used effectively.

Feldman (1988) further described the characteristics of "Best" or 'Ideal" teachers as:

- sensitive to and concern with class level and progress;
- prepared and organised the course;
- knowledge of the subject;
- enthusiastic;
- clear explanation;
- available and helpful;

- fair;
- impartiality in the evaluation of students; and
- the quality of examinations

According to Siti Rahayah and Noriah (2002), preparation, delivery style, skills, enthusiasm and evaluation are the characteristics to be considered to form and deliver an effective teaching.

The main objectives of this pilot study are to:

- identify the characteristics of effective tutors based on OUM learners' perception;
- determine the weightage of each characteristic; and
- provide knowledge and awareness to OUM in appointing external tutors.

Bortolan & Degani (1985) and Wang & Kerre (2001) have comprehensively discussed on the use of fuzzy set ranking methods. Each method has its pitfalls in some area; this is due to inconsistency of human intuition, indiscrimination and difficulty of interpretation. All these factors contributed to the belief that a unique or best fuzzy set ranking method is of non-existence. Bortolan and Degani, 1985 suggested a reasonable ranking method adopted must account for several characteristics: complexity, robustness, flexibility, transitivity, and ease of interpretation. These characteristics are detailed as follows:

- Complexity means the amount of computation and the difficulties in implementing the ranking method;
- Robustness refers to the ability of consistent ranking for a diversity of cases, including the ability to compare fuzzy and crisp numbers;
- Flexibility means the ability to compare different shapes of fuzzy numbers and allow participation of decision makers in the process;
- Transitivity refers to the ability of giving a consistent conclusion in the comparison of more than two fuzzy numbers; and
- Ease of interpretation is important to decision-makers.

2. Conceptual Framework

Computational matrices and vectors are used to analyse 47 samples with 9 characteristics modified from Edward Sheffield (1974). The 9 characteristics are defined as follows:

A_1 : Mastering the subject, competent
A_2 : Teaching materials are well prepared and orderly
A_3 : The subject is related to life, practical
A_4 : Students' questions and opinions are encouraged
A_5 : Enthusiastic about the subject
A_6 : Approachable, friendly
A_7 : Concerned for students' progress of the subject
A_8 : Tutor has a sense of humour, amusing
A_9 : Teaching aids are used effectively

The data collected were analysed by using the fuzzy set model. The fuzzy set model for group decision making was introduced by Zhou et al. (1997) which combines the individual selection and later aggregate it by group. Fuzzy set A in the universal set X , is

characterised with the fuzzy membership function μ_A that took the value in the closed alternate [0, 1], which is $\mu_A : X \to [0,1]$. μ_A represents the membership value for x inside *A*. Fuzzy set *A* in X can be represented by pairwise for element x and the value of its membership is $A = \{(x, \mu_A(x)) | x \in X\}$. Dubois and Prade (1980) also provided definition to the triangular fuzzy number: fuzzy number *M* in $\mathbf{R}$ becomes triangular fuzzy number if its membership functions $\mu_A(x) : \mathbf{R} \to [0,1]$ are:

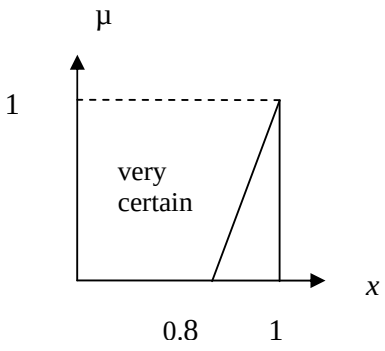
$$\mu_A(x) = \begin{cases} \dfrac{x}{m-1} - \dfrac{1}{m-1}, & x \in [l, m] \\ \dfrac{x}{m-u} - \dfrac{u}{m-u}, & x \in [m, u] \\ 0, \quad \text{others} \end{cases}$$

with $l \le m \le u$. Symbols such as *l*, *m* and *u* respectively known as the lower value, mid value and upper value for *M*.

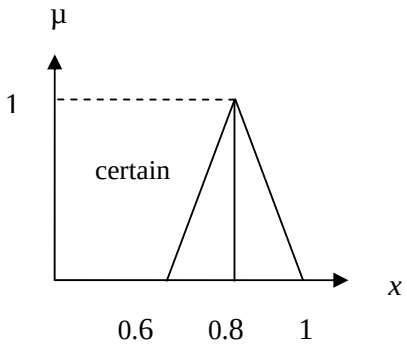
Let $A = \{A_1, A_2, ..., A_m\}$, $m \ge 3$ be the definite criteria set and $L = \{L_1, L_2, ..., L_n\}$, $n \ge 2$ are decision makers. Each decision maker can have the same or different preferences with the condition of weightage is $Q = (q_1, q_2, ..., q_n)$, $\sum q_i = 1$. The main procedure is individual preference; combining selection method and fuzzy set theory. There are 4 steps to be taken in order to analyse the data collected using fuzzy set model.

Step 1 :
For each criterion $A_j, (j = 1, 2, ..., m)$, the decision makers or learner must determine which criterion is important (1) and least important (0). This grading is subjective for each learner. They have to indicate a reliability value for each criterion for each statement : very certain, certain, uncertain or very uncertain. The level of certainty is shown by the linguistic value in Figure 1, where μ is membership function of linguistic value and *x* is linguistic variable.

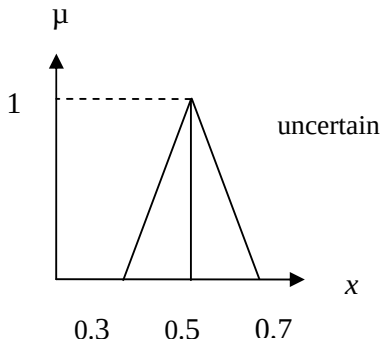
Figure 1 : The Fuzzy Membership Value of Linguistic Variable



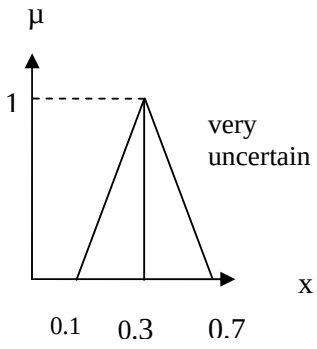
Max $\{x \mid m_b{}^{g_j}(x) = 1\} = 1$



Max $\{x \mid m_b{}^{g_j}(x) = 1\} = 0.8$



Max $\{x \mid m_b{}^{g_j}(x) = 1\} = 0.5$



Max $\{x \mid m_b{}^{g_j}(x) = 1\} = 0.3$

Step 2 :

All the individual judgment vector and individual reliability vector will be composed via group judgment matrix $\left[v^{g}{}_{ij}\right]$ and reliability matrix $\left[b^{g}{}_{ij}\right]$ with $v^{g}{}_{ij} \hat{\mathbf{I}} \{0,1\}$ and $b^{g}{}_{ij} \hat{\mathbf{I}} \mathbf{Z}$, $(i = 1,2,...,n;\ j = 1,2,...,m)$. Since there are 47 respondents in this study, the weightage of each decision maker is the same, which is $1/47$. The aggregation $v^{g}{}_{ij}$ and $b^{g}{}_{ij}$ are determined by the following operations:

$$\boldsymbol{v}^{g}{}_{j} = w_1 * v_{1j} + w_2 * v_{2j} + ... + w_n * v_{nj}$$

$$\boldsymbol{b}^{g}{}_{j} = w_1 \bullet b_{1j} \oplus w_2 \bullet b_{2j} \oplus ... \oplus w_n \bullet b_{nj}$$

where $\bullet$ = addition operation for fuzzy linguistic value
$\oplus$ = multiplication operation for fuzzy linguistic value.
w = weightage of each decision maker

Step 3:
Both vectors are integrated into a group preference vector $\boldsymbol{r}_j$, where

$$\boldsymbol{r}_j = \boldsymbol{v}^{g}{}_{j} * \text{Max}\ \{x \mid m_{b^{g}{}_{j}}(x) = 1\},\ (j = 1, 2, \ldots, m).$$

Step 4:
The above vector will be in the ascending order for all alternatives scores so that a group decision can be obtained.

3. Findings and Discussions

These 9 criteria, $A = \{A_1, A_2, A_3, ..., A_9\}$ are ranked and there are 47 decision makers $P = \{P_1, P_2, P_3, ..., P_{47}\}$ with the weightage $Q = \left(1/47, 1/47, 1/47, ..., 1/47\right)$.

Thus, we obtained the fuzzy judgment matrix as below:

$$\boldsymbol{v}^{g}{}_{j} = \left(1, 1, 0.8, 0.7, 0.8, 0.9, 0.9, 0.7, 0.9\right),$$

and the reliability matrix will be transformed to fuzzy numbers:

$$\boldsymbol{b}^{g}{}_{j} = \begin{pmatrix} (0.7,0.9,1), (0.7,0.9,1), (0.5,0.7,0.8), \\ (0.5,0.7,0.8), (0.5,0.7,0.8), (0.6,0.8,0.9), \\ (0.6,0.8,0.9), (0.5,0.6,0.7), (0.6,0.8,0.9) \end{pmatrix}$$

Hence, we obtained

$$\text{Max}\{x \mid m_b{}^g{}_j(x)=1\}=(1,1,0.8,0.8,0.9,0.9,0.7,0.9).$$

Then, we will obtain the group preference vector by the following formula:

$$\boldsymbol{r}_j = \boldsymbol{v}^g{}_j * \text{Max}\{x \mid m_b{}^g{}_j(x)=1\},\ j=1,2,...,9.$$

it yields

$$\begin{aligned}\boldsymbol{r}_j &= (1,1,0.8,0.7,0.8,0.9,0.9,0.7,0.9)*(1,1,0.8,0.8,0.9,0.9,0.7,0.9)\\ &= (1,1,0.64,0.56,0.64,0.81,0.81,0.49,0.81).\end{aligned}$$

The result of $\boldsymbol{r}_j$ is interpreted in Table 1 below:

Table 1: The Important Criteria Results

Criterion	Weight	Importance
Mastering the subject, competent	1	1
Teaching materials are well prepared and orderly	1	1
Teaching aids are used effectively	0.81	2
Approachable, friendly	0.81	2
Concerned for students' progress of the subject	0.81	2
The subject is related to life, practical	0.64	3
Enthusiastic about the subject	0.64	3
Students' questions and opinions are encouraged	0.56	4
Tutor has a sense of humour, amusing	0.49	5

The result summarised in Table 1 show OUM learners chose mastering of the subject and adequate preparation for teaching materials as the most important characteristics of effective tutors (value 1). Learners need knowledgeable tutors who cared for their learning and guide them as individuals to move their knowledge forward. This is followed by the characteristics of the tutors: approachable and concerned for students' performance. Ability to use teaching aids effectively are also ranked as important. In other words, learners appreciate tutors who knew their subject well, organised and have an interesting teaching style. Learners ranked relationship with tutors as second priority as they appreciate tutors who were easy to be with and helped them to learn. Thus, tutors have to be interactive, supportive as well as able to communicate effectively with learners. However, learners are less appreciative of tutors who a humorous and providing jokes all the time in the class to gain the learners' attention.

4. Suggestions and Recommendations

The themes that emerged from this empirical study shows learners value their tutors and the quality of their educational experience are influenced by tutors' expertise and guidance in the classroom. They need knowledgeable individuals who cared for their learning and guide them as individual in the learning process in order to obtain or acquire further knowledge. Individual teaching excellence needs to be promoted and sustained by higher institutions themselves by ensuring that the right tutors are employed for the right subjects.

Learning institution should aim to add value to its excellent tutors so that they can easily continue to meet the needs of the institution's stakeholders (Clark et al, 2002). Tutors must be given opportunities to reflect their teaching skills upon their teaching experiences and general pedagogical issues through teaching and learning programmes conducted. These can be further supplemented and complemented by discipline-specific workshops which encourage the sharing of ideas amongst the participants.

Based on our findings, we would like to make several recommendations:

1. OUM must take steps to encourage learners evaluate their tutors each semester;
2. The result of learners' feedback or evaluation of tutors must be known to tutors, this is to ensure that tutors know their weaknesses and hopefully they will try to improve their teaching approach in the following semester;
3. Working relationships between faculty and Centre of Tutor Management and Development (CTMD) must be enhanced. Immediate action must be taken on receiving the feedback from tutor monitoring activities by lead tutors. This will ensure weak tutor can be given remedial training and also good tutors to be identified for future appointment;
4. Faculty should conduct mock tutorial session during the selection of tutors to ensure they are able to impart knowledge and assist learners;
5. Centre of Tutor Management and Development (CTMD) should organise tutor training at least twice a year (particularly before January and September semester); and
6. OUM must continuously improve of the facility and infrastructure available at the learning centre. Ensure the availability and adequacy of quality teaching for example Overhead projectors, LCD projectors, extension cables, clean duster, white boards etc.

Further Research

This pilot study can be a pathway for another research on a parallel level with several chosen tutors using Fuzzy Analytical Hierarchy Process (AHP) model in order to ensure the criterion identified in this study.

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AN EMPIRICAL STUDY ON THE EFFECT OF LEARNING SKILLS WORKSHOP ON LEARNING READINESS IN AN ODL ENVIRONMENT

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ABSTRACT

Learners in higher education institutions require a set of learning skills in order to cope with their studies. This is even more crucial for ODL learners, majority of whom are working adults with multiple commitments. At Open University Malaysia (OUM), Malaysia's first ODL institution, a Learning Skills Workshop is conducted for new learners to assist them in adapting to their new learning environment and to equip them with the relevant skills to be an effective ODL learner. This paper examines the effect of the Learning Skills Workshop on the learning readiness of OUM learners. The study employs a survey approach using a set of 40 close-ended questionnaires distributed to 263 learners in four learning centers across the country. Pearson Correlation, Independent Sample t-Test and Stepwise Regression Analysis were carried out using the SPSS version 11.5 for Windows. The results showed that the workshop contents, namely, ODL Concept, Time Management, Assignment Preparation, ICT and using LMS have a positive impact on the level of learning readiness. The results also indicated that learners' level of satisfaction towards the conduct of the workshop, its perceived benefits derived from it and learners' self-confidence arising out of it have a positive influence on learning readiness. Out of the eight variables, only four explained 58 percent of the variation in the level of learning readiness. The variables are ODL concept, LMS, self-confidence and the level of satisfaction. The study thus indicates that the Learning Skills Workshop has been effective in enhancing learning readiness among new learners. This result concurs with that of another study on the efficacy of learning skills workshop on new students at OUM (Latifah & Jamaludin, 2007)

Keywords: Open And Distance Learning (Odl), Learning Skills Workshop, Learners' Level Of Readiness

INTRODUCTION

More and more working adults have opted for Open and Distance Learning (ODL) as a means of upgrading their paper qualifications, knowledge or skills as part of a life-long learning process. Open University Malaysia (OUM), Malaysia's first Open and Distance Learning institution, offers many interested individuals, particularly working adults, the opportunity to continue their studies. The majority (>95%) of OUM learners are working adults and as part-time learners they have to juggle with multiple commitments and schedules in order to cope well with their studies. They are distributed throughout the 63 learning centers across the country, and being distant from the main administrative centre, there is always the risk of learners experiencing isolation and alienation from the institution, feeling of being deprived of the services and staff that can be of valuable assistance to them. This sense of isolation can contribute to low motivation, learning ineffectiveness, poor academic achievement, negative attitudes and overall dissatisfaction with the learning experience. It can also be compounded if learners are not equipped in advance with a set of self-directed skills such as self-discipline, time management and self-managed learning, to mention a few.

To address the challenges that the new learners may face on entering OUM, the Centre for Student Management (CSM) introduces the Learning Skills Workshop (LSW), a program which focuses on promoting student achievement, success and persistence. The program is conducted jointly/collaboratively with the counseling unit, faculties and learning centers and is structured to provide an array of information that allows learners to make informed decisions, establish realistic goals and assess their own circumstances. Basically the workshop is to help learners develop appropriate expectations initially and then to ensure that the quality of learners' experience, once they are already in is as positive as possible. Activities conducted in the workshop include individual and small group counseling, study skill instruction, and basic coverage on myLMS (OUM's e-learning platform) and Digital Library.

This paper investigated the impact of LSW on learners' learning readiness in OUM's ODL environment. It investigated the impact of a total of eight independent variables which include five independent variables of workshop content: (i) ODL concept, (ii) Time Management, (iii) Assignment Preparation, (iv) Information and Communication Technology (ICT) and (v) Learning Management System (myLMS), and three other independent variables (vi) learners' perceived satisfaction towards the workshop, (vii) perceived benefits derived from the workshop, and (viii) self confidence arising out of the workshop, on learners' level of readiness in pursuing their studies.

RESEARCH OBJECTIVES

The objective of the research was to gauge the impact of the study skills workshop on the learners' level of readiness in pursuing their studies at OUM. The research examined the impact of the content of the workshop on the level of learners' readiness. The relationships between the learners' perceived benefits, satisfaction, self confidence and their level of readiness after going through the workshop were also investigated.

To guide the research, five questions have been developed as follows:

Q1: Is there any effect of the *workshop content* (ODL concepts, Time Management and Assignment Preparation, ICT and accessing and using the LMS) on ODL learner's learning readiness in pursuing their studies?

Q2: Is there any effect of ODL *learner's satisfaction* towards the conduct of the workshop on ODL learner's learning readiness in pursuing their studies?

Q3: Is there any effect of ODL learner's *perceived benefit* of the workshop on ODL learner's learning readiness in pursuing their studies?

Q4: Is there any effect of ODL learner's *self confidence* as a result of the workshop on ODL learner's learning readiness in pursuing their studies?

Q5: What factors best explain the variation in the level of ODL learner's learning readiness in pursuing their studies?

LITERATURE REVIEW

Open and Distance Learning is becoming more and more popular among working adults. However, it continues to be challenging to fully engage all these learners. According to Dam (2004), different learners show different adoption rates and that older learners are more resistant to e-learning. In his research on moving from traditional learning to flexible mode of delivery, Holley (2002) noted that the change which involved replacing contact hours in a course with online interactions is not readily accepted by students.

According to Pillay, Irving and Tones (2007), many institutions that have adopted online learning pay little attention to the personal and technical skills of learners that are required of students to achieve academic achievement and satisfaction. Lotze (2002) pointed out that adult learners returning for academia after a long absence from it often experience high level of discomfort with technology. Paloff and Pratt (2001) opined that learners must be given clear guidelines otherwise they will become confused and disorganized and their learning process will suffer. According to Lynch (2001), without such training, faculty will be spending excessive time troubleshooting problems related to technology while learners experience frustration and diminished self esteem.

According to Tinto (1993), orientation programs have significant impact on the adjustment of new students to their new learning environment, culture and requirement. The mission or role of orientation programs according to Greenlaw, Amliker and Barker (1997) is to provide continuing services and assistance that will help students in their transition to new learning environment, expose them to the broad educational

opportunities of the institution and integrate them into the life of the institution. Zieger (2005) noted that there was an increased interest in the research on the impact of orientation programs on undergraduate students during 1980s, where institutions begin to see the importance of such programs on students' satisfaction and retention. Dessler (2003) opined that an ideal orientation program should be able to make students feel comfortable, understand the university's culture and environment, expectation and goals and become socialized into the system. Tinto (1993) termed these efforts as academic and social integration, which have impact on students' decision to persist in their programs. Thus, many ODL institutions introduce orientation programs to improve on their students' learning readiness in this new learning experience.

METHODOLOGY

The research instrument

The research was conducted using a structured 50-item closed-ended questionnaire divided into 3 sections. *Section One* comprises of 20 questions related to the level of understanding of the workshop content on five areas namely ODL Concept, Time Management, Assignment Preparation, ICT and using LMS. *Section Two* comprises of 20 questions on learners' level of Readiness. Response for these questions is based on five-point Likert scale with "5" indicating "Strongly Agree" and "1" for "Strongly Disagree". *Section Three* consists of 10 questions on learners' demographic, socio-economic, academic information, satisfaction on the conduct of the workshop, perceived benefit from the workshop and learners' self confidence after attending the workshop.

The Sample

The sample comprises of 263 randomly selected participants of OUM's Learning Skills Workshop conducted in four different learning centers throughout Malaysia. The questionnaire was administered towards the end of the workshop. The data collected were then analyzed using the Software Package for Social Sciences (SPSS) version 11.5 for Windows.

The Variables

The dependent variable is defined as "Learner' Learning Readiness" and is measured by obtaining the mean score of *Section Two* of the questionnaire. Mean score of four and above indicates a high level of learning readiness and mean score below four indicates a low level of learning readiness.

The independent variables are categorized into two groups. The first group relates to the content of the workshop. These are ODL, Time Management, Assignment, ICT and myLMS. The second group relates to the feedback as a result of attending the workshop and the outcome of the workshop itself. These are learners' level of satisfaction on the workshop, perceived benefits of the workshop and self-confidence after attending the workshop.

The Analysis

The Cronbach's Alpha value was used to confirm the questionnaire's reliability. The Pearson Correlation was used to determine the linear association between the eight independent variables and the dependent variable. To find if there is a significant difference in the mean scores for the five independent variables between learners who score high and low in readiness, the independent samples t test was used. High score in the level of readiness is defined as the mean score obtained for readiness greater or equals to 4.0 on a scale of one to five. Finally, a stepwise regression analysis was conducted to determine which of the independent variables best explain the variation of the learners' level of readiness.

RESULTS

The Profile of Respondents

A total of 263 responses were received from participants located in four different learning centers throughout Malaysia. Of these total, 131 are males and 132 females. In terms of age group, 169 or 64.3 percent of them are within the age of 18 to 30, 59 (22.4 percent) are within the age of 31 to 40, 26 (9.9 percent) are within the age of 41 to 50 and the balance 9 (3.4 percent) are above 50. The samples also comprised of 61.6 percent Malays, 11 percent Chinese, 12.9 percent Indians and 14.4 percent other ethnic groups.

The samples also consisted of 58.6 percent who are still single, 39.9 percent married and 1.1 percent divorced. Working adults make up of 85.9 of the samples with 3.4 percent unemployed and 10.7 percent involved in business or self-employed. It was also found that 65.4 percent of the samples financed their own studies. In terms of entry qualifications, 38 percent of the samples enrolled via direct entry and 62 percent through open entry.

Cronbach's Alpha of the instrument used was 0.87 indicating that the questionnaire has a high degree of internal consistency or reliability.

Q1: Is there any effect of the workshop content (ODL concepts, Time Management and Assignment Preparation, ICT and accessing and using the LMS) on ODL learner's Readiness in pursuing their studies?

The results of the Pearson Correlation Test obtained indicated that there are strong and significant correlation between the five independent variables and the level of readiness. Thus the contents delivered in the workshop have a positive relationship with the level of learning readiness. (See table 1).

Table 1: Pearson Correlation between Workshop Content and Level of Readiness

		ODL	Time Management	Assignment	ICT	LMS
Readiness Level	Pearson Correlation	.599(**)	.497(**)	.514(**)	.476(**)	.509(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000

*** Correlation is significant at the 0.01 level (2-tailed).*

Table 2: Independent Samples T Test with Level of Readiness as the Dependent Variable

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
ODL	7.555	261	.000	.3622	.04794	.26783	.45664
Time Management	5.089	261	.000	.3180	.06248	.19493	.44101
Assignment	6.542	261	.000	.4318	.06600	.30180	.56171
ICT	5.754	206.452	.000	.3674	.06386	.24155	.49334
LMS	5.857	261	.000	.5073	.08662	.33674	.67786

The independent samples t test results in Table 2 shows that there is a significant difference between the mean score for ODL, Time Management, Assignment, ICT and LMS between samples with high and low level of readiness. Thus the workshop content (ODL, Time Management, Assignment, ICT and LMS) has an impact on learner's level of readiness.

Q2: Is there any effect of ODL learner's satisfaction towards the workshop conduct on ODL learner's Readiness in pursuing their studies?

The Pearson correlation between learners' satisfaction towards the conduct of the workshop and the level of readiness was found to be 0.480 and significant at the 0.01 level (2-tailed). (See table 3).

Table 3: Pearson Correlation between Workshop Satisfaction and Level of Readiness

		Workshop Satisfaction	Readiness Level
Workshop Satisfaction	Pearson Correlation	1	.480(**)
	Sig. (2-tailed)	.	.000
Readiness Level	Pearson Correlation	.480(**)	1
	Sig. (2-tailed)	.000	.

*** Correlation is significant at the 0.01 level (2-tailed).*

The independent samples t test obtained indicated that there is a significant difference between workshop satisfaction and learner's level of readiness. (See table 4). Thus learner's satisfaction towards workshop conduct has an impact on learner's level of readiness.

Table 4: Independent Samples T Test for Workshop Satisfaction with Level of Readiness as the Dependent Variable

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Workshop Satisfaction	5.783	261	.000	.4501	.07783	.29688	.60341

Q3: Is there any effect of ODL learner's Perceived Benefit of the workshop on ODL learner's Readiness in pursuing their studies?

The Pearson correlation between learners' perceived benefit of the workshop and the level readiness was found to be 0.437 and significant at the 0.01 level (2-tailed). (See table 5). The independent samples t test obtained indicated that there is a significant difference for workshop satisfaction between learners with high and low level of readiness. (See table 6). Thus learner's perceived benefit towards workshop conduct has an impact on learner's level of readiness.

Table 5: Pearson Correlation between Perceived Benefits of Workshop and Level of Readiness

		Perceived Benefit	Readiness Level
Perceived Benefit	Pearson Correlation	1	.437(**)
	Sig. (2-tailed)	.	.000
Readiness Level	Pearson Correlation	.437(**)	1
	Sig. (2-tailed)	.000	.

** Correlation is significant at the 0.01 level (2-tailed).

Table 6: Independent Samples T Test for Perceived Benefit with Level of Readiness as the Dependent Variable

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Perceived Benefit	5.220	253.455	.000	.4034	.07728	.25117	.55555

Q4: Is there any effect of ODL learner's Self Confidence as a result of the workshop conduct on ODL learner's Readiness in pursuing their studies?

The Pearson correlation between learners' self-confidence as a result of the workshop and the level of readiness was found to be 0.625 and significant at the 0.01 level (2-tailed). (See table 7) The independent samples t test obtained as shown in Table 8 indicates that there is a significant difference for self confidence as a result of the workshop between learners with high level of readiness and low level of readiness.

Q5: What factors best explain the variation in the level of ODL learner's readiness in pursuing their studies?

The R^2 value obtained from the regression analysis was 0.58. Out of the eight variables, only four; ODL concept, LMS, self-confidence arising out of the workshop and the level of satisfaction of the conduct of the workshop, explained the 58 percent variation in the level of readiness.

Table 7: Pearson Correlation between Self Confidence towards the Workshop and Level of Readiness

		Self Confidence	Readiness Level
Self Confidence	Pearson Correlation	1	.625(**)
	Sig. (2-tailed)	.	.000
Readiness Level	Pearson Correlation	.625(**)	1
	Sig. (2-tailed)	.000	.

** Correlation is significant at the 0.01 level (2-tailed).

Table 8: Independent Samples T Test for Self Confidence with Level of Readiness as the Dependent Variable

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Self Confidence	9.122	261	.000	.5491	.06019	.43056	.66761

CONCLUSION

The results of the study showed that the learning skills workshop, both in terms of contents and outcome of attending the workshop, has a positive impact on learner's learning readiness. The mean score of the five independent variables; ODL concept, Time Management, Assignment Preparation, ICT skills, and LMS have strong correlation with the learners' level of learning readiness. The independent samples t test showed that there is a significant difference in the mean score for these five independent variables between learners who score high and low on learning readiness. The findings of this empirical study also pointed out that learners' satisfaction, self confidence and perceived benefits after attending the workshop have positive impact on their learning readiness.

These research findings are important as it will help ODL institutions in addressing retention of ODL learners at an early stage. The findings concurred with the research findings carried out by Latifah and Jamaludin (2007) and Muilenberg and Berge (2005).

According to Latifah and Jamaludin (2007), participants of the workshop show positive impact after attending the workshop where the percentage of these learners sitting for exam and re-registering for the following semester is higher than those who did not attend the workshop. According to Muilenberg and Berge (2005), learners who displayed highest level of comfort and confidence in using online learning technologies have perceived significant fewer barriers in social interactions and motivation for studies. Out

of the seven causes of learners' departure from college as discovered by Tinto (1997) in his research, six are related to the degree in which learners connect and assimilate into the university.

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ATTRIBUTIONS OF HIGH ACHIEVING THAI UNIVERSITY STUDENTS PERCEIVING THEMSELVES AS FAILURES IN ENGLISH USAGE

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ABSTRACT

The study investigates the attributions of Thai undergraduate students in a university in Thailand who obtain satisfactory grades in English but perceive themselves as failures in English language learning. An interpretive approach is used, taking into account the subjective meaning which the participants convey. The study explores the students' reasons for seeing themselves as failed learners and their views on how to become better language learners, and on the benefits of English language learning. Research findings indicate that there are various reasons why the students view themselves as unsuccessful English learners. Implications are drawn regarding English language learning and teaching as well as learners' achievement, and for the development of the curriculum in the particular context investigated.

INTRODUCTION AND CONTEXTUAL BACKGROUND

Due to the rapid growth and competitive nature of international business in Thailand, English learning becomes more important for undergraduate students aiming to work in the business area. Significantly, English is seen more than just a tool to gain access to modern technology; it is "key to professional advancement" (NIER, 1994). Undergraduate students in this study context are required to register for only five selective English courses after passing the three compulsory foundation English courses. They have to study 36 courses altogether for their degree. Studying English, thus, is not their primary concern. Some students merely want to complete these courses with pass grades to comply with the degree requirement, while others just expect to obtain good grades. However, when nearly finishing their degree, they often realise how important the English language is for their future career and how weak their English proficiency is. Often, they know how to get good grades, but they do not know how to communicate in English well enough. Many of them then perceive themselves as failures in learning English. Moreover, a survey of entrepreneurs' views on the graduates of this research context shows that many of them with high grade point average demonstrate poor skills in English communication, and thus express a concern on the graduates' quality.

Grades are basically recognised as a measure of students' success and performance on a particular course attended. The main grading system of most universities in Thailand is based on credit points system (WHED, 2008). As Honigman (1997) remarks, grades are one of the major realities of higher education. Most students need high grades for advanced degree programmes and scholarships. In the Thai context, most undergraduate students believe that good grades are tickets to graduate schools and good employment. As a result, a fear of low grades puts enormous pressure on students. However, grades can merely reflect learners' performance rather than their true competence.

RATIONALE AND THEORETICAL FRAMEWORK

The researchers decided to investigate this area of attribution for two reasons. Firstly, we have access to undergraduate students in the university; as a result, this would be in turn very beneficial to curriculum planning in the work context, and the students' achievement in English learning. Secondly, during a pilot interview when three high achieving students took part, they reported perceiving themselves as failures. They felt that they could not successfully communicate although they obtained good grades on English courses. Hence, the specific research questions are formed: (1) '*What are the attributions for success and failure of students who obtain good grades but perceive themselves as failures in English learning?*'; (2) '*What are the students' views about how to become better language learners?,*' and (3) '*What are the benefits the students expect from learning English?'*

The theoretical framework within which this research is undertaken derives from constructivist theory. In the view of a constructivist, Bruner (1996) sees learning as an active process in which learners construct new ideas or concepts based upon their current and past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions. This view of knowledge does not reject the existence of the real world, but all that is seen are from interpretations of personal experience. This study focuses on the way in which learners construct their own interpretations of their successes and failures.

LITERATURE REVIEW

Attribution Theory

Attribution theory originated from the work of Heider (1944, 1958), although Weiner's (1986) work is widely acknowledged by a number of researchers in this area. Basically, this theory focuses on how individuals explain why a particular outcome occurred and how they make sense of it. Interest in attribution theory focuses particularly on the area of achievement: looking at what individuals believe to be the causes of success and failure. Williams and Burden (1999) hold the view that learners can understand what the causes of their success and failure are. If the causes of failure are seen as changeable, and the possible change is within learners' control, they could control their learning outcomes. In addition, attribution theory has been shown to be of potential importance for the construction of a motivational model of language learning (Oxford and Shearin, 1994) and language learning achievement (Gardner and Tremblay, 1995). In this regard, Jernigan (2004) believes that learners' reactions to learning difficulties also influence their motivation for language learning. When learners feel that they are bad at languages, these beliefs will decrease their motivation to study.

Attributions for success and failure

Educational psychologists define student attributions as perceived causes for success or failure (Schunk, 1991). Weiner et al. (1979) originally identified two dimensions of causal attributions: locus of control and stability. These two dimensions give rise to four perceived causes of success and failure at achievement tasks: ability, effort, task difficulty, and luck. Locus of control describes how individuals perceive success or failure; whether they see it as externally controlled or internally controlled (Rotter, 1966). Both Heider (1958) and Weiner (1985) view ability and effort as internal determinants of action or personal forces. Task difficulty and luck are classified as external determinants

of success or failure. Considering the dimension of stability, ability and effort are internal, stable factors whilst task difficulty and luck are external, unstable factors (Weiner, 1985). However, Jones and Nisbett (1971) contend that effort can be conceptualised as either an unstable attribute or a stable attribute. It depends on individuals and various situations. Several attribution researchers (e.g. Frieze and Snyder, 1980; McMahon, 1971; Weiner, 1985) have identified ability and effort as the main influences on achievement outcomes. Hence, students who attribute success to ability and effort tend to be far better in school than those who ascribe it to luck or other external factors (Weiner, 1985).

A number of studies (e.g., Dodds, 1994; Koun, 2005; Little, 1985; Weiner, 1985; Whitley and Frieze, 1985; Williams and Burden, 1999) have found that there are various reasons which people give for these successes and failures. These include attitude, motivation, negative emotions, anxiety, expectations, deteriorating performance, teacher competence, learning environment, and so forth. Dörnyei (1990) perceives that attributions about past failures can contribute to current motivation. Teachers should encourage students to see links between effort and outcome and to attribute past failures to a lack of effort, confusion or ineffective strategies. Therefore, when teachers know how to deal with these attributions, they can enhance learners' motivation and expectations for future success (Koun, 2005).

Attributions and affective reactions towards learning outcomes

Weiner (1985) believes that the attributions which people make for their outcomes determine the impact of success and failure on the individual. In terms of positive reactions, failed students tend to be more hopeful about future success when attributing their failure to luck or lack of effort rather than more stable factors like task difficulty or lack of ability. In addition, Oxford and Shearin (1994) remark that higher satisfaction occurs when success is self-attributed to internal factors. Students will be happier with themselves and their skills when they have created a successful performance because of effort and ability. Considering negative reactions, Crookes and Schmidt (1991) suggest that learners who attribute failure to their lack of ability, probably have a low estimate of their future success. This in turn may lead to failure related behaviour or negatively affect long-term success because students cannot stop a feeling of lower self-esteem and a sense of helplessness (Graham and Folkes, 1990).

No matter what caused the outcome, McMillan and Forsyth (1983) notice that people still experience a negative emotional state when they fail, and a positive emotional state when they succeed. When students consider their learning a failure because of a lack of effort or a lack of ability, they experience several emotional reactions including guilt, and pity (Weiner, 1986). Guilt is generated when someone fails due to an internal controllable cause (e.g. a lack of effort or negligence); and pity may be felt if failure is experienced and is perceived as deriving from an external, uncontrollable cause. High achieving students tend to have more positive feelings about success. They tend to ascribe failure to a lack of effort, and work harder and display greater performance. At the same time they are the most worried about failure (Litch and Dweck, 1984) and possibly think of themselves as not intelligent and unable to work effectively just because they are having some trouble with a task. To this point, some students perceive that the situation is out of control and nothing can be done (Dweck, 1999). As a result, they denigrate their abilities,

decrease their expectations, lower their persistence, and blame their lack of intelligence for the failures.

Controllability becomes important when learners are concerned about maintaining or improving their current levels of performance (Forsyth and McMillan, 1981). Successful learners assume that their success will occur again whilst failure learners expect to overcome their poor performance in the future. If, however, it is seen as uncontrollable, successful learners will be unsure of maintaining their achievement whilst failed learners tend to express negative expectations that their failures will be repeated due to internal and controllable factors.

How to become successful language learners

Willing (1985) proposes that each learner has a different style of learning. Less successful learners tend to be inactive (Wenden, 1985) and weakly employ the learning strategies of successful learners (Huang and Van Naerssen, 1987). The use of various language learning strategies has a profound affect on learners' success. Strategies are tools for the self-directed involvement which is necessary for developing communicative ability (Oxford, 1993). In order to become efficient at learning and using the target language as well as self-directing their effort, learners have to be aware of different learning strategies and regularly evaluate their learning process (Wenden, 1987). Japanese EFL students, for example, like to be told what to do and only do what is clearly essential to get good grades (Oxford, 1990). These attitudes and behaviours are likely to make learning more difficult and unsuccessful (ibid).

Research on attribution theory

Interesting research by Zhao et al., (1991) on the learning achievement of Chinese students has shown that feeling bad or worthless seems to increase anti-social and self-defeating behaviour. Similarly, Bempechat (1999) has found that lower achievers in Mexico are at risk for believing that their poor performance results from lack of ability, insufficient effort, and external factors such as bad luck. In this regard, if students do not think they have at least some ability, it makes little sense to them to invest effort in their learning.

Regarding causes of success and failure, similar evidence is presented by various studies of attributions in educational settings. In the study of Williams et al. (2004), UK learners' needs, motivation and self-awareness as learners were explored by focusing on learner perceptions of their successes and failures in foreign language teaching and learning. The findings indicate a clear link between control of their learning and success; the effect of disruptive behaviour and peer pressures, for instance. Interestingly, few of the attributions mentioned by the students relate to the notion of reward, or the value of learning a foreign language. Another research by Ireland (1998) reveals that individuals perceive the causes of success and failure differently. In addition, it is suggested that any future research should focus on attributions made for unsuccessful outcomes since it is most likely to produce non-motivated behaviour in subsequent learning.

Overall, failure in English learning seems to be a serious issue for students of English and in the Thai educational system. However, little attention has been paid to investigating Thai students' perceptions regarding their perceived failure outcomes.

METHODS

This qualitative study is based on an interpretive approach concerned with subjective meaning in a particular context (Cresswell, 1997). The research questions were developed from a particular context and the collected data analysed inductively. The results were mainly derived from interviews, while the questionnaires merely helped to select the participants with good grades in English but perceived themselves as failed learners in English. According to the grading system in Thai universities, students who obtain grades of A, B+, and B are considered as excellent, very good, and good respectively. Thus, this standard was employed to judge students with these grades as high achievers or successful learners.

PARTICIPANTS

125 Thai undergraduate students who were in the last year of study were targeted. They were studying in non English major programmes at a university in Thailand. According to the programme requirement, these students have to study at least five optional English courses after passing the three compulsory foundation English courses. From the closed and open-ended questionnaire results, there were 32 high achieving students with good grades in English courses but perceiving themselves as failures in learning English. Out of 32 students, 20 students were selected based on their willingness and availability for the semi-structured in-depth interview.

DATA COLLECTION METHODS AND PROCEDURES

Two data collection methods were employed: a closed and open-ended questionnaire, and a semi-structured in-depth interview. For the questionnaire, questions were asked about the participants' personal data and learning history of English including the grades obtained as well as their perceptions towards English language learning. The semi-structured in-depth interview enabled the researchers to prompt the interviewees to expand their ideas when they provided incomplete answers or too little information about the areas under investigation. The construct used in the development of the interview questions is based on attribution theory which states that reactions to success and failure are a function of the casual attributions used to explain why a certain outcome emerged and this serves as a basis of the questions used for the interview. To analyse the data from the interview, the main construct was identified and the transcripts were labelled. The participants' views were categorised in specific phrases, then natural groupings were formed and later discussed among the researchers to provide validity with the data.

FINDINGS AND DISCUSSION

The questionnaires merely helped to purposively select the 20 participants who obtained good grades of English but perceived themselves as failures in English language learning. Therefore, this section describes and discusses the results from the interviews.

<u>Question 1</u>: "Why do you perceive yourself as a failure in English language learning?"

Half of the participants pointed out that they were unable to use English to communicate in real situations as they were weak in listening and speaking skills. One of them expressed: *"When having to speak with a foreigner abruptly, I became stunned and couldn't speak out at that moment. I couldn't even understand what was said to me!"* Six students expressed that they were weak in putting basic knowledge of English into

practice. Two others considered that they did not achieve high enough grades. They felt grades of B+ and B did not satisfy them. Some also perceived that their English proficiency was unacceptable for undergraduate level. One of them explained: *"My English skills are not in an appropriate level of undergraduates. I feel that my ability to speak is immature and my vocabulary is limited."*

The participants generally perceived their learning outcomes in English as failures. The major problem was the inability to communicate. They attributed the causes of failures mostly to themselves. According to Williams and Burden (1999), learners can understand what the causes of their success and failure are. If they perceive the causes of failure as changeable and that they can control the change, then they could control their learning outcomes; for example, they could improve themselves by making greater effort to practice more. Additionally, it is possible that some participants aimed too high and were unhappy with what they perceived as failure outcomes. This is in accordance with Litch and Dweck (1964), claiming that many high achieving learners tend to be worried about failure and possibly think of themselves as unable to work effectively.

Question 2: "Are you satisfied with the grades obtained?"

The majority of the respondents reported that they were satisfied with the grades received. Many of them saw those grades were due to their effort. Three other students believed that the grades obtained corresponded to the grading system of the university. This can be illuminated in the following response: *"I'm happy with those grades although some teachers possibly add their personal criteria when grading. Anyway, it is acceptable as it is based on the formal grading system of the university."* Of the negative responses, seven students said that they were unhappy with the grades obtained. Five of them believed that they could have made those grades better if they had tried harder, whereas two respondents felt that their teachers possibly has unrealistically high expectations of the students' ability. Another finding also emerged. Two students were somewhat dissatisfied with the grades they received since they expected to do better. One of them said: *"I feel that sometimes grades depend on my luck and individual teachers."*

The response to question 2 shows that all participants aimed at obtaining the highest grades. Most of them attributed their success to effort. This is in accordance with Weiner (1985), who considers effort an internal factor and one of the main influences on achievement outcomes. This response coincides with Oxford and Shearin (1994) remarking that higher satisfaction occurs when success is self-attributed to internal factors. On the contrary, some participants ascribed their learning outcomes to external factors like the grading system, teachers, and luck. Weiner (1985) believes that students attributing their success to luck or other external factors tend to do less well than those who ascribe success to ability and effort.

Question 3: "Do grades indicate learners' success in English language learning? Why / why not?"

The findings indicated that all respondents felt that the grades obtained do not necessarily indicate true success. A variety of reasons were given. Eight participants pointed out that students with good grades might not be able to put their knowledge into practice. The following response is representative of this view: *"Everyone recognises that my English is excellent when considering my good grades. I think I'm not really good at English. I*

can't communicate with native English speakers. Having good grades does not mean that my English is good. I do need more practice for better improvement." Five respondents commented that good grades indicate great diligence, high determination, or successful rote memorisation. This is because most Thai students perceived that if their study is disciplined and they remember what their teachers taught in the classroom, they will be successful in their studies. Three other students found the grades obtained show a good knowledge of a particular area. They do not reflect the whole success. Two other participants made an observation that sometimes the grades were unexpected. Another two respondents added that success depends on individual's expectations. One might see him/herself as a successful learner when obtaining 'A', whilst another is satisfied with 'B+'.

According to Honigman (1997), most students need high grades for advanced degree programmes and scholarships. In the Thai educational system, English teachers work extremely hard to present and drill their students with as much English as they can. They mainly focus on grammatical structures, vocabulary, and reading comprehension. Undergraduate students have to spend only one academic year or two studying basic English as compulsory courses. Not surprisingly, most graduates involved in various professions usually complain about their practical English competence, especially in everyday communication skills, particularly in listening and speaking. They also admit to insufficient concentration, confusing learning styles and a lack of full attention while being exposed to the subject at an early stage.

To answer the second research question, "What are the students' views about how to become better language learners?", question 4, 5, and 6 were delivered during the interview.

Question 4: "What are your views about how to become a better language learner?"
All of the respondents considered two important factors: students themselves and teachers which could make them become better language learners. According to the first factor, having a strong determination to learn and improve their skills was highlighted as the main quality for becoming better language learners. Five respondents remarked that they would be better language learners if they aimed to apply their knowledge of English to real life. One interestingly noted that: *"I would be more successful if I could communicate with foreigners at all times outside the classroom setting. It's a pity of me that I neglected this certain thing when I studied English in a primary level."* Three respondents commented that the rote memorisation of Thai students would not help them to become better language learners. Instead, learning through practice would help them to be more successful. One of them said: *"I think learning by memorisation makes me unable to create my own thoughts and clearly understand the lessons. In terms of marking, teachers favour accuracy to development of original ideas. Unavoidably, I have to maintain this learning style."*

Three students believed that students were eager to learn from things outside the classroom. Teachers had to be facilitators who always helped and supported their students to achieve learning goals. Confidence was considered as another important thing. Two participants observed that when interacting with foreigners, they always lacked confidence to speak English. They were always worried about producing ungrammatical

sentences. The following is an example of those feelings: *"Whenever I meet foreigners, I feel embarrassed to express myself in English. I'm also nervous about possibly incorrect sentences and suddenly lack the necessary vocabulary when trying to say something."* All of the respondents also identified 'teacher' as an important influence in becoming better language learners. Understanding the skills and knowledge of the students was recognised as an important quality of teachers. One commented: *"I've found that I would have obtained higher grades if I had not spent much time struggling to understand what the teachers taught."* Six respondents claimed that teaching methods should focus on learning through practice. One of them mentioned rote memorisation and gave the same reason as for the 'teacher' factor. Four students felt that teachers should know how to motivate students to learn, otherwise students would become de-motivated and could not achieve their goals of learning.

Researchers identify various reasons which people give for their success and failure (e.g. Dodds, 1994; Williams and Burden, 1999; Whitley and Frieze, 1985). From this question, the two factors—students themselves and teachers—can be considered as the major perceived causes of success and failure of language learners. 'Students themselves' is an internal factor and 'teachers' is an external factor.

Question 5: "In your view, what is a successful person in learning English like?
Almost half of the participants felt that a successful person in English learning must be able to communicate with foreigners and native English speakers effectively. In addition, having a full understanding of English skills was recognised by several respondents. They said that a successful learner must be capable of using all four skills of English: writing, reading, listening, and speaking. Three respondents believed that in order to achieve goals of English language learning, learners must overcome feeling of embarrassment when expressing themselves in English. Two participants also commented that successful learners must have language learning strategies, especially over a long period. One said in the interview: *"It is the best way to gain an advantage or success by setting a plan of my study. As I always neglect an English practice and never set a goal of study, my English skills have not been improved and developed."*

Another response from two participants was that being a successful language learner was a gift or a special talent. This view is similar to that of Heider (1958) who claimed that ability or intelligence is one which a person is born with. However, it is counter to more recent views of intelligence. Nicholls and Dweck (1992), for example, note that learners who consider ability or intelligence changeable are likely to deal with challenging tasks and could control their learning outcomes. The characteristics of successful learners of English have been reviewed in the literature on learning strategies (e.g. Rubin and Thompson, 1982; Van Naerssen, 1987; Wenden, 1987; Willing, 1985). This coincides with Oxford (1993), who postulates that strategies are tools for the self-directed involvement which is necessary for developing communicative ability. Nevertheless, it depends on individuals and a variety of factors which influence those successful language learners.

Question 6: "Have you made an effort to study? If so, how? If not, why?
The participants' responses could be divided into two groups: positive and negative answers. Eleven answered that they have made an effort to study. Three different reasons

were also provided. Out of eleven, six held that they have tried their best to concentrate on their study in preparation for the exam. As a result, the exam results were excellent, whereas their English competence was still poor. Three other students said they have tried to use their knowledge in real situation. For example, in order to use and practice English, they looked for opportunities to talk to native English speakers. Although the conversation appeared rather dull and unimpressive the first time, they gradually became familiar with interacting with those native speakers. Two other respondents reasoned that to enhance their English learning, they always took advantage of all available resources to immerse themselves in English as much as they could.

On the contrary, nine respondents said that they have never made an effort to study English. Several explanations were revealed. Three students claimed that they remained confused about what they have been learning and were unable to use English in real situations. The following excerpt represents this idea: *"Grammatical rules and other usages of English have mixed me up. Although I have been learning English for several years, I still can't use them in real situations."*Additionally, three other students felt that they were not motivated by a need to achieve goals of English learning. They did not realise that English was one of the keys to their success. They just took English courses because of their study requirement. Similarly, another two students considered the main subjects of their major studies were more important than the English subjects. Interestingly, one respondent claimed that taking English courses could help him obtain good grades easily. He remarked: *"I think English subjects are much easier than my major subjects. We prefer taking English courses to others in order to help increase our grade-point average."*

Considering the dimension of stability, Weiner (1985) remarks that effort is an internal factor and an unstable attribute whereas Jones and Nisbett (1971) claim that effort can be conceptualised as either an unstable or stable attribute. In this regard, it depends on individuals and various situations. According to the study, almost half of the participants have never made an effort to study English due to a variety of reasons. The main reason derived from a lack of an aim to achieve goals of English learning. In contrast, the participants who have made an effort knew what their aims were. Hence, English teachers are an important factor to encourage students to recognise what the goals and benefits of English learning are.

<u>Question 7</u>: "What are the benefits the students expect from learning English?"
Eight indicated that using skills and knowledge of English in their future careers and further studies in higher education was of benefit to English learners. One of them explained: *"When I had job training, I realised that English competence is needed for my future career. It is such a practical language which can benefit me and help all the business done."* Six respondents considered that one of the benefits was a greater knowledge of English. Additionally, some of them had a wish for the ability to use English with confidence in real situations. For example: *"Sometimes I fell it's hard to learn English. Anyway, it is very satisfying when gradually gaining a more benefits and developing my skills to a higher level."* Four respondents observed that they could learn about a new culture and enhance their English skills by participating directly in the English-speaking world. Another two participants expected that learning English could help them strengthen their existing knowledge of their major study. This was because

English skills were needed for better understanding of the textbooks which were written in English.

According to Weiner (1984), the attributions which people make for their outcomes will determine the impact of success and failure. In response to this question, all participants had positive views regarding benefits they expected from learning English. As they were in the last year of undergraduate study, the majority of their expectations were the aim for using English in their future careers and further studies.

IMPLICATIONS

The findings of this study suggest several implications. Firstly, Thai students have to be advised to rely more on themselves and use appropriate learning strategies. In this regard, Wenden (1987) considers that learners have to be aware of different learning strategies and regularly evaluate their process. As a result, they would become more efficient in learning the target language. Teachers can also play a role in helping the students develop appropriate learning strategies in order to be more successful in language learning. When teachers know how to deal with attributions, they will be able to enhance learners' motivation and expectations for future success (Koun, 2005). In the area of TESOL, the second implication of this research would concern teacher training regarding psychology in English teaching. By doing this, teachers will be informed of how to motivate students to learn, to encourage the students to have more positive feelings about their learning outcomes, and to help them become successful in English. This would in turn lead to curriculum development in this work context.

The significance of learning achievement has been recognised in the attribution literature (e.g., Gardner and Tremblay, 1995; Jernigan, 2004; Williams and Burden, 1999). Nevertheless, attributions for failure of high achieving learners have not been investigated. Hence, as the final implication, there should be more formal discussions on specific issues and concerns related to English learning achievement of Thai students in the context. On a regular basis, seminars and workshops should be organised to improve teaching and learning system as well as curriculum development in the work context. This important issue should be raised in a university annual conference which is recognised as a forum for academic discussions. In this way, various new perspectives on this issue will be given greater consideration.

CONCLUSION

As English has become a global language, it is the key to communication in many domains. Fluency in English is important in the job market. Many major companies conduct their business in English and increasingly require their employees to speak and write fluent English. However, many English teachers still spend the majority of class time on reading and writing practice and tend to ignore speaking and listening skills. This is not a good balance if the goal of a particular language course is truly to enable learners to communicate in English. In addition, students should be encouraged to regularly practice what they have learned, to look for opportunities to use English, and always to evaluate themselves. Teachers also need to motivate students to learn and to see the link between their effort and outcomes.

The researchers concur with Weiner (1984) that the attributions which people make for their outcomes will determine the impact of success and failure. All participants in this study perceived their learning outcomes in English as failures because of their inability to put their knowledge into practice. The findings are congruent with other research studies (e.g., Bempechat, 1999; Jernigan, 2004; Zhao et al., 1991) which consider that negative feelings in language learning will decrease learners' motivation and finally make them unsuccessful. The perceived causes of the students' failures in this study mostly derived from the students themselves. Most students have controlled their achievement by putting more effort into their English learning, while some hardly attempted to excel in studying English due to various reasons. This is in line with Williams and Burden (1999)'s remark that if learners perceive the cause of failure as changeable and controllable, they could determine their learning outcomes.

Nevertheless, all participants had positive views regarding benefits they expected from English learning. By this, the researchers consider that a positive attitude towards English language learning is crucial for learners' success. Language learners who are positive about learning difficulties and make the greatest effort to their study will certainly have more chance of achieving the goals of English language learning. Similarly, learners who are aware of learning strategies and regularly evaluate their learning will become efficient at learning English and self-directing their effort (Wenden, 1987). In sum, as long as learners aim for success and try to improve themselves at all times, instead of perceiving themselves as failures, their chances of success will be greater.

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THE ACCOUNTING STUDENT MOTIVATIONS TO LEARN ENGLISH: THE CASE AT STIE PERBANAS SURABAYA – INDONESIA

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ABSTRACT

The study aims to observe STIE Perbanas Surabaya accounting students perception on the motivation to learn English. The research design is exploratory research, using questionnaires with 30 items of questions as instrument for collecting the data. The sampling technique is random sampling, consisting of 141 accounting students and the data analysis is conducted by factor analysis.

The research result finds that, by chi-square analysis, there is a positive correlation between the score of English subject (*Bahasa Inggris*) in the first semester and English for Special Purposes (ESP) on Accounting in the second semester with their CGPA of the wholes courses. Another important finding, using factor analysis, from 30 items of questions, they were reduced into 7 factors of motivation of the accounting students to learn English: 1) intrinsic motivation; 2) individual development and social responsibility motivations; 3) learning situation; 4) immediate achievement; 5) motivation to go and live abroad; 6) way to increase confidence; and 7) success in the future life. These seven factors are generalized as instrumental, cultural, and situational motivations.

The research implication is limited to the Accounting Department at STIE Perbanas Surabaya. It was concluded that the seven factors of motivation mentioned above should be considered in the policy for designing English curriculum.

Keywords: *Motivation, Instrumental, Cultural, And Situational Motivation*

1. BACKGROUND

In this time the unemployment from undergraduate program increases continually. One of the reasons of its increase is due to the user requirement, which is not compatible with student motivation when he or she learns in the undergraduate program. The users' another requirement is ability in English. It is indicated by the result of the STIE Perbanas Surabaya tracer study in 2007 to undergraduate users showing that the ability in English is a condition for the acceptance as an employee considered important (Wilopo, 2007). The abilities are a) Understanding accounting terms in English; b) Oral or written communication in English; c) Financial statement reporting in English

Now the accounting students at STIE Perbanas Surabaya are not yet obligated to accomplish the certain English score as graduate condition. But, to understand the student motivations to learn English is important by the institution so as to improve the process and the content of English curriculum for the accounting students. This research is a replication of the study of Gao et al, 2007. The Gao study developed Gardner and Lambert's theory hypothesizing that the willingness to learn English consisted of integrative and instrumental motivations. The research problem is what the real motivation of the accounting student in STIE Perbanas Surabaya to learn English is. The

research result is expected to provide suggestion for the board of STIE Perbanas Surabaya management in deciding the policy and the improvement of English learning process, especially for the accounting students.

2. LITERATURE REVIEW

Many theories and research explained the individual motivation to do something. Yet, for the motivation to learn English as a second language, the theory and the research result of Gardner and Lambert, 1972 was frequently used as theoretically-based reference. Gardner and Lambert, 1972 explained that there were two motivations to learn English. They are integrative and instrumental motivations. The integrative motivation describes that the motivation to learn the second language is caused by an interest and an objective to understand and to be aware of its culture. On the contrary, the instrumental motivation explains that the motivation to learn English or the second language is to attain certain practically objective.

Many studies about the motivation to learn a second language, especially English in many countries used Gardner and Lambert theory as an analysis and theoretically basic. Kwok Keung Ho research result, 1982 explained that the integrative motivation was successful characteristics of learning the second language.

Lasagabaster, 2002 studied the role of the integrative and instrumental motivations of multi language context. The study analyzed the attitude of Basque student (Spain) in learning Basque language, Spain language, and English. The research result supported Gardner and Lambert theory that there was a difference of integrative and instrumental orientation when the Basque student learned the second language. For integrative orientation, the Basque student learned the second language is caused to appreciate other culture and to want to communicate with the people. For instrumental orientation, the Basque student learned the second language or English is caused by practically and socioeconomic reason and objective.

Brown, RA, 2008 investigated the motivations of 2883 Japanese students learned English. The result indicated the student motivations tend to be utilitarian, and that, while the students tend to claim high levels of motivations, they typically invest insufficient effort in actual learning behaviors. In addition of Brown result, students are not different in any major way depending on whether they were studying electively or non-electively.

Rahman S., 2002 observed the orientation and the motivation of undergraduate students of Bangladesh private universities towards learning English. The study focused on what was considered as two most important social psychological variables: attitude and motivation. The research result explained that the learners learned English for 'instrumental' reasons. This study of psychological variables of the students will possibly provide additional insights in better identifying existing motivational challenges and in taking a more realistic perspective about English language teaching situation in Bangladesh.

Gao et al, 2007 studied the Chinese undergraduate students in learning the second language, especially English. The purpose of the study was to achieve a bottom up classification of Chinese undergraduate students' learning motivation. The participants were 2,278 undergraduates from 30 Chinese universities. The instrument was a Likert-scale questionnaire, which included 30 items regarding learning motivation, based essentially on a summary of open responses. Seven motivations types resulted from a factor analysis: 1) intrinsic interest; 2) immediate achievement; 3) learning situation; 4)

going abroad; 5) social responsibility; 6) individual development; and 7) information medium. These 7 factors were further generalized as instrumental, cultural, and situational motivations.

This research develops Gao et al, 2007 study. It is a response to the offering of Gao et all for developing insights and implications of their research finding in other Asian countries and regions. This study replicates Gao et al, 2007 questionnaires with 30 items of questions as instrument for collecting the data.

3. RESEARCH METHOD

3.1. Research Design

The study is designed to observe the motivation of STIE Perbanas Surabaya accounting undergraduates to learn English. The study is the explanatory research, because its objective is to obtain an explanation about the perception of STIE Perbanas Surabaya accounting students' motivation to learn English and explains the subject character investigated.

3.2. Research Instrument

The study instrument is adapted from the instrument of Gao et al, 2007 adjusted to Indonesia country. The instrument consists of 30 items of questions.

3.3. Data Type and Source

Because the study is an institutional research, the data type used in this study is primary data obtained from STIE Perbanas Surabaya accounting students. The students chosen for the study are those who are in sixth or seventh semester and are taking accounting theory and advanced financial statement analysis subjects. They are expected to understand the questionnaires. The questionnaires that meet with the administration condition and completed were tested on the validity.

3.4. Population and Sample

From the data, it is known that the whole population of STIE Perbanas Surabaya accounting students is 807 students. The students chosen for the study are those who are in sixth or seventh semester and taking accounting theory and advanced financial statement analysis subjects.

3.5. Statistical Test

Before statistical testing, the study uses *chi square* analysis to know the correlation between the score of English subject in the first semester and English for Special Purposes (ESP) on Accounting in the second semester with their CGPA of the whole courses. Data statistical analysis uses SPSS and consists of two parts. First, it is reliability and validity analysis of the study instrument, and then it measures the sampling adequacy. Second, the study uses factor analysis. In this analysis, the study applies principal component analysis using an extraction method to extract the factors.

4. RESEARCH RESULT AND DISCUSSION

4.1 Research Data

Until a certain period, the questionnaires returned which consists of 149 questionnaires. But, after checking the valid data it consists of 141 questionnaires.

4.2 Descriptive Analysis

According to the data, there is a correlation between CGPA and English subject score and ESP on Accounting score. The detail data is as follows:

Table 1
DESCRIPTIVE DATA

	CGPA <2.74	CGPA 2.74-3.00	CGPA 3.01-3.49	CGPA 3.50-4.00	Total
English Subject Score					
A	4	6	13	19	42
B	15	27	34	6	82
≥C	5	4	7	1	17
Sub Total	24	37	54	26	141
ESP in Accounting Score					
A	2	7	16	21	46
B	11	19	30	5	65
≥C	11	11	8	0	29
Sub Total	24	37	54	26	141

Source: data processed

Using *chi-square* analysis, the study provides the picture about the correlation between CGPA and respondents' English and ESP (English for Special Purpose) on accounting score. The result explains that English and ESP on Accounting score positively correlate with CGPA. It means that the higher English and ESP on Accounting score, the better students' CGPA.

4.3. Factor Analysis of Motivation Type

The result of reliability and validity analysis show that *alpha* is 0.8101. It means that the research instrument is reliable and valid. But, the study result displays that the correlation score of 2nd instrument is negative (-0.0244). Therefore, the 2nd instrument must be dismissed from the analysis. Now *alpha* is 0.8211 showing that research instrument is reliable and valid.

The result of Kaiser-Meyer-Olkin Test shows score of 0.762. It means that there is a measure of sampling adequacy. The score of Bartlett's Test is significant. As a result, the data can be processed by factor analysis.

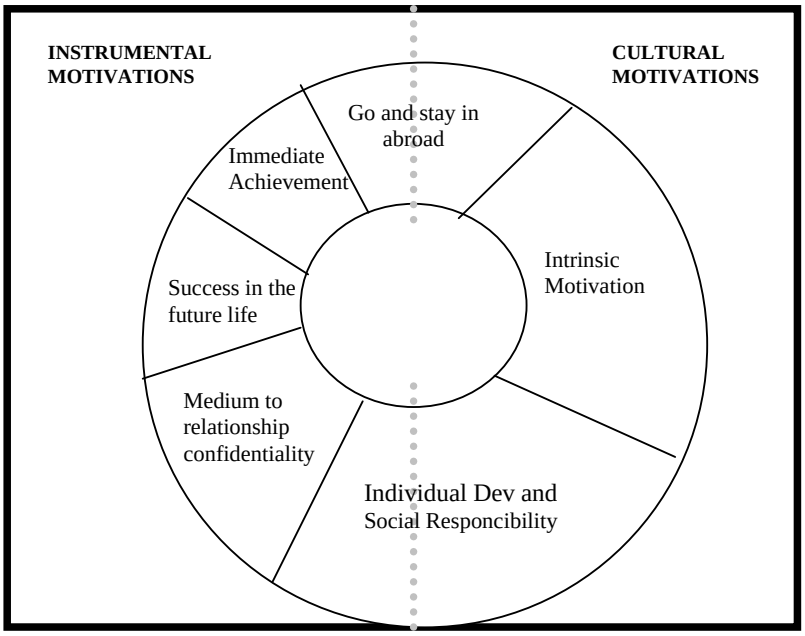
Principal component analysis is used for extraction method and obtains nine extraction factors with 68.3% total variance. Because of similarity, the nine factors can be extracted to seven factors. They are combination of 5th factor with 6th factor and 7th factor with 8th factor (Gao et al, 2007). So, the research result gets seven factors that are economic and appropriate. The seven factors are pictured in Table 2.

The 1st factor includes five items. These factors are such as enjoy English learning, like the language itself, interest in English songs/films, interest in English literature, and love of English language. These items explained students' interest in the English language, culture, and learning process in general. Such interests had features of intrinsic or integrative motivation (Gao et al, 2007; Gardner, R.C & Lambert, W.E, 1972). The 1st factor is named intrinsic motivation.

The 2nd factor contains four items. They show that speaking English well is a symbol of a good education and successfulness; therefore it is a key to success in the future life. The successfulness is a behavior compatible with the parent expectation and can provide a contribution for Indonesia welfare. In other words, the 2nd motivation is an individual development motivation, and is social responsibility for a person who can speak English well. Therefore, the 2nd motivation is said as individual development and social responsibility motivation.
The 3rd factor includes four items. The items consist of the education material quality, the lecturer quality, and the education process quality in a class. That is learning environment or situation. Therefore, same with Gao et al, 2007, the 3rd factor is predicated as learning situation motivation.
The 4th factor contains five items. They show the motivation to learn English is to get a good English score. Not only the English score, but the students are also motivated to learn English if they have harmonious couple when learning English. Therefore, the motivation to learn English is to get a good English score immediately as Gao et al, 2007. Then the 4th motivation is immediate achievement motivation.
The 5th factor includes five items. The 5th motivation to learn English is not only to go abroad, but to move and stay abroad. Then, the motivation to learn in English is to go and stay abroad.
The 6th factor contains two items. This factor shows that to learn English aims to provide a successful feeling and a media of social intercourse. Then, the motivation to learn is medium to relationship confidentiality.
The 7th factor includes two items. The factor shows that to learn English is to obtain a good job in the future and then to achieve a progress in economy and technology. Then, the motivation to learn English is to be successful in the future life.

Motivations can be categorized into three categories. They are instrumental, culture, and situational motivations. Instrumental motivation explains that a person learns English to obtain a certain goal. An immediate achievement, a medium to relationship achievement, a success in the future, and going and staying abroad are instrumental categories. Especially, going and staying abroad is considered a culture motivation (Gao et al, 2007).

Figure 1
Conceptual Classification of Motivation Types



Referred to the research result of Gao, 2007 in the higher conceptual level, the seven Situational motivations explain that to learn English is influenced by situation and environmental learning process. Then, learning situation is situational category.

Intrinsic motivation and motivation to individual development and social responsibility are categories of cultural motivations. Referred to Gao et al, 2007, the motivation to individual development and social responsibility are included as an instrumental motivation. The all of motivations to learn English can be showed in the Figure 1.

5. Conclusion

The study aims to observe STIE Perbanas Surabaya accounting students perception about the motivation to learn English. The research design is exploratory research. It uses questionnaires with 30 items of questions as instrument for collecting the data. The sampling technique is random sampling and the sample consists of 141 accounting students. The data analysis is conducted by factor analysis.

The research result finds that, by *chi-square* analysis, there is a positive correlation between the score of English subject in the first semester and English for Special Purposes (ESP) on Accounting in the second semester with their CGPA of the whole courses.

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live abroad; 6) way to increase confidence; and 7) success in the future. These 7 factors are generalized as instrumental, cultural, and situational motivations.

The research implication is limited to the Accounting Department at STIE Perbanas Surabaya. It can be concluded that the 7 factors of motivation mentioned above should be considered in the policy for designing English curriculum.

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Table 2. The Seven Factors of Learning English Motivations

No.		F1	F2	F3	F4	F5	F6	F7
	% of Variance	21.92	11.29	10.21	8.31	7.11	5.93	3.52
	Eigenvalue	6.36	3.27	2.96	2.41	2.06	1.72	1.02
F1.	Intrinsic Motivation							
	Q19: Enjoy language learning	,782						
	Q21: Like the language itself	,778						
	Q23: English literature kindles my interest in English learning	,738						
	Q20: Interested in English movies or songs	,715						
	Q01: Fell in love with English at the first sight	,623						
F2.	Individual development and social responsibility motivation							
	Q30: English is a symbol of education and cultivation		,780					
	Q29: English is an important tool for life		,752					
	Q25: Learning English in order to live up my parents' expectation		,640, 592					
	Q24: Learning English in order to make Indonesia prosperous							
F3.	Learning situation motivation							
	Q09: After entering university, learning English is affected by teaching materials			,890				
	Q05: Before entering university, learning English is depended on willingness to the teacher			,838				
	Q07: After entering university, learning English is depended on willingness to the teacher			,823				
	Q08: After entering university, learning English is affected by quality of teaching			,791				
F4.	Immediate achievement motivation							
	Q04: Before entering university, learning English is driven by test scores				,830			
	Q10: After entering university, learning English is affected by my affiliation with the class				,747			
	Q11: Learning English in order to get the degree				,718			
	Q03: Learning English in order to pass exams				,692			
	Q06: After entering university, learning English is driven by test scores				,574			
F5.	Motivation to go and stay in abroad							
	Q28: Learning English in order to emigrate abroad					,721		
	Q12: Learning English in order to get English high scores to go abroad or to develop a carrier in Indonesia					,645		
	Q27: Learning English in order to experience English-speaking cultures abroad					,580		
	Q18: Learning English is affected by interest in English-speaking people and their culture					,546		
	Q26: Learning English in order to seek better education or job opportunities abroad					,511		

F6.	Medium to relationship confidentiality Q14: Learning English will give a sense of achievement Q13: English is an important instrument of communication						,810 ,790	
F7.	Success in the future life Q16: English can help to find a good job in the future Q17: Learning English to keep out with development of world economy, and technology							,826 ,585

A FRAMEWORK FOR THE DEVELOPMENT OF ONLINE LEARNING COMMUNITIES

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ABSTRACT

Online learning communities are often part and parcel of blended learning pedagogies in both traditional and distance learning institutions to enhance learning. One of the popular models to help create these communities is the Community of Inquiry (CoI) model, designed to help learners become engaged with their course mates and tutors online. The goal is to create a community where learners collaboratively construct meaningful knowledge. It is believed that the three types of presence (cognitive, social and teaching) specified in the model will create an appropriate environment for more matured open distance learners. The CoI model was selected for a study at the Open University Malaysia (OUM) to determine the effectiveness of its current online learning implementation. Forums from 20 courses were analysed by a group of academicians. At the end of the study, it was believed that the CoI model could be used as a framework to implement its online learning, particularly in developing a community of learners as a means to enhance their understanding of the subject matter. Following the acceptance by the OUM academic board, the CoI model was introduced during the recent tutor training.

Introduction

As an open and distance learning institution, it is imperative that OUM delivers quality education to all its students. When the university first took in its batch of students in 2001, the Internet was popular, available in most parts of the country and was considered affordable. Special rates were available for students. Hence, these were enough reasons to support OUM's decision to include online or e-learning as part of its pedagogical blend. Online learning at OUM primarily includes the use of the forum facilities in the learning management system to support discussions among learners and between learners and their tutor. Online learning is one of the three modes of OUM's blended learning pedagogies. The other two are face-to-face and self-managed learning. Face-to-face learning makes up eight percent of the blend whereas online learning is 12 percent of the total blend. Eighty percent of the blend is for self-managed learning. Hence, online learning is the second most important element of the blend.

Online learning at OUM takes place in the form of online discussion forums comprising a series of interactions in an asynchronous communication medium. As a means to support learning during the two weeks in between face-

to-face tutorials, tutors are expected to be available online to respond to questions posted by learners within two working days. In addition, learners have also been requested to contribute to the postings they see as a way to enrich the discussion. Both learners and tutors are advised to visit the forums three to four times a week. The goal is to develop a community of learners who will collaborate with each other to construct meaningful learning. To ensure that learners take online learning seriously, the university allocates five percent of the course marks to reward the learner's active participation and posting of quality messages. Being a relatively new mode of learning, the development of online learning was initially a rather challenging task. Tutors were trained, guidelines were given but it was observed that while there were tutors who often went online, there were others who rarely visited the forums. It was the same with students. There were students who were very active in the forums but there were those who were not. It was thus timely that the online interactions were examined to see the pattern or type of interactions and to determine the effectiveness of the current mode of implementation and, if necessary, to take corrective action.

Literature Review

About twenty years ago, that is, prior to the invention of the World Wide Web, discussions through computer conferencing among members of special interest groups (SIGs) were common. This was where members with common interests gathered online to help each other gain new knowledge. For example, they could be members exploring various alternative forms of assessment in higher education or about using new technology in the classroom. Members contributed to the SIG forum by voicing their opinions, giving suggestions or sharing their experiences, knowledge and resources. Over a period of time, the group would have gained a substantial amount of learning or at least shared interesting insights, especially if they were from different corners of the globe.

Today, computer conferencing is replaced by Web-based forums that are made available through learning management systems. Hoping to emulate the early success with computer conferencing, online forums are commonly used in distance learning institutions to support and enhance learning. It has been used in some of the larger distance learning institutions such as the Open University in the United Kingdom and the Athabasca University in Canada and have been incorporated by other similar institutions in Asia. Since its introduction to support learning in higher education, there has been continuous debate about how learners should be engaged, the roles and responsibilities of the instructor and the types of learning outcomes that can be anticipated (Rourke & Kanuka, 2007).

According to Li (2004), it is important to remember that a successful online forum is based on the development of a knowledge building community. Several strategies to promote collaborative knowledge building need to be identified. This includes providing a platform for social interaction and opportunities for higher-order thinking such as reflection and synthesizing. Forums should establish a friendly, free, safe and open online environment that

encourages learners to log in, feel welcomed and share a bond that is unique to the group. The bond will make the group function like a learning community instead of a collection of individual students.

The online facilitator or moderator of the forums need to play an effective role in moderating the forums so that learners feel safe and encouraged to contribute to the discussions and feel satisfied to use it as a learning medium. Collison, Elbaum, Haavind and Tinker (2000) stated that there are three principles of effective moderating. The first is that moderating takes place in both a professional and a social context. The second principle is that the style of "guide on the side" is most appropriate for leading an online learning community. Finally, the third principle is that online moderation is a craft that has general principles and strategies that can be learned. Generally, an online community is formed only if its members are active and posting. Hence, online forum tutors, facilitators or moderators will need to be equipped with the sufficient knowledge, appropriate skills and the right attitude to be effective in developing online communities of learning. It should be noted that these can be learned. As Li asserted the facilitator of the forum needs to have a balanced pattern of appearances in the discussion forum. In other words, the tutor should be present at opportune moments and should be very careful not to jump into any discussion too fast or too often or appear to be controlling the discussion.

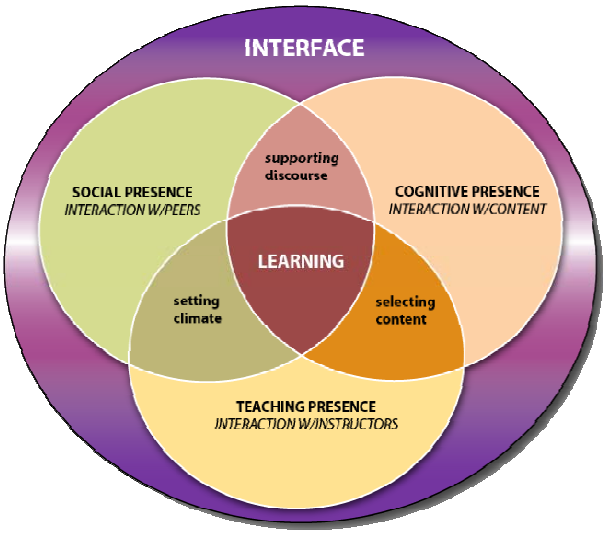

Figure 1: Community of inquiry model
Source: Garrison, Anderson and Archer (2000)

As proposed by Garrison, Anderson and Archer (2000), the Community of Inquiry (CoI) model (see Figure 1) will guide the practice of online learning. The CoI framework was generated from the literature and experiences of the authors. The COI model is based on a few characteristics that are inquiry-based. Firstly, it is question-driven whereby tutors probe learners with thought-provoking and stimulating questions. Secondly, learners are involved in a critical discourse where they learn how to define and propose reasonable solutions to issues. Thirdly, learners gather information, thus enhancing their research skills to support their postings. There are three types of presence in the CoI model. These are social, cognitive and teaching. The importance of creating a social presence is to ensure that there is open communication, group cohesion and that learners feel free and encouraged to express, collaborate and bond with the group. Cognitive presence on the other hand triggers learning events and turn them into opportunities for learners to explore, integrate and reach a resolution. Learners should have a sense of puzzlement, be triggered to exchange information, connect ideas together and apply new ideas. Finally, teaching presence is achieved when the online tutor or e-moderator is able to design and organize the forums in such as way that it facilitates discourse based on direct instruction. Here, the online tutor sets the curriculum and methodology, encourages the sharing of personal meaning and ensures that the discussion stays focused and on track towards achieving the learning outcomes (Garrison & Vaughn, 2008).

Anderson & Elloumi (2004) added that assessment is an important factor for successful online learning. Typically, online learning receives 10 to 25 percent of the course marks. Learners should know how they will be evaluated to the extent that rubrics are provided to them prior to their participation in the online discussion forums. The online tutors also should be informed of how their performance in supporting the learners in the forums will be evaluated.

THE STUDY

The study was organized by the Centre for Quality Management and Research and Innovation (CQMRI) as part of its role to improve quality in learning and teaching at the university. Twenty courses were selected for the study. The selection was based on the courses identified by the respective faculty. Typically, these courses were those that were frequently offered and had been offered at least thrice and were not about to be discontinued. From each of the five courses at least six of the most prolific forums were selected to be analysed. The assumption was that tutors in the most prolific forums would have demonstrated exemplary roles. In courses where the forums were not prolific, as many as 16 forums were selected. A total of 137 forums from a total of 20 courses were analysed to see how the more prolific tutors (in terms of number of postings) irrespective of how long they have been tutoring at OUM, supported the development of online communities of learning.

To help with the analysis, 57 subject matter experts were brought to a two-day workshop held from Friday evening until Sunday lunch time. The workshop was facilitated by the main author who introduced the objectives of the workshop, the study, the CoI model as well as the methodology. Instruments to help with the analysis were also provided. The main instrument used a reporting tool where ratings and observations of the forum interactions were recoreded to detect teaching presence, social presence and cognitive presence. The forum interactions were examined either through hard or soft copies or both. Each course was evaluated by three subject matter experts except in the case of three courses where only two were available. The subject matter experts were grouped together in teams. The analysis of the forum interactions were done individually and then cross-checked by other team members to ensure objectivity. Each team submitted their forms at the end of the study. The ratings for each presence were averaged to determine the amount of presence (see next section).

FINDINGS AND DISCUSSION

The graphs below show the analysis of the three types of presence in the 20 forums according to faculty. It can be generalized that social presence is predominant in all forums, followed by cognitive presence and teaching presence. In other words, from the courses examined forums tended to exhibit better levels of social and cognitive presence and lower levels of teaching presence. The group observed that many tutors created warm and friendly environments for their learners. However, there were tutors who were sporadic in their postings, hence creating a lesser "teaching" presence. This leads one to think that tutors need to be more equipped with how to create a greater teaching presence online. This will require tutors to be capable of setting the climate and at the same time selecting the right content for discussion. This has implication on future tutor training.

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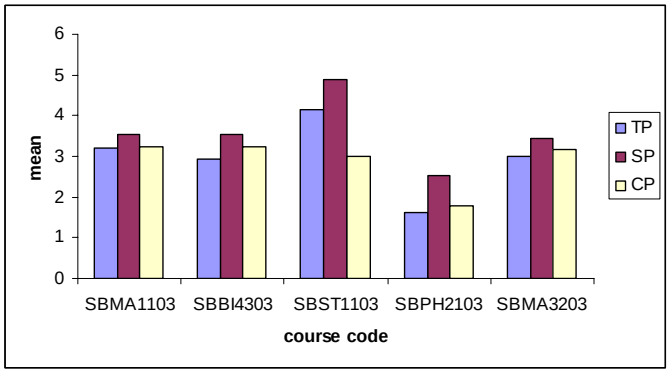
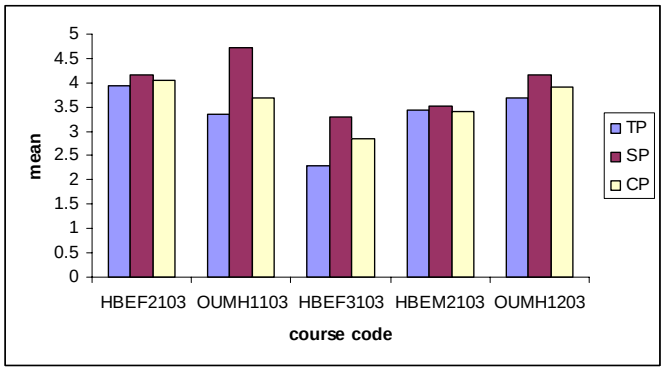


Faculty of Education and Languages



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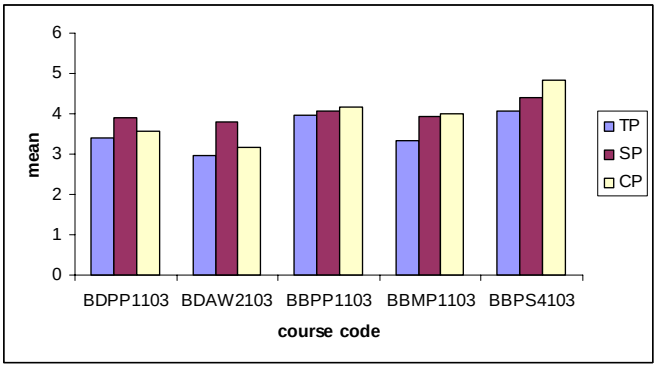

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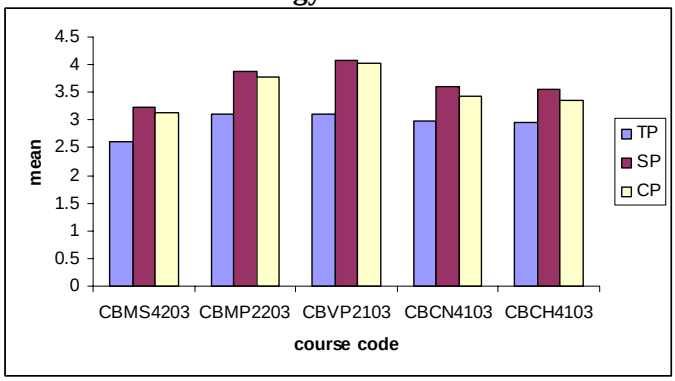

In addition, it was found that most forums had learners posting questions for the sake of posting and that tutors were responding to the questions individually. In many cases, the questions posted were those whose answers could be easily found in the modules distributed to learners. In addition, some of the questions were found to be repeatedly asked, leading to the suspicion that learners were merely

repeating each other. Hence, a learning community was not so well-developed. It was rare to find a tutor asking a question to provoke critical thinking among learners. This would have led to the desired form of discourse among learners and may add to the interest and depth to the learning experience.

Future Implementation of Online Learning at OUM

At OUM, tutors were initially expected to be available to respond to questions posted by learners as a way to support their learning and understanding of the subject matter. It is now timely that OUM focuses on the development of an online community of learners. Tutors should not only be able to manage the learners online but have the skills to develop a community of learners engaged in various forms of discourse that require higher order thinking. The learning derived during the discussions should be meaningful, constructive and deep.

The implementation of the CoI model as a framework is believed to help OUM move forward in terms of learner support. The effective implementation of the model is expected to lead to better and more satisfying interactions in the online forums. To help tutors ensure that there are three types of presence: social, cognitive and teaching, tutors have been given some guidelines on how to be effective. Generally, for social presence, tutors need to establish a warm, secure and comfortable environment for learners to look forward to being part of. The learner should feel welcomed and that his postings will be valued and respected. For cognitive presence, the tutor is asked to post two questions before each tutorial to get their learners to think about them, to contribute further to the discussion and for the tutor to finally summarise the discussions to form meaning. For teaching presence, the tutor is expected to instruct where necessary; establishing the netiquette rules or structuring the forums to ensure a good discussion. He should ensure that the learners stay focused on the discussions and not go off track. Table 2 illustrates the steps for tutors to follow.

Table 2: Steps in Managing Online Discussion Forums

Step 1	Provide clear guidelines for participation to learners, including tutor expectations, rules of conduct and examples of what constitutes adequate participation.
Step 2	Begin by posting a welcome message to your learners. Introduce yourself and provide a brief introduction to the course and your commitment to the learners.
Step 3	Encourage your learners to do the same.
Step 4	Acknowledge individual discussion contributions by learners so that they feel heard.

Step 5	Start the discussion in each folder (T1, T2, T3, T4 and T5) by posting two very relevant questions based on the module before every face-to-face tutorial.
Step 6	Monitor the discussion to keep learners focused on the topic.
Step 7	Monitor the quality and regularity of the postings and if individual learners appear not to participate, post messages that are off-topic or are not substantive, communicate with them privately.
Step 8	Summarise the discourse to the questions given within each folder (T1, T2, T3, T4 and T5).

Source: OUM Tutor's Handbook

On how to create a warm and welcoming environment, the example below was included (see Figure 2). Tutors were reminded that online learning should benefit learners. Their role is to make their presence felt by leading and monitoring the forums to ensure a healthy discussion of the topics posted. Tutors were suggested to post two questions on topics related to the learning outcomes stated in the print module prior to each tutorial. Learners were expected to respond to the questions and respond to their course mates' postings with the aim of taking the discussion to a higher cognitive level. The latter could be led by the tutor to ensure higher level discussions.

Tutors need to ensure that learners feel secure when posting in that nothing posted would bring in negative remarks or ridiculed in any way. Respect for each others opinions are expected to be maintained at all times. Meanwhile, tutors were expected to help learners stay focused on the discussions and should the discussions deviate, they were to bring the discussions back on track. Should any subject matter content need clarification, tutors were expected to assist. This may be accomplished by pointing learners to useful readings of the concept or to explain it further online or during the face-to-face tutorials.

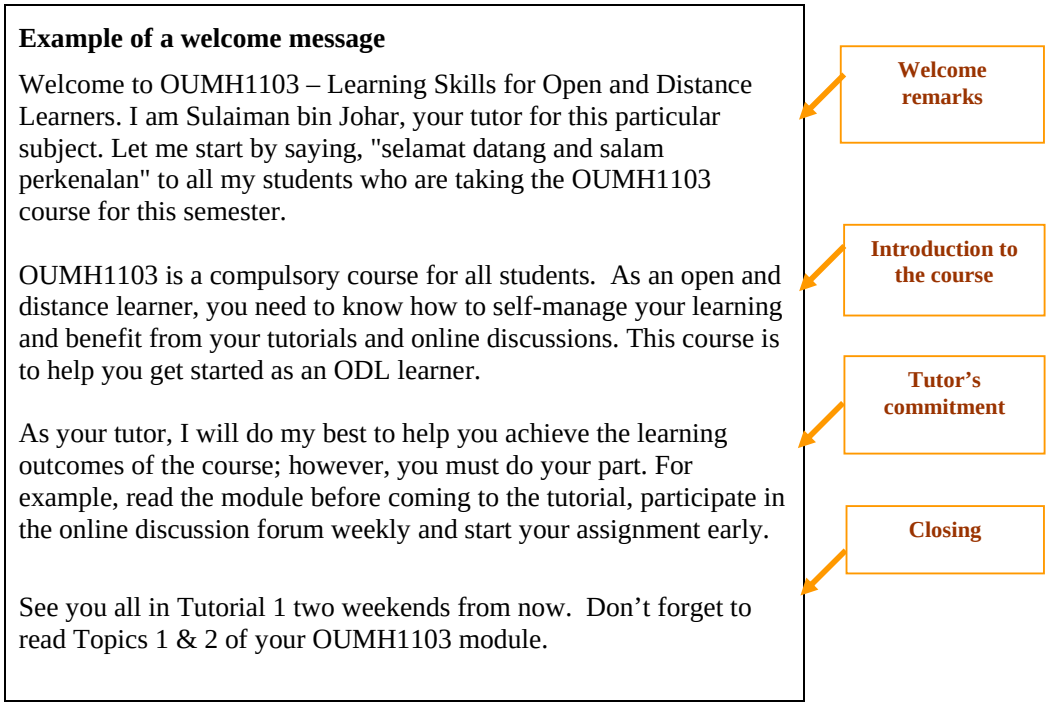

Figure 2: Example of a welcome message from the tutor

Concluding Remarks

The objective of the study was initially to determine the effectiveness of the current implementation of online learning. The CoI model was used to assess the interactions in the forms as it is believed to be a suitable framework to develop a community of learners. The application of the model allowed OUM to assess the gap between the current and the desired practice. At the conclusion of the study, it was realized that the CoI model could indeed be the basis for an appropriate framework for OUM forums. It is believed that the model will help ensure meaningful collaborative learning. The adoption of the model was proposed by CQMRI when reporting the findings to the OUM Academic Board, thereby improving the previous framework which was based on frequency and quality of postings. It was next incorporated into the new OUM Tutor's Handbook for the re-training of tutors. It is recommended that another study to assess the implementation of the CoI framework be conducted to determine its contribution in enhancing the effectiveness of online learning at OUM.

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THE STUDY ON THE CHANGE OF LEARNING STYLE AMONG ENGINEERING STUDENTS

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ABSTRACT

Learning style is viewed as a method of education that is particular to personal study experiences to achieve the best learning results, which is some cases, the deep learning experiences. The understanding and the area of the learning styles are said to be both complicated and fragmented (Reid, 1995). Many researches have been carried out to investigate different aspects of the learning styles. The researchers have recognized at least 21 components, where normal individuals would have 6 to 14 strongly preferred learning styles (Dunn et. al, 1990). Looking on the students' learning styles fundamentally, one may need to identify the modality as visual, auditory or kinesthetic, which refer to the learning process through seeing, hearing and touching, respectively. The understanding of the learning styles helps in the design of the delivery of lecture to suit students' learning style to achieve deep learning among students. A recent analysis on the learning style was carried out on one of the engineering classes in the author's faculty by using the Barsch Learning Style Inventory. The preliminary results show that engineering students in this class generally have visual learning style; with some of them have a combination of two or three learning styles. Nearly half of these students have changed from one type to another, while others have the consistent learning styles throughout the learning process. This research aims to look into the change in learning styles among engineering students from different engineering disciplines and levels. In accordance to this, this paper will report the analyses of the types of learning styles among engineering students, and the changes they undergo at the end of semester.

Introduction

Learning styles can be viewed as individual's approach to learning or studying. In other words, it is one's natural, habitual, and preferred way(s) of absorbing, processing and retaining new information and skills (Reid, 1995). Understanding students' learning style is important in the teaching and learning process because the learning styles are education-relevant expressions of the uniqueness of the individual (Joyce and Weil, 1996). The realisation and familiarity of the individual learning style helps one to learn faster and easier as the learner is able to take important steps according the learning styles he/she possesses.

To an instructor/educator, the understanding of students' learning style helps him/her to design the course more effectively according to the different styles possessed by students. To achieve this, the instructor first needs to avoid two misconceptions (Joyce and Weil, 1996), namely

- Assuming that a model of teaching is fixed and inflexible, which should be employed rigidly for best results.
- Assuming each learner has a fixed style of learning that is unlikely to change or grow.

The second misassumption has become the key factor for the initialisation of this research, where in the following sections the change of learning pattern of engineering students are studied.

The learning style of a student can be determined by using learning style inventories. Davis (1989) identified three basic learning style inventory types:

- *Cognitive Inventories.* This involves how a student process the information obtained, including the classification, strategies for solution, method of handling. In particular, whether the student is primarily a visual, auditory or kinesthetic learner.
- *Affective Inventories.* This looks into the inner behavior of the learner, such as the motivation, attitudes, preferred physical conditions and the handling of success and failure.
- *Psychomotor Inventories.* This relates to the type of content a student likes best, the mode of presentation that the student prefers, and how much action is required in the learning environment.

There are many learning style inventories available to study how students learn. Each of them consists of various questions to test on different types of learning styles. Few types of the learning style inventories are introduced here.

A*TLAS (Assessing The Learning Strategies of AdultS) Learning Strategies* developed by Conti and Fellenz (1991) consists of questions related to learning in real-life situations which one is able to control the learning situation. The instrument categories the learning styles into types of engagers, navigators and problem solvers. Each of this type is further divided into two subtypes. Despite the confusing questions posted, the concept is interesting and easy to implement.

The *Index of Learning Styles* formulated by Felder and Soloman of North Carolina State University is an on-line instrument used to evaluate preferences on four dimensions namely active/reflective, sensing/intuitive, visual/verbal, and sequential/global. The instrument consists of 44-item questions to evaluate the learning style of a person.

DVC Learning Style Survey for College (Jester, 2000) helps the learner to determine the learning style in the categories visual-nonverbal, visual-verbal, auditory-verbal, tactile-kinesthetic from 32-item questions online. Statements such as, “I tend to ‘doodle’ during lecture by drawing on my notebook pages” are posted and the learner needs to respond by clicking one of a set of three radio buttons labeled “Often, Sometimes, Seldom”.

Barsch Learning Style Inventory (Barsch, 1991) contains 24 questions written in the first person, such as, “I can tell if sounds match when presented with pairs of sounds.” The learner is given three choices – “Often, Sometimes, and Seldom”.

Three learning styles are tested, namely Visual, Auditory, and Tactile (Kinesthetic).

In this paper the learning styles of the engineering students in the Faculty of Engineering and Technology, INTI International University College, Malaysia, is studied and presented. The analysis aimed on the changes in the learning style throughout a semester's study (15 weeks). Due to the environmental influence and lecturer's way of teaching, students may have their learning style changed as they pick up the knowledge in the subject. From the analysis the general learning style of engineering students are known and how they change from one learning style to another is discussed.

Research Methodology

The Barsch Learning Style Inventory is chosen to be the Inventory used for this study. This cognitive inventory is selected in accordance to the practice of transformative learning (Idrus and Koh, 2008) in the author's faculty, aiming to increase the understanding and the ability of the reconceptualisation of a concept. In other words, the ability and method to process, analyse and store the information received is important in this learning method. Furthermore, Barsch Learning Style Inventory only consists of 24 questions, which students are able to complete in relatively shorter time, hence the conduct of the inventory twice a semester will not become a burden to both students and lecturers.

In attending to the engineering students' learning styles, the Barsch Learning Style Inventory (Barsch, 1991) is given to the students at the beginning of the course to observe students' opinion towards the different learning habits. The target students considered here is shown in Table 1. The questions of the inventory are shown in appendix. Towards the end of semester, the same inventory is given to students to fill and the data obtained from the inventory is observed.

Area of study	Year of study	Semester	Number of Students	Subject
Civil Engineering / Quantity Surveying	Diploma	3-5	26	Principles of Design
Electrical and Electronic Engineering	Degree - 3rd	5	13	Quality Assurance and Management
Electrical and Electronic Engineering	Degree – 1st	1	15	Introductory Mechatronics
Mechanical Engineering	Degree – 2nd	4	12	Project Management and Product Development

Table 1: targeted engineering students who involve in the study of the change of learning styles

The lecture conducted is based on the transformative learning (Idrus and Koh, 2007) idea, where students are trained to be active learners who are independent, resourceful, adaptive, flexible, innovative and initiated. The lectures are conducted in the active way, where components presentations, design projects and discussion sessions are added into the normal contact periods.

Results and Propositional Discussions

Out of the 66 students who took part in the survey, a total of 28 students, or 42.42 % showed the consistency of the learning style throughout the semester. In other words, slightly more than half of the students (57.58 %) had their learning style changed. Table 2 shows the analysis of the change of learning styles of the students who are involved in the analysis. From the analysis it can be seen that the changes takes in the forms single-multiple, multiple-single, single-single and multiple-multiple. The last form has the least number of students, due to the fact that even in the initial stage, there are only a total of 13 students who possess the multiple learning style, and 10 of them has changed to single learning style while one of them remain unchanged.

	Number of students	%
TOTAL UNCHANGED:	28	42.42
Changes of Learning style		
SINGLE - MULTIPLE	13	19.70
MULTIPLE - SINGLE	11	16.67
SINGLE - SINGLE	12	18.18
MULTIPLE - MULTIPLE	2	3.03
Grand total	66	100

Table 2: 42.42 % of students who involved in the study do not have their learning style changed, while 57.58 % of them changed from one (Single) or combination of two or three (Multiple) to another.

Showing in Figure 1, majority of the engineering students who are involved in the study have the visual learning style, and this is followed by auditory and kinesthetic learning styles. In addition, as high as about 80 % (80.3 % initially and 77.27 % finally) of the students as shown a single learning style, while in comparison about 20 % of the students in this study show a combination of two or more learning styles. This interesting results show that engineering

students perhaps are more interested in learning by viewing the concepts by graphics, rather through listening or hands-on. However, this statement can only be confirmed with the research done on the students from other streams.

Detailed analysis on the results on single study styles, the data show not much change on the number of learning styles shown by the students. A consistent number of students who possess auditory and kinesthetic learning style remain the same, while there is a slight drop of the number on the visual learning style. Whether the maintenance of the number is contributed by the same number of students or students changing from one single learning style to another single learning style will be discussed in detail in the following analyses.

One interesting trend that is found from the Figure one is the increment of the number of the students who possess the kinesthetic (in both single and multiple learning styles) after the semester. This is shown in the some columns of the chart, where the number has increased for the categories Kinesthetic, Visual + Kinesthetic and Visual + Auditory + Kinesthetic. One reason for this perhaps due to the hands-on or the laboratory works that have been given to students throughout the semester, that have increased their interests in learning the subject by hands-on.

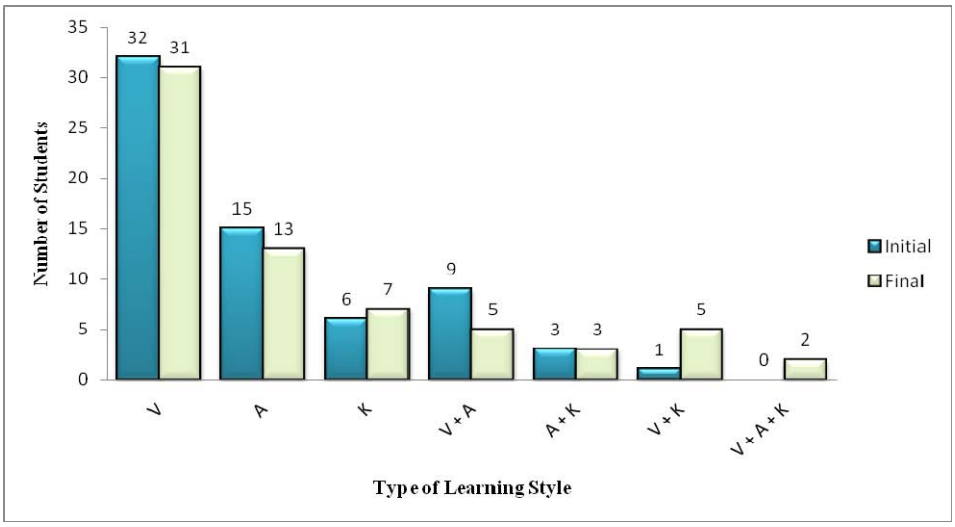

Figure 1: Graph shows the total number of students who possess different learning styles at the initial stage (begining of the semester) and final stage (end of semester).

Next, the change in learning style is analysed for individuals. Illustrated in Table 3, as high as 20 students show a strong preference in visual learning styles, which do not change throughout the semester. In addition, a minority of students who possess auditory (5 students) and kinesthetic (3 students) do not show any change in learning style from the beginning to the end of the semester.

Out of the 42 students who posses visual related learning styles (Visual, Visual + Auditory, Visual + Kinesthetic, Visual + Auditory + Kinesthetic), 32 of them maintained this learning style at the end of the semester, where 20 of them have the unchanged styles, and 12 of them changed to a combination of visual and one or more other styles. Similarly there are 27 students with auditory related learning styles (single or the combination of two or more), with 5 of them unchanged in styles, 6 changed to auditory related and 16 changed to auditory non-related learning styles. In kinesthetic learning styles, 3 out of 10 students had unchanged learning styles, while 4 and 3 students changed to kinesthetic related and non-related styles, respectively. From the data, it is observed that students mainly maintained their preferred learning style throughout the semester, and nearly one-third of the students of visual and kinesthetic learning style changed to the style which does not contain the learning style that they possess initially. Comparatively, about two-third of the auditory students changed to a style that is not auditory related.

Initial \ Final	V	A	K	V + A	A + K	V + K	V + A + K
V	20	5	0	2	2	2	1
A	6	5	0	2	1	1	0
K	1	0	3	1	0	1	0
V + A	4	2	3	0	0	0	0
A + K	0	1	1	0	0	1	0
V + K	0	0	0	0	0	0	1
V + A + K	0	0	0	0	0	0	0

Table 3: Detail analysis of the students' learning styles at the initial and final stages. Alphabets V, A and K refer to the learning styles of Visual, Auditory and Kinesthetic, respectively.

The analysis is then extended to look at the learning styles of individual classes. Table 4 shows the learning styles of Electrical and Electronic Engineering students in the subjects of Quality Assurance and Management and Introductory Mechatronics tabulated in Tables 4 (a) and 4 (b), respectively. For the case of Table 4(a), 46 % of the semester-5-students do not change their style throughout the semester, and three quarters of them possess the visual learning style at the end of the semester. On the other hand, students in semester 1 (Table 4(b)) possess single learning styles in the beginning of the semester, with one-third of them changed to multiple learning styles.

Initial \ Final	V	A	K	V + A	A + K	V + K	V + A + K
V	5	1					
A	2	1					
K							
V + A	2		1				
A + K						1	
V + K							
V + A + K							

(a)

Initial \ Final	V	A	K	V + A	A + K	V + K	V + A + K
V	4			1			
A	4	1		1		1	
K	1			1		1	
V + A							
A + K							
V + K							
V + A + K							

(b) (b)

Table 4: Analysis of the change of learning style on individual class for Electrical and Electronic Engineering students in the subjects (a) Quality Assurance and Management, and (b) Introductory Mechatronics. Alphabets V, A and K refer to the learning styles of Visual, Auditory and Kinesthetic, respectively.

Students in Civil Engineering and Quantity Surveying show more interesting results, in terms of possessing a wider range of styles initially and finally, as shown in Table 5. This group of students is built from a combination of 8 Civil Engineering students and 18 Quantity Surveying students. 17 students possess single learning style initially, of which 9 of them finally have unchanged learning style, 2 of them change to single learning style and 6 change to multiple learning styles. Out of the 9 students who possess initial multiple learning style, 8 of them drop one learning style (from combination of two to single learning style) and one adds an additional learning style, become the minority (3.03 % of the total number of students) who possess three learning styles.

Initial \ Final	V	A	K	V + A	A + K	V + K	V + A + K
V	4	3		1	2	1	1
A		2			1		
K			2				
V + A	2	2	2				
A + K		1	1				
V + K							1
V + A + K							

Table 5: Analysis of the change of learning style on individual class for Civil Engineering / Quantity Surveying students in the subject Principles of Design. Alphabets V, A and K refers to the learning styles of Visual, Auditory and Kinesthetic, respectively.

Mechanical Engineering students in this study, in general, shows a more stable learning styles, where 75 % of them have unchanged learning styles from the beginning of the till the end of the study, while 25 % of them changed their way of learning.

Initial \ Final	V	A	K	V + A	A + K	V + K	V + A + K
V	7	1				1	
A		1		1			
K			1				
V + A							
A + K							
V + K							
V + A + K							

Table 6: Analysis of the change of learning style on individual class for Mechanical Engineering students in the subject Project Management and Product Development. Alphabets V, A and K refer to the learning styles of Visual, Auditory and Kinesthetic, respectively.

From the analyses of the data, propositional statements can be made as follow on students who involved in the study:

- Majority of the engineering students (42 students) in the study possess a learning style that is visual and visual-related.

- Kinesthetic or kinesthetic-related learning style, in contrast, is owned by minority of them (10 students), and majority of these students are from Civil Engineering and Quantity Surveying.
- 80 % of students has initial single learning style, of which finally 42.42 % of them remain unchanged, and another 37.88 % changed to the other learning styles.
- Students of higher level (Year 2 onwards) have shown more consistent learning styles, with about 50 % or more of them have unchanged learning styles.
- Students of Electrical and Electronic Engineering, and Mechanical Engineering have single learning style, while students from Civil Engineering and Quantity Surveying tend to have a balanced distribution of single and multiple learning styles.

Acknowledgement

The author would like to take this opportunity to thank Prof. Dr. Nirwan Idrus, Ms Win Lai Aye, Mr. Woon Kai Siong and Mr. Yeaw Win Shyang for their helps in obtaining the data for the research.

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Appendix

24 questions posted in The Barsch Learning Style Inventory (Barsch, 1991) and categorised according to the learning styles.

	Section I - Visual
1	Follow written directions better than oral directions.
2	Like to write things down or take notes for visual review.
3	Am skilful and enjoy developing and making graphs and charts.
4	Can understand and follow directions on maps.
5	Can better understand a news article by reading about than by listening to it on the radio.
6	Feel the best way to remember is to picture it in your head.
7	Grip objects in your hands during learning periods.
8	Obtain information on an interesting subject by reading related materials.
	Section II - Auditory
9	Can remember more about a subject through listening than reading.
10	Require explanations of graphs, diagrams, or visual directions.
11	Can tell if sounds match when presented with pairs of sounds.
12	Do better at academic subjects by listening to tapes and lectures.
13	Learn to spell better by repeating the letters out loud than by writing the word on paper.
14	Would rather listen to a good lecture or speech rather than read about the same material in a book.
15	Prefer listening to the news on the radio than reading about it in the newspaper.
16	Follow oral directions better than written ones.
	Section III - Kinesthetic
17	Bear down extremely hard when writing.
18	Enjoy working with tools or working on models.
19	Remember best by writing things down several times.
20	Play with coins or keys in pockets.
21	Chew gum, snack, or smoke during studies.
22	Do a lot of gesturing, am well coordinated.
23	Am good at working and solving jigsaw puzzles and mazes.
24	Feel very comfortable touching others, hugging, handshaking, etc

A COMPARATIVE STUDY ON LEARNING PREFERENCES AMONG ENGINEERING STUDENTS

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INTI International University College, Malaysia

ABSTRACT

The aim of this study is to investigate the learning preferences among engineering students in the Faculty of Engineering and Technology, INTI International University College, Malaysia. With globalization in education, a significant numbers of international students from different parts of the world are studying in the faculty so that not only their learning is assured but also their diversities are addressed. A comparison of the learning styles of Malaysian students considered as a homogeneous group and international students from various countries is investigated. Moreover the results of the study are used to examine trends with respect to gender and different disciplines in engineering. Two questionnaires are used as instruments: the first questionnaire is designed to find out the students' demographic information such as gender, age, nationality and field of study, etc. The second questionnaire is to use the Felder-Soloman's Index of Learning Styles (ILS) to determine the students' learning preferences. Samples are selected from students who are currently studying in diploma and degree programmes in the faculty. The preferences of learning styles on average of the students studying in the faculty are found to be sequential, sensing and visual. The Malaysian students as well as international students in the sample have the same characteristics as the overall sample, that is, their preferences on average are sequential, sensing, and visual. The learning styles of male students in this sample, on average are sensing, visual and sequential while the female students, on average are visual.

Keywords: *Engineering students, Felder-Soloman's Index of Learning Styles, Gender, Learning styles*

INTRODUCTION

As education is becoming more globalized, universities are accepting more international students from various part of the world. The educators have the obligations to ensure all students have an equal opportunity so that not only their learning is assured but also their diversities are addressed. Felder and Brents (2005) indicated that diversity in education usually refers to the effects of gender and ethnicity on student performance. Student's learning styles may play a major role in determining the students' academic performance. Wirz (2004) indicated that once the students know their learning style, and the strength of that style, they will understand how they learn best.

A number of approaches in considering learning styles of students and a number of instruments for identifying the learning styles are available in literature. Among them, Felder-Soloman's Index of Learning Styles (ILS) (Felder & Soloman, 2003) is widely used in order to identify the students' learning styles in engineering education.

Felder and Silverman (1988) defined the student learning style as the answers to five questions: (i) What type of information does the student preferentially perceive: sensory – sights, sounds, physical sensations, or intuitive – possibilities, insights, hunches? (ii) Through which sensory channel is external information most effectively

perceived: visual – pictures, diagrams, graphs, demonstrations, or auditory – words, sound? (iii) With which organization of information is the student most comfortable: inductive – facts and observations are given, or deductive – principles are given, consequences and applications are deduced? (iv) How does the student prefer to process information: actively – through engagement in physical activity or discussion, or reflectively – through introspection? and (v) How does the student progress toward understanding: sequentially – in continual steps, or globally – in large jumps, holistically? Nevertheless, Felder (2002) made two significant changes in the definition: dropping the inductive/deductive dimension due to the reason that this dimension is considered as "best" method of teaching and changing the visual/auditory to visual/verbal so that spoken and written words to be included in the same category.

The aim of this study is to investigate the learning preferences among engineering students in the Faculty of Engineering and Technology (FOEAT), INTI International University College (INTI-UC), Malaysia. Since a significant numbers of international students from different parts of the world are studying in the faculty, a comparison of the learning styles of Malaysian students considered as a homogeneous group and international students from various countries is explored. Moreover the results of the study are used to examine trends with respect to gender and different disciplines in engineering.

RESEARCH METHODOLOGY

Students are surveyed using two questionnaires for their background information (gender, age, country of citizenship, field of study, etc.) and the learning styles. The learning styles instrument known as the Felder-Soloman's Index of Learning Styles (ILS) (Felder & Soloman, 2003) is used in order to determine the students' learning styles preferences. The ILS, created by Felder and Soloman, is designed to assess preferences on four dimensions of a learning style model formulated by Felder and Silverman. It consists of four scales, each with 11 items: sensing/intuitive, visual/verbal, active/reflective, and sequential/ global. Felder and Spurlin (2005) summarized the four scales as follows:

- Sensing (concrete, practical, oriented toward facts and procedures) or intuitive (conceptual, innovative, oriented toward theories and underlying meanings);
- Visual (prefer visual representations of presented material, such as pictures, diagrams, and flow charts) or (prefer written and spoken explanations);
- Active (learn by trying things out, enjoy working in groups) or reflective(learn by thinking things through, prefer working alone or with one or two familiar partners);
- Sequential (linear thinking process, learn in incremental steps) or global (holistic thinking process, learn in large leaps).

In Litzinger et al. (2005), it is suggested that with 11 items on a scale, there is no possibility for an individual to register a zero preference, and the possible differences between the numbers of responses for each category allow for a convenient categorization of preference strength as mild (±1, ±3), moderate (±5, ±7), and strong (±9, ±11). The instrument structured in this manner is used in this study.

Samples are selected from the students who are currently studying in diploma and degree programmes in the faculty.

RESULTS

Two questionnaires are given to the students from the faculty currently studying in May 2008 session. A total of 346 students (290 Malaysian and 56 international students) have responded to the questionnaires. International students come from Brunei, China, India, Indonesia, Kenya, Maldives, Mongolia, Myanmar, Nigeria, Sri Lanka, United Kingdom, Vietnam and Yemen. Table 1 provides a summary of the characteristics of the sample. The sample consists of 84% of Malaysian and 16% of international students. The sample is not gender balanced since percent female in the sample is about 17%. However female participation in the sample is considered to be sufficient to represent the female population in the faculty since the enrolment of female students reported by Ni Lar Win & Khin Maung Win (2007) is 10.8% of total students.

Table 1.
Sample characteristics

Discipline	Number completing instrument	No. and percent female
Civil Engineering	88	14 (15.9%)
Electrical and Electronic Engineering	92	19 (20.65%)
Mechanical Engineering[1]	130	15 (11.53%)
Quantity Surveying	36	10 (27.77%)
Total	346	58 (16.76%)

[1]*Mechanical includes Mechanical, Manufacturing, Mechatronic and Industrial Engineering.*

Based on the findings obtained from the questionnaires, the study reveals the following:

Background information

About 90 percent of the respondents are between the ages of 18 and 22, with 10% are older. Most of the students came from public secondary schools (73%) and the remaining students from private school. Majority of the Malaysian students obtained SPM (Malaysian Certificate of Education) certificates (80%) in their secondary school. The others received the certificates of UEC (Unified Education Certificate) (13%), STPM (Higher Malaysian Certificate of Education) (2%) and Matriculation British 'A' and 'O' level (3%). International students received Matriculation British 'A' level (20%), 'O' level 18%, High School certificate (45%) and others (17%).

Student's learning styles

The results of this study are used to investigate trends with respect to student type (Malaysian students and international students), gender and different disciplines in engineering. Tables 2 to 4 represent the 95% confidence intervals of means of each scale for all respondents in FOEAT. The mean is statistically different from zero when the confidence interval does not include zero. Table 2 shows the learning styles of Malaysian and International students.

Table 2.
Learning styles of Malaysian and International students

LS type	Type of students	No. of students	Mean	Std Dev	95% Confidence Interval	
					Lower bound	Upper bound
Active (+)/ Reflective (-)	Malaysian	290	0.034	3.926	-0.417	0.486
	International	56	0.732	4.149	-0.355	1.182
Sensing (+)/ Intuitive (-)	**Malaysian***	290	1.355	4.415	**0.846**	**1.863**
	International*	56	1.643	3.635	**0.691**	**2.595**
Visual (+)/ Verbal (-)	**Malaysian***	290	5.234	4.274	**4.742**	**5.726**
	International*	56	2.732	4.363	**1.589**	**3.874**
Sequential (+)/ Global (-)	**Malaysian***	290	0.465	3.837	**0.024**	**0.907**
	International*	56	1.304	4.284	**0.181**	**2.426**

* indicates that 95% confidence interval does not include zero.

Based on the result shown in Table 2, for both Malaysian and international students, the means of Sensing-Intuitive, Visual-Verbal and Sequential-Global scales are statistically different from zero, so the students on average are sensing, visual, and sequential. The findings on Malaysian students are consistent with the study performed by Ni Lar Win et.al (2007). Figure 1 shows the mean values of each ILS scale between Malaysian and international students.

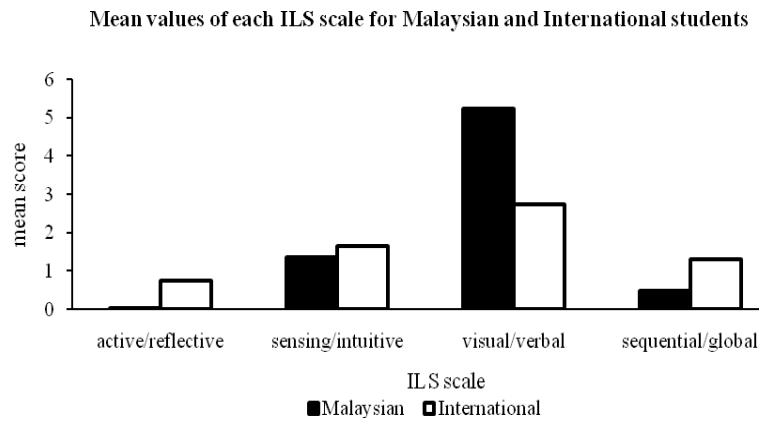


Figure 1. Mean values of each ILS scale for Malaysian and International students

Table 3 shows the mean, standard deviation and 95% of confidence interval of learning styles of male and female students in the faculty.

Table 3.
Learning styles with respect to gender

LS type	Gender	No. of students	Mean	Std Dev	95% Confidence Interval	
					Lower bound	Upper bound
Active (+)/ Reflective (-)	Male	288	0.038	3.952	-0.418	0.495
	Female	58	0.69	4.018	-0.344	1.724
Sensing (+)/ Intuitive (-)	**Male***	288	1.454	4.177	**0.972**	**1.937**
	Female	58	1.138	4.872	-0.116	2.392
Visual (+)/ Verbal (-)	**Male***	288	4.798	4.365	**4.294**	**5.302**
	Female*	58	4.982	4.493	**3.826**	**6.139**
Sequential (+)/ Global (-)	**Male***	288	0.545	3.891	**0.096**	**0.994**
	Female	58	0.879	4.074	-0.169	1.927

* indicates that 95% confidence interval does not include zero.

It can be seen from Table 3, for the male students, the means of, Sensing-Intuitive, Visual-Verbal and Sequential-Global scales are statistically different from zero, so the male students in this sample, on average are sensing, visual and sequential. For the female students in the sample, the mean of Visual-Verbal scales is statistically different from zero, so the female students, on average are visual. Figure 2 shows the mean values of each ILS scale between genders.

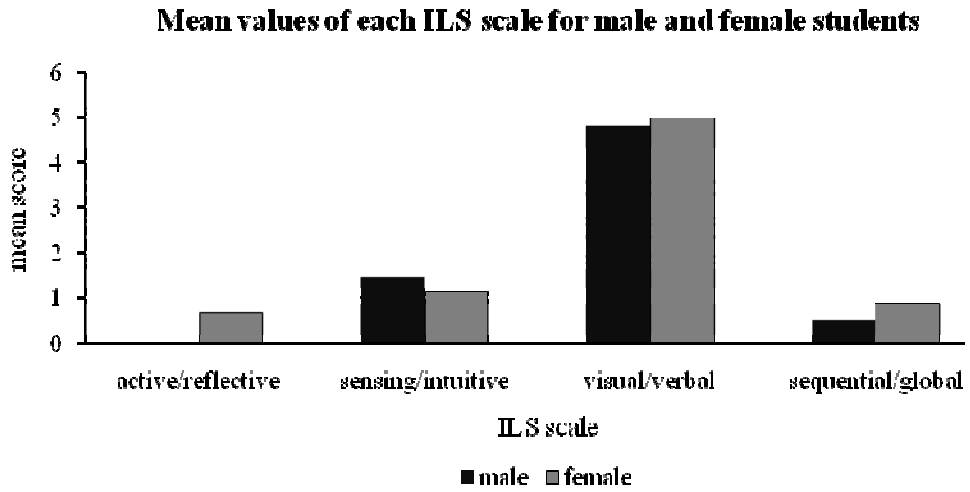


Figure 2. Mean values of each ILS scale for male and female students

Table 4 shows the learning styles with respect to engineering disciplines in the faculty.

Table 4.
Learning styles with respect to engineering disciplines

LS type	Engineering disciplines	No. of students	Mean	Std Dev	95% Confidence Interval	
					Lower bound	Upper bound
Active (+)/ Reflective (-)	Civil	88	0.761	4.169	-0.109	1.632
	Electrical & Electronic	92	0.261	3.765	-1.030	0.508
	Mechanical	130	0.108	3.888	-0.776	0.561
	Quantity Surveying	36	0.611	4.163	-0.748	1.971
	All	346	0.147	3.965	-0.27	0.565
Sensing (+)/ Intuitive (-)	**Civil***	88	2.022	4.06	**1.174**	**2.871**
	Electrical & Electronic*	92	1.511	4.285	**0.6352**	**2.387**
	Mechanical*	130	0.831	4.374	**0.079**	**1.582**
	Quantity Surveying*	36	1.667	4.510	**0.193**	**3.14**
	All*	346	1.401	4.295	**0.949**	**1.854**
Visual (+)/ Verbal (-)	**Civil***	88	4.545	4.091	**3.691**	**5.4**
	Electrical & Electronic*	92	4.826	4.397	**3.927**	**5.724**
	Mechanical*	130	5.323	4.249	**4.593**	**6.053**
	Quantity Surveying*	36	3.75	5.336	**2.007**	**5.493**
	All*	346	4.829	4.381	**4.367**	**5.291**
Sequential (+)/ Global (-)	Civil	88	0.556	3.781	-0.233	1.347
	Electrical & Electronic*	92	1.196	3.777	**0.424**	**1.968**
	Mechanical	130	0.138	4.125	-0.571	0.848
	Quantity Surveying	36	0.861	3.765	-0.37	2.091
	All*	346	0.601	3.918	**0.188**	**1.014**

* indicates that 95% confidence interval does not include zero.

It can be concluded from Table 4 that for students who are studying in Civil, Mechanical and Quantity Surveying, on average are sensing, and visual since the means of Sensing-Intuitive, and Visual-Verbal scales are statistically different from zero while the Electrical and Electronic students are sensing, visual and sequential.

Based on the result obtained from Table 4, for the entire sample, the means of Sequential-Global, Sensing-Intuitive, and Visual- Verbal scales are statistically different from zero, so the students in this sample, on average are sequential, sensing, and visual. The Malaysian students as well as international students in the sample have the same characteristics as the overall sample, that is, their preferences on average are sequential, sensing, and visual. The preference of the students in FOEAT is generally consistent with the engineering students in the study done by Litzinger et al. (2005).

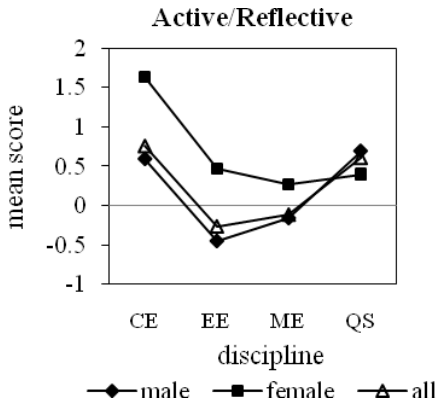
A two-way analysis of variance on each of the four scales of the ILS is performed to test whether there are significant mean differences among disciplines, between student types and genders. The results in Table 5 indicate that there are no significant mean differences among disciplines and between genders on all scales and between student types on all scales except for Visual-Verbal. It can be concluded that Malaysian students tend to be more visual (moderate) than international students (mild) as shown in Figure 2. There are no significant interaction effects on all scales except interaction between gender and student type on Sequential-Global scale.

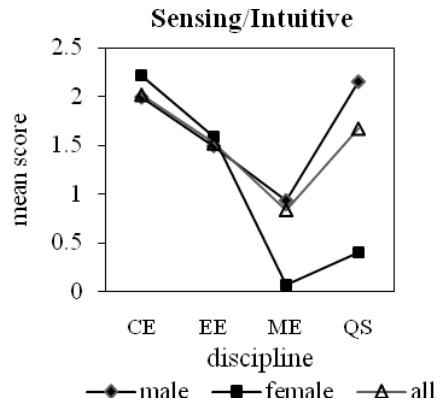
Table 5.

A two-way analysis of variance on each scale

Effect	DF	Active(+)/ Reflective(-)		Sensing(+)/ Intuitive(-)		Visual(+)/ Verbal(-)		Sequential(+)/ Global(-)	
		F	P value	F	P value	F	P value	F	P value
Discipline (D)	3	0.66	0.579	0.27	0.851	1.62	0.186	0.33	0.806
Gender (G)	1	0.01	0.918	0.32	0.57	0.04	0.846	3.54	0.061
Student type (S)	1	0.21	0.645	0.04	0.843	5.99	0.015	2.98	0.085
D*G	3	0.76	0.518	0.66	0.577	0.13	0.942	1.56	0.198
D*S	3	1.71	0.165	0.26	0.857	1.18	0.318	0.54	0.658
G*S	1	1.25	0.265	0.01	0.908	0.05	0.829	**8.33**	**0.004**
D*G*S	2	1.63	0.198	0.63	0.535	0.91	0.405	1.52	0.222

Figure 3 shows the trends in gender across the disciplines in engineering. Similar trends for male students and all students are observed on each scale for all disciplines but there is no trend observed for female students. This may be due to the low number of female students in the sample especially in Mechanical engineering discipline.





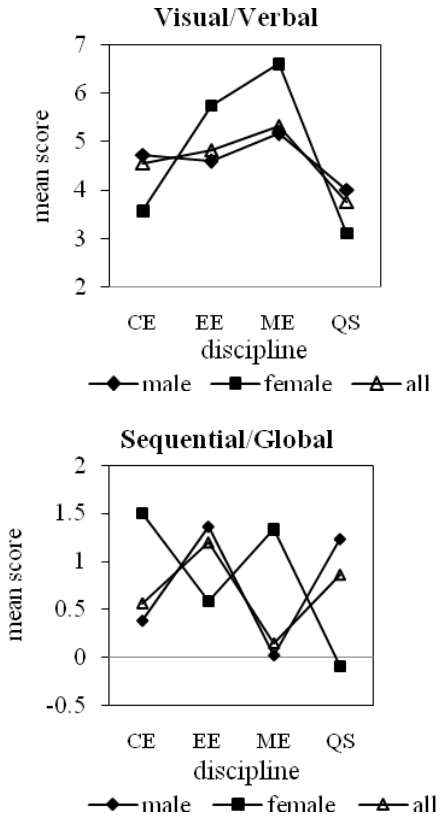


Figure 3. Means for genders across disciplines

CONCLUSION

The preferences of learning styles on average of the students studying in the faculty are found to be sequential, sensing and visual. The Malaysian students as well as international students in the sample have the same characteristics as the overall sample, that is, their preferences on average are sequential, sensing, and visual. The male students in this sample, on average are sensing, visual and sequential while the female students, on average are visual.

There are no significant mean differences among disciplines and between genders on all scales and between student types on all scales except for Visual-Verbal. It can be concluded that Malaysian students tend to be more visual (moderate) than international students (mild).

In order to match with the students' learning styles found in this study, the teaching styles of lecturers in the faculty could emphasize towards sensing, visual and sequential. In the traditional practice, most lecturers conduct their courses in a sequential manner. However, there are rooms to improve teaching styles on sensing and visual such as lecturers giving more specific examples of concepts and procedures, and finding out how the concepts can be applied in practice. In the faculty, lecturers are encouraged to

prepare their lessons in power point presentation so that students can see more pictures, diagrams, and videos in the lecture.

The authors hope that the findings from this study can be used as a reference in designing the teaching styles which will match the students' learning styles.

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ENTRY-LEVEL TECHNICIAN SKILLS FOR SEMICONDUCTOR INDUSTRY: A COMPARATIVE STUDY ON MANAGEMENT EXPECTATIONS AND STUDENTS' PERCEPTIONS

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ABSTRACT

This study aimed to identify the mismatch in skills of semiconductor manufacturing technicians by doing a comparative study of the managers' expectations of technical graduate skills with students' perceptions of the skills that the semiconductor managers valued. The skills needed for entry-level semiconductor manufacturing equipment technicians were identified focusing on the first six months on-the-job. A self-completion survey instrument was used to rate the importance of a range of semiconductor manufacturing technician skills. The ranked standardized means were used to analyze and compare the relative importance of skills within groups (managers or students) and to assess the relative importance of skills standard between groups. To reveal any significant differences in the importance rating of the skills, *t* test of the standardized means was conducted.

The analysis of the ranked skill standard descriptors and skill standard groups shows the differences between the managers' and students' perceptions about the most important skills for a graduate entering a semiconductor industry traineeship or entry-level technician position. This result demonstrates that students have no realistic perceptions of the skills that semiconductor industry managers valued. The variations or gaps in the ranking of skills were found to be significantly different. This reveals that there are significant differences between management expectations and students' perceptions of the entry-level semiconductor technician skills that the managers valued. The gaps and the differences describe the skills mismatch between the technical graduates' skills and the skills requirement of the semiconductor industry.

The results challenged educators to align the graduates' skills to the skill needs of the industry using the validated skill standards. Close collaboration between technical schools and semiconductor companies is recommended to look into the opportunities of setting up a specialized course for semiconductor technology.

Keywords: *Entry-level Technician Skills, Semiconductor Industry, Management Expectations, Students' Perceptions*

INTRODUCTION

Human resource is the best and the most flexible asset recognized by any organization, that is why, firms gladly invest in efficient headhunting and personnel development. Unfortunately, in an industry that is skill-intensive such as the information technology (IT), electronics, and semiconductors sectors, the needs of the firms in terms of employment are not adequately matched by both the quality and quantity of skilled labor in the local pool today (Asian Institute of Management, 2005).

An important objective of vocational and technical education is to provide industry job-specific training. Another desirable outcome would be a better match between skills acquired in school and the industry which is expected to accelerate the school-to-work transition. However, one of the predicaments is that new graduates are not meeting the industry needs (*Facing the Realities of the World of Work,* 2006). Accordingly, the mismatch of skills with available jobs is due to poor academe-industry linkages, poor access to labor information, and brain drain. This inevitably results in high unemployment and underemployment rates (Lopez, 2007).

This research aimed to define the skill standards for entry-level semiconductor manufacturing technicians focused on skills needed in the first six months on the job; to determine the management expectations and students' perceptions in terms of delivering the skill sets needed in semiconductor manufacturing; and to compare the semiconductor manager's expectations of graduate skills and the students' perceptions of the skills that semiconductor managers valued.

OPERATIONAL FRAMEWORK

There has been considerable growth in technology courses being offered in many technical schools nationwide. However, there seems to have no change over time in the role of technical education programs aimed at meeting the needs of a semiconductor industry for entry-level skilled employees.

Figure 1 shows the industry-based skill standards for entry-level technicians operationally used to develop expectation-perception "gap analysis". The skill standards were developed using a model that supplied more context for the work performed and describe the kinds of interactions that occur among individuals involved in the work process (Merritt, 1996).

The skill standards are actually ranked performance criteria (skills or behaviors) from a list of 247 observable and measurable behaviors rated in terms of importance (how important it is to know or do), proficiency (how well must it be done), frequency (how frequently is the task done or the knowledge applied), and difficulty (how difficult is it to learn or do).

Employers say they want workers who have technical skills. These industry-based technical skills should be met by the emerging technical graduates. It is, therefore, necessary to determine the semiconductor industry managers' expectations and students' perceptions to know which among the skills they value most and to find the gap as well. The expectations-perceptions gap analysis is likely to reveal the skills mismatch in the manufacturing technician cluster in the semiconductor industry. This identified gap or mismatch can be communicated to economic and workforce initiatives and educational institutions.

METHODOLOGY

This study was conducted in 13 semiconductor companies located in the National Capitol Region (NCR), Laguna, and Cavite. Primary data were gathered through the use of self-completion survey instrument. The survey questionnaire was developed from the adopted semiconductor manufacturing technician skill standards published by Maricopa Advanced Technology Education Center located in Tempe, Arizona, US in collaborative effort with SEMATECH Technician Training Council, Richland College and other participating semiconductor companies from the same region. The samples comprised of

managers from the semiconductor companies engaged in assembly with test manufacturing and purely test manufacturing operations and the students from the top two technical schools in Metro Manila.

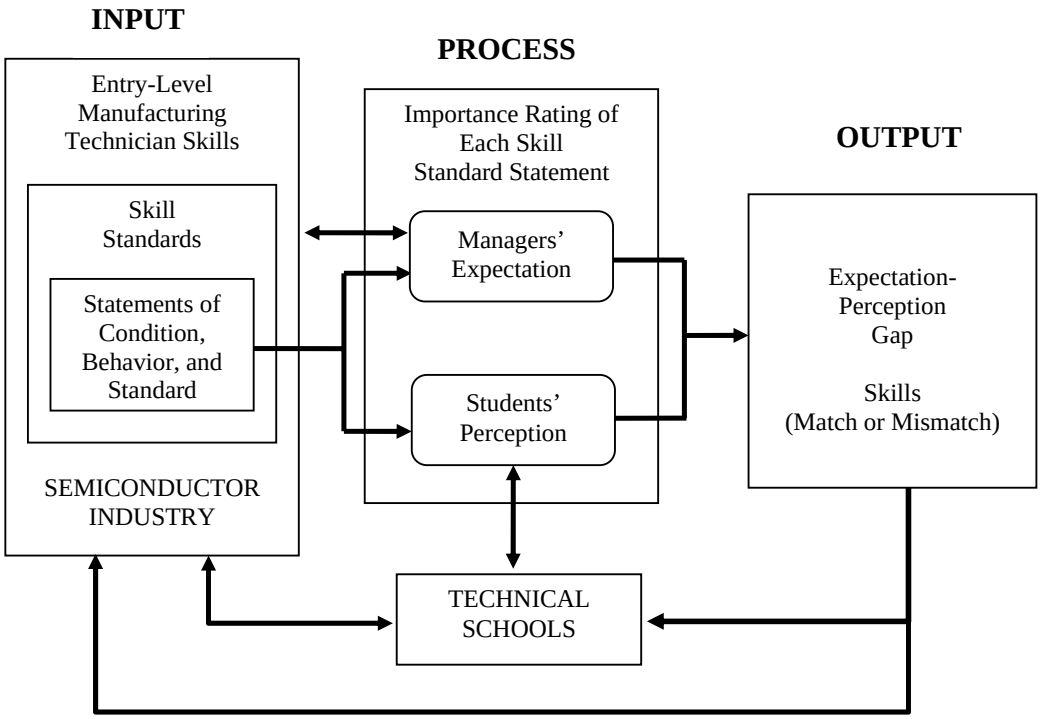

Figure 1. **A model showing entry-level technician skill standards needed by the semiconductor industry operationally used to assess expectations-perceptions gap.**

One of the schools is a state university while the other school is a technical private institution. Simple random sampling was used in the selection of the sample frame for the industry survey.

Students' perceptions were measured from samples taken from the total undergraduate and graduate students of the two schools, respectively using the adopted instrument. The procedure yielded a 100 percent response rate. The survey instrument consisted of 70 skill standard descriptors covering a total of 22 skill standards. The managers and students were then asked to rate the importance of each skill standard statements on a 5-point scale that was labeled 0= not important, 1= less important, 2= important, 3= very important, 4 = critically important and D= don't know. A "don't know" category was provided so that they will not be forced to rate skill standard statements that they do not understand. To reveal any significant differences in the importance rating of the skill standards between the two sample means, *t* test of the standardized means was employed.

RESULTS AND DISCUSSION

Management Expectations and Students' Perceptions of the Skill Sets Needed

Skill descriptors associated to the skill standard group *P* (adhering to basics safety practices) were rated with high importance as three skill descriptors belong to the top 4
(Table 1). It was followed by a skill descriptor on the 3.5th rank, "utilize variety of hand tools correctly", which belongs to group *L* (performing preventive and routine maintenance).

Ranking 5th is an important skill standard descriptor "measure voltage, current, and resistance" which is a lone descriptor belonging to group B. Another important thing to note is the inclusion of several skill descriptors belonging to group U (employing interpersonal skills) which is an indication that managers are also emphasizing not only safety and demonstration of basic knowledge but also the importance of interpersonal skills. Descriptors belonging to group N (implementing manufacturing technology and techniques) ranked next. At the bottom 15 ranked skill descriptors, managers showed consistency in rating the least important skill descriptors that belong to group K (operating remote systems) and group M (maintaining automated systems).

The skill standard "adhering to basic safety practices" shows coherence to the ranked ratings of its skill descriptors (Table 2). The 2nd on the rank came out to be the skill standard "implementing manufacturing technology and techniques" which has many skill descriptors rated with higher importance that overtook skill descriptors belonging to group L (performing preventive and routine maintenance). The skill standards that have skill descriptors ranked at bottom15 remained to be as the five least important for the managers with a relative unimportance value or standardized means of -0.54 to -1.09.

Table 3 presents a summary of the students' perceptions of skill descriptors that are important to the managers. Analysis of the top 15 shows that a skill descriptor associated to the skill standard group *A (* implementing quality principles) topped the list with a standardized mean value of 0.41. Coming in 2nd and 5th were skill descriptors associated to group *P* (adhering to basic safety practices). Those that ranked 3rd, 4th, and 6th were all the descriptors associated with group *U* (employing interpersonal skills). It is quite interesting to realize the awareness and the importance that the students are giving to these kinds of skills. The rests of the top 15 were mostly concentrated on descriptors associated with group *E* (troubleshooting and repairing electrical/electronic systems).

Table 4 shows that the 1st on the rank came out to be the skill standard "employing interpersonal skills" which has many skill descriptors rated with higher importance that overtook skill descriptors belonging to group *A* (implementing quality principles) and group *P* (adhering to basic safety practices). Those that ranked 2nd, 3rd, and 4th were the skill standards associated with most of the top 15 skill standard descriptors. Skill descriptors associated with the skill standards of adhering to basic safety practices, employing interpersonal skills, demonstrating working knowledge of basic electronics principles, performing preventive and routine maintenance, and implementing manufacturing technology and techniques featured strongly in the top 15 skills identified by managers. Only those associated with the skill standards of adhering

to basic safety practices and employing interpersonal skills were featured common to both groups on the top 15 ranked skill descriptors.

Table 1
Industry Managers' Rating of Skill Standard Descriptors

Description	Skill standard group	Managers' Rating		
		Std. mean	Std. dev	Rank
Managers' 15 most important skill standard descriptors:				
Follow basic safety practices	P	0.94	0.59	1.5
Demonstrate emergency shutdown procedures	P	0.94	0.65	1.5
Utilize a variety of hand tools correctly	L	0.82	0.73	3.5
Apply appropriate OSHA standards	P	0.82	0.67	3.5
Measure voltage, current, and resistance	B	0.76	0.71	5
Observe ESD precautions for product and equipment components	A	0.69	0.67	6
Follow operational procedures	U	0.68	0.76	7
Maintain chemical and gas delivery and disposal systems	N	0.65	0.76	8
Operate manufacturing equipment	C	0.60	0.64	9.5
Recognize ethical and non-ethical business practices	S	0.60	0.74	9.5
Recognize electrical/electronic malfunction indications	E	0.59	0.56	11
Conform to clean room protocol	N	0.57	0.63	12
Exhibit responsibility	U	0.56	0.80	13
Fill out maintenance record form including appropriate information	L	0.41	0.70	14
Use mechanical measuring devices to calculate dimensions	L	0.40	0.63	15

Note: *Skill Standard.* A = Implementing Quality Principles, B = Demonstrating Working Knowledge of Basic Electronics Principles, C = Operating Equipment, D = Processing Wafers / Assembly / Test; E = Troubleshooting and Repairing Electrical/Electronic Systems; F = Troubleshooting and Repairing Pneumatic Systems; G = Troubleshooting and Repairing Hydraulic Systems; H = Troubleshooting and Repairing Mechanical/Electromechanical Systems; I = Troubleshooting and Repairing Vacuum Systems; J = Troubleshooting and Repairing RF Systems; K = Operating Remote Systems; L = Performing Preventive and Routine Maintenance, M = Maintaining Automated Systems, N = Implementing Manufacturing Technology and Techniques, O = Utilizing Computers, P = Adhering to Basic Safety Practices, Q = Applying Scientific Fundamentals, R = Performing Mathematical Computations, S = Recognizing Workplace Fundamental Principles, T = Using Information Skills, U = Employing Interpersonal Skills, V = Displaying Appropriate Personal Qualities.

Table 2
Industry Managers' Rating of Each Skill Standard

Skill Standards	Managers' Rating		
	Std. mean	Std. dev	Rank
Adhering to Basic Safety Practices [P]	0.90	0.59	1
Implementing Manufacturing Technology and Techniques [N]	0.61	0.34	2
Employing Interpersonal Skills [U]	0.50	0.69	3
Operating Equipment [C]	0.46	0.64	4
Recognizing Workplace Fundamental Principles [S]	0.43	0.73	5
Demonstrating Working Knowledge of Basic Electronic Principles [B]	0.32	0.58	6
Performing Preventive and Routine Maintenance [L]	0.24	0.43	7
Displaying Appropriate Personal Qualities [V]	0.18	0.55	8
Implementing Quality Principles [A]	0.15	0.66	9
Troubleshooting and Repairing Electrical/Electronic Systems [E]	0.10	0.36	10
Troubleshooting and Repairing Mechanical/Electromechanical Systems [H]	-0.02	0.56	11
Utilizing Computers [O]	-0.03	0.57	12
Performing Mathematical Computations [R]	-0.06	0.68	13
Processing Wafers / Assembly / Test [D]	-0.07	0.53	14
Troubleshooting and Repairing Pneumatic Systems [F]	-0.10	0.44	15
Applying Scientific Fundamentals [Q]	-0.12	0.82	16
Using Information Skills [T]	-0.22	0.58	17
Troubleshooting and Repairing RF Systems [J]	-0.54	0.69	18
Troubleshooting and Repairing Vacuum Systems [I]	-0.54	0.55	19
Troubleshooting and Repairing Hydraulic Systems [G]	-0.70	0.78	20
Maintaining Automated Systems [M]	-0.80	0.60	21
Operating Remote Systems [K]	-1.09	0.52	22

It is very important to note the wide gaps between the industry expectations and students' perceptions on the skill descriptors especially those that ranked 3.5th, 5th, 9.5th, 14th, and 15th on managers' expectations (Table 5). The skill descriptors "utilize a variety of hand tools correctly" (3.5th on the rank) and skill descriptor "measure voltage, current, and resistance" (5th on the rank) were very important to the ratings of the managers. However, students' perceptions on the importance of these skills to the managers were very far (ranks 16.5th and 19th, respectively). Students rated five skill descriptors very much higher than the managers' rating. Majority of these skill descriptors are associated with maintaining automated systems. Students perceived these skill standards to be of great importance to the industry but the managers' expectations are less.

Table 6 shows the comparison of managers' and students' ratings of skill descriptors using standardized means. The *t* value and its significance were also indicated to show the significant differences in the importance rating of the skill descriptors. Since there was a wide variation in the ranking of the skill standard descriptors between the two sample populations,

Table 3
Students' Rating of Skill Standard Descriptors

Description	Skill standard group	Students' rating		
		Std. mean	Std. dev	Rank
Students' 15 most important skill standard descriptors:				
Observe ESD precautions for product and equipment components	A	0.41	0.66	1
Follow basic safety practices	P	0.35	0.60	2
Exhibit responsibility	U	0.32	0.58	3
Follow operational procedures	U	0.30	0.60	4
Apply appropriate OSHA standards	P	0.28	0.57	5
Exhibit teamwork skills	U	0.24	0.57	6
Display self-management skills	V	0.23	0.64	7
Conduct routine preventative maintenance	E	0.23	0.64	8
Demonstrate emergency shutdown procedures	P	0.22	0.64	9
Recognize electrical/electronic malfunction indications	E	0.22	0.61	10
Troubleshoot manufacturing equipment	C	0.20	0.63	11
Troubleshoot electrical/electronic components and devices, using proven techniques	E	0.19	0.55	12

t test of the standardized means revealed that there were significant differences in the importance ratings of the skill standard descriptors.

Table 7 presents the final summary of managers' ranked skill standards as compared to the students. Analysis of the ranked skill standards showed the insubstantial amount of agreement among industry managers' expectations and students' perceptions. Among the skill standards that have wide gaps with respect to managers' expectations were the following: implementing manufacturing technology and techniques, recognizing workplace fundamental principles, demonstrating working knowledge of basic electronics principles, performing preventive and routine maintenance, and performing mathematical computations. Positive and negative wide gaps were noticeable on several skill standards. It reflects the differences in the management expectations' and students' perceptions of the skills that the managers valued.

Table 8 shows that there were wide gaps in the ranking of the skill standards between the two sample populations. The *t* test of the standardized means revealed that there were significant differences ($p < .05$) in the importance rating of 13 out of 22 skill standards. Only nine skill standards were found to be not significant.

Table 4
Students' Rating of Skill Standard Groups

Skill Standards	Students' Rating		
	Std. Mean	Std. dev.	Rank
Employing Interpersonal Skills [U]	0.90	0.47	1
Adhering to Basic Safety Practices [P]	0.61	0.47	2
Troubleshooting and Repairing Electrical/Electronic Systems [E]	0.50	0.50	3
Displaying Appropriate Personal Qualities [V]	0.46	0.55	4
Implementing Quality Principles [A]	0.43	0.47	5
Implementing Manufacturing Technology and Techniques [N]	0.32	0.61	6
Operating Equipment [C]	0.25	0.49	7
Using Information Skills [T]	0.18	0.47	8
Utilizing Computers [O]	0.15	0.49	9
Demonstrating Working Knowledge of Basic Electronic Principles [B]	0.10	0.47	10
Processing Wafers / Assembly / Test [D]	-0.02	0.45	11
Applying Scientific Fundamentals [Q]	-0.02	0.62	12
Maintaining Automated Systems [M]	-0.06	0.58	13
Troubleshooting and Repairing Pneumatic Systems [F]	-0.07	0.47	14
Performing Preventive and Routine Maintenance [L]	-0.10	0.36	15
Troubleshooting and Repairing Mechanical/Electromechanical Systems [H]	-0.13	0.54	16
Recognizing Workplace Fundamental Principles [S]	-0.22	0.57	17
Troubleshooting and Repairing Hydraulic Systems [G]	-0.53	0.53	18
Troubleshooting and Repairing RF Systems [J]	-0.54	0.64	19
Performing Mathematical Computations [R]	-0.70	0.58	20
Operating Remote Systems [K]	-0.79	0.65	21
Troubleshooting and Repairing Vacuum Systems [I]	-1.09	0.59	22

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This research provided a comprehensive study of semiconductor managers' expectations of the entry-level technician skills that graduates of three-year technology programs need to acquire to commence a career in a very dynamic, advanced, and rapidly growing semiconductor and electronics industries The survey frame included equipment maintenance and operations managers at almost all types of semiconductor operations at the NCR and CALABARZON areas. Responses were received from 68 managers with significant sample sizes from in-house and contract manufacturers, with test and assembly operations. The survey of industry managers was matched with a survey of 193 students' perceptions of management expectations using a

Table 5
Comparison of Managers' and Students' Importance Ratings of Skill Descriptors by Rank

Description	Skill standard group	Manager s' rank (a)	Students' rank (b)	Rank gap (b-a)
Managers' 15 most important skill standard descriptors:				
Follow basic safety practices	P	1.5	2	0.5
Demonstrate emergency shutdown procedures	P	1.5	9	7.5
Utilize a variety of hand tools correctly	L	3.5	20	16.5
Apply appropriate OSHA standards	P	3.5	5	1.5
Measure voltage, current, and resistance	B	5	24	19
Observe ESD precautions for product and equipment components	A	6	1	-5
Follow operational procedures	U	7	4	-3
Maintain chemical and gas delivery and disposal systems	N	8	16	8
Operate manufacturing equipment	C	9.5	43	33.5
Recognize ethical and non-ethical business practices	S	9.5	46	36.5
Recognize electrical/electronic malfunction indications	E	11	10	-1
Conform to clean room protocol	N	12	21	9
Exhibit responsibility	U	13	3	-10
Fill out maintenance record form including appropriate information	L	14	35.5	21.5
Use mechanical measuring devices to calculate dimensions	L	15	45	30

self-completion survey instrument. Each group was required to rate the importance of a range of semiconductor manufacturing technician skills or behaviors. The skill ratings in each skill standard descriptors and skill standards were standardized, analyzed, and ranked to assess expectations-perceptions gap. Significant differences were tested using *t* test.

The managers identified the skill standards of adhering to basic safety practices, implementing manufacturing technology and techniques, employing interpersonal skills, operating equipment, recognizing workplace fundamental principles, demonstrating working knowledge of basic electronic principles, performing preventive and routine maintenance, displaying appropriate personal qualities, and implementing quality principles, and troubleshooting and repairing electrical/electronic systems as the top 10 most important skills.

Students' identified 7 of the 10 skill standards belonging to their top 10 most important rating. However, the ranking of standardized means revealed the substantial differences and gaps between managers' expectations and students' perceptions. Six of the 10 most important skills for the managers were ranked lower by the students (gap ranged from 1 rank to as high as 12 ranks) and four were ranked higher (with gap ranging from -2 to -7).

Since there were variations in the ranking of skill standards, *t* test of the standardized means revealed the significant differences in the importance rating of the

skill standards. The importance rating of 13 out of 22 skill standards came out to have significant to very high significant differences.

Table 6
Standardized Means and t Test of Means for Skill Standard Descriptors

Description	Std. mean		*t* value	Significance
	Managers	Students		
Managers' 15 most important skill standard descriptors:				
Follow basic safety practices	0.94	0.35	6.99	.000000
Demonstrate emergency shutdown procedures	0.94	0.22	7.93	.000000
Utilize a variety of hand tools correctly	0.82	0.14	7.32	.000000
Apply appropriate OSHA standards	0.82	0.28	6.29	.000000
Measure voltage, current, and resistance	0.76	0.11	6.16	.000000
Observe ESD precautions for product and equipment components	0.69	0.41	3.04	.002658
Follow operational procedures	0.68	0.30	4.18	.000041
Maintain chemical and gas delivery and disposal systems	0.65	0.16	4.70	.000004
Operate manufacturing equipment	0.60	-0.06	6.83	.000000
Recognize ethical and non-ethical business practices	0.60	-0.07	6.62	.000000
Recognize electrical/electronic malfunction indications	0.59	0.22	4.39	.000017
Conform to clean room protocol	0.57	0.13	4.52	.000010
Exhibit responsibility	0.56	0.32	2.65	.008495
Fill out maintenance record form including appropriate information	0.41	-0.01	4.39	.000017
Use mechanical measuring devices to calculate dimensions	0.40	-0.07	5.23	.000000

The comprehensive coverage of the survey, in terms of total sample size and the range of semiconductor manufacturing management groups surveyed, combined with the relatively high response rate, suggests that the results are a reliable reflection of industry expectations. This provides industry-validated skills for entry-level technicians of semiconductor manufacturing industry.

The managers' and students' ranking of skill standards, based on importance ratings, reveals the wide gaps between management expectations and students' perceptions. These gaps and the *t*-test results among the skills reveal the significant differences between management expectations and students' perceptions of the entry-level semiconductor technician skills. It seems plausible that the students have no realistic perceptions of the skills that semiconductor industry managers valued. The gaps and the differences describe the skills mismatch that is being felt between the technical graduates' skills and the skills requirement of the semiconductor industry.

The industry-validated skill standards for semiconductor equipment technicians can now be communicated to economic and workforce initiatives and educational institutions. Skill standards can be a better solution to the skills mismatch. Skill standards provide the information needed to direct curriculum development efforts to the latest technology and techniques of business and industry. Both academic and vocational-

technical curricula, using either traditional processes or materials that have been developed for many years or more recent innovative delivery practices, can benefit from the adoption of a standards-based system. The development

Table 7
Comparison of Managers' and Students' Ranking of Skill Standards

Skill Standards	Managers' rank (a)	Students' rank (b)	Rank gap (b-a)
Adhering to Basic Safety Practices [P]	1	2	1
Implementing Manufacturing Technology and Techniques [N]	2	6	4
Employing Interpersonal Skills [U]	3	1	-2
Operating Equipment [C]	4	7	3
Recognizing Workplace Fundamental Principles [S]	5	17	12
Demonstrating Working Knowledge of Basic Electronic Principles [B]	6	10	4
Performing Preventive and Routine Maintenance [L]	7	15	8
Displaying Appropriate Personal Qualities [V]	8	4	-4
Implementing Quality Principles [A]	9	5	-4
Troubleshooting and Repairing Electrical/Electronic Systems [E]	10	3	-7
Troubleshooting and Repairing Mechanical/Electromechanical Systems [H]	11	16	5
Utilizing Computers [O]	12	9	-3
Performing Mathematical Computations [R]	13	20	7
Processing Wafers / Assembly / Test [D]	14	11	-3
Troubleshooting and Repairing Pneumatic Systems [F]	15	14	-1
Applying Scientific Fundamentals [Q]	16	12	-4
Using Information Skills [T]	17	8	-9
Troubleshooting and Repairing RF Systems [J]	18	19	1
Troubleshooting and Repairing Vacuum Systems [I]	19	22	3
Troubleshooting and Repairing Hydraulic Systems [G]	20	18	-2
Maintaining Automated Systems [M]	21	13	-7
Operating Remote Systems [K]	22	21	-1

of a technical course curriculum using valid and reliable skill standards has the potential of improving the quality of both academic and vocational technical education. This will occur, however, only if vocational-technical educators carefully pursue high-quality standards sets and implement them in their programs. Skill standards like this for entry-level semiconductor manufacturing technicians should be referenced by educators in coming up with the changes and advancement in its curriculum.

Likewise, not only semiconductor companies can adopt this industry-validated standard but also other electronic companies which are more or less in need of

technician skills likely the same with the requirements of semiconductor industries. This standard will be very helpful in employee hiring, evaluation, and development processes of the industry's technical workforce.

Technical schools should be able to see the wide opportunities in attending to the technical skill requirements of a growing and widening business of semiconductors and electronics. With the presence of many semiconductor and electronic companies in the Philippines, close collaboration, and support from these industries will help bring this opportunity of having a specialized semiconductor technology course into a reality.

Table 8
Standardized Means and t Test of Means for Each Skill Standard

Skill Standards	Std. mean		*t* value	Significance
	Managers	Students		
Adhering to Basic Safety Practices	0.90	0.28	8.76	.000000
Implementing Manufacturing Technology and Techniques	0.61	0.14	-4.83	.000002
Employing Interpersonal Skills	0.50	0.29	2.94	.003587
Operating Equipment	0.46	0.07	5.12	.000001
Recognizing Workplace Fundamental Principles	0.43	-0.07	4.40	.000016
Demonstrating Working Knowledge of Basic Electronic Principles	0.32	0.04	4.01	.000080
Performing Preventive and Routine Maintenance	0.25	-0.07	5.88	.000000
Displaying Appropriate Personal Qualities	0.18	0.18	0.02	.985034
Implementing Quality Principles	0.15	0.16	-0.18	.855059
Troubleshooting and Repairing Electrical/Electronic Systems	0.10	0.19	-1.27	.205871
Troubleshooting and Repairing Mechanical/Electromechanical Systems	-0.03	-0.07	0.60	.550531
Utilizing Computers	-0.03	0.05	-1.14	.257359
Performing Mathematical Computations	-0.06	-0.30	2.75	.006453
Processing Wafers / Assembly / Test	-0.07	-0.00	-1.10	.274218
Troubleshooting and Repairing Pneumatic Systems	-0.10	-0.05	-0.65	.515469
Applying Scientific Fundamentals	-0.13	-0.01	0.28	.783751
Using Information Skills	-0.22	0.06	-3.90	.000125
Troubleshooting and Repairing RF Systems	-0.54	-0.16	-4.07	.000064
Troubleshooting and Repairing Vacuum Systems	-0.54	-0.44	-0.97	.333957
Troubleshooting and Repairing Hydraulic Systems	-0.70	-0.15	-6.16	.000000
Maintaining Automated Systems	-0.80	-0.03	-9.26	.000000
Operating Remote Systems	-1.09	-0.36	-8.47	.000000

It is important that academics work closely with industry to educate them about the content of academic programs, build realistic expectations of graduate skills and help industry to design graduate traineeships that challenge participants and effectively refine technical skills. A faculty-immersion program, where a faculty will be oriented into the industry, will make important contributions to curriculum design of technical schools.

The challenge for designers of technical school curriculum is to anticipate the needs of the graduating students since there is a considerable time lag between program design and graduate output. An alternative approach would be to ask managers to forecast skill needs for the future of the industry, as opposed to reporting current needs. Future research to identify these changing expectations would be valuable in mapping trends that can be translated into contemporary curriculum design.

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THE DETERMINING FACTOR OF ACCOUNTING INFORMATION SYSTEM PROFESSIONAL QUALITY DEVELOPMENT IN HIGHER EDUCATION

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ABSTRACT

The role of university in creating the professional of accounting information system is highly required. The necessary efforts to be performed by the educators of accounting information system are subject development of accounting information system and deeper review process of subject content required to be accounting information system professional with the assistance of users who are graduated from accounting information system major. These efforts should be performed repetitively due to rapid and continuous development of information system and technology.

This study is aimed to find out the determining factors in the development of subject content related to Accounting Information System (SIA) to meet the demand of work circle of qualified Accounting Information System (SIA) professionals. The determining factors studied in this research are: (1) Business Knowledge Factor, (2) SI Progress Application Factor, (3) User Support Factor, (4) Programming Factor, and (5) System Planning Factor. The samples of this study are Provider companies in Surabaya, while the respondents are Information System Professionals divided into three groups, namely: analyst, programmer and end user support division at provider companies used as the samples.

The result of this study indicates that the respondents certify that business knowledge, system progress application, user support, programming and system planning Function variable are important factors in the development of accounting information system professional's quality as indicated that the average score of respondents' answers to those five variables is above 3.

This study shows additional evidence that those variables have a high correlation to each other unless for Business Knowledge function and Programming. It indicates that all those five variables are important factors in supporting the skill of information system professionals which means that the teaching at university should include business knowledge function, system progress application, user support, programming and system planning.

Keywords: *Accounting Information Systems, User Support, Business Knowledge, Programming and System Planning*

1. Preface

Since Accounting Information System (AIS) employee/personnel is required in almost every sector of economy today, the system must be designed in such a way that it can be understood by all related parties, especially those parties who tend to choose AIS as their future career. It is signed by the performance of AIS that can be measured from two perceptions, namely user satisfaction in which the user significantly involved and positively affects the utilization of system. The second perception is viewed from the system utilization itself. Performance can be affected by AIS personal technique, user

involvement in AIS development and the existence of training and education program that support the growth of AIS at work which reflects the need of AIS professional who is highly educated and has the required level of competence and knowledge. This situation creates an atmosphere in which an accounting information system program is necessarily evaluated and altered to answer demand. In this case, the educator has a great responsibility to produce pre-graduate professionals for the future in this dynamic condition.

The benefit of information system development is felt by all relevant sectors, including the economic sector of accounting. Thereby, along with the rapid development of AIS, the accounting students are required to not only be acknowledged of manual accounting process but also have the knowledge and skill of AIS in helping the process of accounting. In order that accounting graduates to have the accounting knowledge as skill as well, it is necessary to have continuous development and review of AIS subject content. This development and review of AIS subject content will help to shape graduates who affect the development of lecturing subject content related to AIS in order to improve the professional skill/competence of AIS

The main problem in this study is to analyze what factors that determine development of lecturing subject content related to AIS in order to improve the professional skill/competence of AIS. Several factors that affect the development of lecturing subject content related to AIS in order to create professionals according to Lee, Trauth and Farwell (1999) are: business knowledge, system progress application, user support, programming, and system planning.

2. Bibliography Review

An accountant has an important position in accounting information system development, especially in the manual-based accounting information system. In such a condition, the role of accountant can be considered as project controller. The accountant will always predominantly involve in system process, engineering, test and maintenance. However, due to technology development when the planning of information system is computerized, the role of computer becomes dominant. The system developer is not an accountant anymore but a group of computer programmers who learn about accounting and then compile a system with the assistance of accounting staffs in the company.

The change of business and information environment such as illustrated above shall encourage the accountants to have a new insight/view toward their profession. One way to be done is to change the role of traditional financial statement provider to be database system designer, manager and auditor. It is important for the students to be able to cope with the change of environment and new demands faced by professional accountants.

The subject of Accounting Information System (AIS) is the lecturing subject that is included in the main curriculum of Accounting Department. The Teaching model of this subject is surely different from one institution to another. Several supporters of subject in the same institution even possibly use different content and method of teaching. It is necessary to have a study to find out how far the subject content of AIS can help the graduates to have the required skill of information system in order to cope with the change of employment market need toward the competence of accounting bachelor.

The study of AIS covers several topics, while the most discussed topic is the satisfaction of information system users, such as the study done by Luciana and Emiria (2005); Nurmala and Yuda (2005). The study of Luciana and Emiria (2005) tried to reanalyze the effect of program compatibility, program flexibility, program facility,

price/cost, and data saving memory, program reliability level, report ability and functional duty factor toward the satisfaction of accounting software users. The result of Luciana and Emiria (2005) study indicated that all samples taken from the managers and staffs who are accounting software users at manufacture companies in Surabaya City showed only compatibility factor that has a significant effect toward the satisfaction of users. This variable affect positively satisfaction of users, which means that the improvement of compatibility factor will cause the improvement of users' satisfaction.

While the study performed by Nurmala and Yuda (2005) examined those factors that affect the satisfaction level of Web-based information system users. The respondents of Nurmala and Yuda (2005) study were the users of Yahoo, Google, and MSN, LYCOS, Altavista, and Plasa websites. The result of their study provided evidence that EUCS (End User Computer Satisfaction) instrument that consists of content, accuracy, format, usage facility and punctuality factors are still the valid and reliable measures although there is few revision required. This is possibly due to the difference of information system environment and the difference of study sample.

Lee, Trauth and Farwell (1999) conducted a study that the work in information system is highly varied and the development of subject content related to AIS is not compatible with the work required. Therefore, the said development of subject content related to AIS must be developed to contain different competences according to the work target. For a programmer and database administrator, the required competence is emphasized on the allocation of specific AIS progress application, such as Decision Support System (DSS) and Executive Information System (EIS). Lee, Trauth and Farwell (1999) conducted a study by distributing questionnaires to respondents of sixty companies which level of questionnaire returning reached 13%. Lee, Trauth and Farwell (1999) studied about the competence level of three staff groups those are programmers, analysts, and end-user supports. Those skills will be highly required in the future. The studied factors are those affect the curriculum development, namely business knowledge, accounting information system progress application, user support and system planning.

In the survey of information system program in United States, Gill and Hu (1998) in Lee, Trauth and Farwell (1999), reported that the most popular programming languages are CC++, SQL (Structure Query Language), and COBOL (Common Business Oriented Language), while the most dominant information systems are windows/OS2 and Unix. Gill and Hu (1998), in Lee, Trauth and Farwell (1999), suggested that in the development of subject content related to Accounting Information System (AIS), it is necessary to have the learning of AIS and business organization environment correlation in order to prepare better graduates in facing the work of system analyst.

From those skills, the determining factor to develop subject content related to AIS is to include the skill area in the said development. As the part of subject content related to AIS continuous development and program improvement, registration data, recruitment trend and data allocation process, it must always be monitored.

According to Lee, Trauth and Farwell (1999) there are several factors that affect the development of subject content related to AIS in the effort to create highly-educated and qualified SI professionals as follows:

1. The function of Business Knowledge includes:
   a. The ability to interpret a business problem and produce an efficient technologic solution.
   b. The ability to understand business environment.
   c. Specific industrial knowledge.

d. The ability to have worked collaboration in the environment of project team.
e. The ability to produce and deliver convincing information and presentation effectiveness.
f. The ability to plan, organize, projects and their significant role.
g. The ability to plan, organize manual writing technique, documentation and the results thereof.

2. The application of System Progress includes:
   a. E-Commerce
   b. Decision Support System (DSS)
   c. Expert Systems (ES)
   d. Management Information System Science (SIM)
   e. Executive Information System (EIS)
3. User Support
   a. End-User Computing Support
   b. Central Information
   c. Training and Knowledge
   d. Telecommunication/Network
   e. The ability to work closer with the users and positive maintainers or good customers.
4. Programming
   a. Software Application Development or Selection.
   b. Capital Database and Development
   c. Programming/CASE Tools
5. System Planning
   a. Hardware Acquisition (Evaluation and Selection)
   b. System Analysis
   c. Management Information System Planning and Evaluation
   d. Access and Security Information.

3. Research Method

The variables of this study are:

a. Business Knowledge was the item that explains business functions for computer-based accounting information system application, so that accounting information produced by a business entity was valuable information and creates an added-value for all interested parties.
b. SI Progress Application was complex tool that obviously and significantly gives a very great support in the process of business activity especially that is relevant with accounting information system.
c. User Support is the system related to end user.
d. Programming is the factors that explain program, software and database.
e. System Planning is the factor related to AIS planning that will be performed in order to have it run according to the plan.

Variable measurement is performed by means of Likert's scale which score was from one to five, namely: (1) very disagree, (2) disagree, (3) neutral, (4) agree, and (5) very agree.

The population was the workers of AIS for service, trading and manufacture companies that use information technology based AIS in the processing of business transaction in Java. In determining the research sample, purposive sampling technique

that employs certain consideration or definition was used. In other word, the purposive sample was the sample carefully selected to be relevant with the goal of research. Those criteria are:

a. Service, trading and manufacture companies that routinely recruit university graduates who have skill of AIS and applies AIS in data processing.
b. The respondents taken from service, trading and manufacture companies have at least worked for one year minimally since those professionals of AIS have at least been experienced already in doing their job.

In this study, all instruments employed to measure research variable were tested for their validity and reliability by means of used try-out method. In this study, the test validity is only limited to items validity (questions being asked in the questionnaire). The testing is performed by correlation between item score and total scores. In this case, a high coefficient of correlation shows compatibility between item function and test as whole. Based on the theory that a point or indicator was considered as valid when its correlation coefficient score was less than 0.5, the indicator which correlation coefficient was bigger than 0.5 or which was inter-correlated with other indicators was considered as failed. This validity testing was performed that uses person product moment correlation concept, while to test the reliability, analysis technique of cronbach alpha approach was employed in which the rule of research result was considered as reliable when the alpha is more than 0.6.

The employed data are collected by means of primary data, namely research data directly derived from original resource that are specially collected by the researcher to answer the problem of study. Data collection instrument was to report the decision of what business that can receive and be the most critical important area of SIA professional knowledge and competence by means of the questionnaire developed by Lee, Trauth and Farwell (1999).

The primary data collected in this study were obtained by virtue of questionnaire complete by AIS professional who work either at Service, trading and manufacture companies. The questionnaire was to measure the significance AIS knowledge, program, platform/operational system or application, networks, database software, business knowledge and interpersonal skill of SI professionals in three types of staff group are. The respondents were asked to identify their works, organization size to know their business, so that the researcher can categorize every type of their work in the three types of staff group that were being studied. The incomplete questionnaire was considered as invalid to be used in the study.

In performing data analysis, the analysis procedure is performed in the following stages:

a. To check on collected data completion
b. To perform data editing
c. To perform tabulation
d. To perform data analysis

While the data analysis technique performed in this study is to perform descriptive analysis and correlation testing to decide the correlation among each variable of this study.

4. Discussion

Before doing any analysis of research result, the following descriptive analysis of respondent's identify is presented. The descriptive analysis of each respondent shall include the data of their age, sex, type of work, enrollment year and recent education.

In this study, total respondents whose age ranges from 20 to 30 years old were 89 respondents or as much as 63%; total respondents whose age ranges 31 to 40 years old were 36 respondents (25%); while total respondents whose age is above 40 years old were 5 respondents (4%). The rest 12 respondents or 8% do not give any answer concerning their age. In this study, as many as 85 respondents or 59.9% were males, 48 respondents or 33.8% were females, while the rest 9 respondents or 6.3% have no concerning sex.

The type of work data showed there were 17 respondents or as much 12% were programmers, 17 respondents or as much 12% were analysts, and 29 respondents or as much 20.4% were end users. There was information indicates that 78 respondents or as much 54.9% have other kinds of job, while 1 respondent or as much 0.7% have any answers concerning his job. The data also showed that there were 12 respondents or as much as 8% who have been working for more than 10 years, 47 respondents or as much as 33% who have been working for 6 – 10 years, 72 respondents or as much as 51% who have been working for 1 – 5 years, while the rest 11 respondents or as much as 8% have no information concerning official term. From 135 respondents, 8.5% (12) were high school graduates, 17.6% (25) were diploma graduates, 69% (98) were bachelor graduates, while the rest 1 respondents or 0.7% have no concerning his recent education.

Validity test is performed to evaluate whether the questionnaire of this study is valid or not. A questionnaire is considered to be valid when the questions were able to reveal something that is going to be measured by the questionnaire. Validity test in this research is performed by calculating the correlation among the scores of each point. The reliability test indicates that the measuring instrument is reliable. A questionnaire is considered to be reliable when someone's answer to a question is consistent or table from time to time.

The result showed that the probability level below 0.001. Therefore, it could be concluded that all instruments of those five variables were considered as valid. When it was viewed from correlation coefficient score for five question instruments, it is also indicated that the correlation score is > 0.50. Thus, it could be concluded that all those five questions were considered as valid. The result of the reliability test gave cronbach alpha score > 0.60. Therefore, it can be concluded that all those variables were considered as reliable. The complete result of reliability test can be seen in Table 1.

Table 1
Reliability Test Result

No.	Variable	Cronbach's Alpha
1.	The function of business knowledge	0.828
2.	The aplication of system progress	0.822
3.	User Support	0.698
4.	Programming	0.849
5.	System Planning	0.754

Result of Variable Test:

1. Business Knowledge Function

Business Knowledge Function was an item that explains the business function for computer-based AIS application, so that the accounting information produced by a business entity was valuable information and creates an added value for all interested parties. The indicator used to measure business knowledge function was: respondent's perception of business knowledge understanding, business issue interpretation, business environment understanding, specific industrial knowledge and the ability to produce and deliver information and presentation effectiveness.

According to data tabulation result from respondents, it was shown that the ability to produce and deliver information and presentation effectiveness was perceived by the respondents as business knowledge that an AIS professional must have as shown by 109 respondents who answer that they agree and very agree when the ability to produce and deliver information and presentation effectiveness was included in the content of AIS subject to improve the quality of AIS professionals. The complete data of respondent perception for each indicator of business knowledge function can be seen in Table 2.

Table 2
Business Knowledge Function Variable

No.	Indicator	Number of Respondents	Percentage (%)
1.	The ability to produce and deliver convincing information and presentation effectiveness	109	76,8
2.	The ability to interpret a business problem and produce an efficient technologic solution	101	70,6
3.	Specific industrial knowledge	101	70,6
4.	The ability to understand business environment	100	70,5
5.	Business Knowledge	90	63,3

2. System Progress Application

The data showed that computer software knowledge was perceived by the respondents as the system progress application factor that an AIS professional must have as shown by 116 respondents who answer that they agree and very agree that computer software knowledge was an important factor to improve the quality of AIS professionals. The complete data of respondent perception for each indicator of systems progress application factor variable can be seen in table 3.

Table 3
System Progress Aplication Variable

No.	Indicator	Number of Respondents	Percentage (%)
1.	Knowledge of software	116	81,7
2.	Knowledge of internet	92	64,8
3.	Knowledge of operating system	89	62,7
4.	System development aplication	77	54,2
5.	Knowledge of E-Commerce	66	46,5
6.	Knowledge of database management system	56	39,5
7.	Ability to implementation E-Commerce	53	37,3
8.	Knowledge of hardware	47	33,1
9.	Expert system	47	33,1

3. User Support

The data showed that AIS training and knowledge were perceived by the respondents as the user support factor that an AIS professional must have as shown by 109 respondents who answered that they agree and very agree that AIS training and knowledge were important factors to improve the quality of AIS professionals. The complete data of respondent perception for each indicator of user support factor variable can be seen in table 4.

Table 4
User Support Variable

No.	Indicator	Number of Respondents	Percentage (%)
1.	Training and knowledge	109	76,8
2.	The ability to work closer with the user and positive mantainers or good customers	107	75,3
3.	Telecomunication/Network	63	44,4
4.	Knowledge of user support	54	38,0
5.	Knowledge of network systems	46	32,4
6.	End-user computing support	41	28,8

4. Programming

The data showed that software application development or selection was perceived by the respondents as the programming factor that an AIS professional must have as shown by 64 respondents who answer that they agree and very agree that computer programming knowledge was an important factor to improve the quality of AIS professionals. The complete data of respondent perception for each indicator of programming factor variable can be seen in table 5.

Table 5
Programming Variable

No.	Indicator	Number of Respondents	Percentage (%)
1.	Software aplication development or selection	64	45,1
2.	Programming/CASE Tools	46	32,4
3.	Capital database and development	43	30,3

5. System Planning

The data reflected that system planning information, management and evaluation were perceived by the respondents as the system planning factor that an AIS professional must have as shown by 115 respondents who answer that they agree and very agree that system planning information, management and evaluation were important factors to improve the quality of AIS professionals. The complete data of respondents perception for each indicator of system planning factor variable can be seen in table 6.

Table 6
System Planning Variable

No.	Indicator	Number of Respondents	Percentage (%)
1.	Management information system planning and evaluation	115	81,0
2.	Hardware acquistion (evaluation and selection)	95	66,9
3.	System analysis	74	52,2
4.	Access and security information	47	33,1

The descriptive analysis result of this study shows that the respondents certify that business knowledge, system progress application, user support, programming and system planning function variable were important factors in the development of AIS professional's quality as indicated that the average score of respondents' answer to those five variables is above 3. According to respondent description data, it is indicated that Business Knowledge Function is perceived by the respondents as the first important factor that can improve the quality of AIS professionals. The descriptive analysis result for the answer given by respondents can be seen in table 7.

Table 7
The Descriptive Analysis Result

No.	Variable	Mean
1.	Business Knowledge Function	3,93
2.	System Progress Application	3,50
3.	User Support	3,43
4.	Programming	3,19
5.	System Planning	3,57

This study also performs an additional analysis with respect to study variable, namely to do correlation among each variables. This study shows additional evidence that those variables have a high correlation to each other unless for business knowledge function and programming. It indicates that those variables were important factors in supporting the skill of information system professionals which means that the teaching at university should include business knowledge function, system progress application, user support, programming and system planning.

6. Conclusion and Suggestion

This study was aimed to find out the determining factors in the development of subject content related to Accounting Information System (AIS) to meet the demand of work circle of qualified AIS professionals. The determining factors studied in this research were: (1) Business Knowledge, (2) SI Progress Application, (3) User Support, (4) Programming, and (5) System Planning. The samples of this study were workers of AIS for service, trading and manufacture companies that use information technology based AIS in the processing of business transaction in Java.

The results of this study indicated that respondents certify that *business knowledge*, *system progress application*, *user support*, *programming* and *system planning function*

variable were important factors in the development of AIS professional's quality as indicated that the average score of respondents' answers to those five variables in above 3.

This study shows additional evidence that those variables have a high correlation to each other for *business knowledge function* and *programming*. It indicated that all those five variables were important factors in supporting the skill of information system professionals which means that the teaching at university should include *business knowledge function, system progress application, user support, programming and system planning*.

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ANALYSIS OF MANAGERIAL, TECHNICAL, AND SOFT SKILLS IN AN INTERNSHIP PROGRAM

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ABSTRACT

This study examined managerial, technical, and soft skills of students working as internship staff in companies that went to three groups of banking, public accounting service, and banking industries. Managerial skills referred to the ability of students in developing the tasks carried out while technical skills referred to carrying-out and completion of jobs. Soft skills refers to skills that helps the students adapt, think, communicate and interact with other people at work. The three skills were prepared by college assigning the students, then companies hiring the students on internship program evaluated the way the students work through managerial, technical, and soft skills.

The study employed a survey using 70 questionnaires distributed to 20 companies users. These companies were the companies having hired students as their internship staff for 1-3 months. So, each company may evaluate more than one internship staff. These users went into three groups of industry i.e. banking, manufacture, and public accounting office. The data was statistically processed using statistic descriptive that was carried out by SPSS 11.5. The result of the study showed that the evaluation of each industry user on the competence of the students in Managerial, Technical, and Soft skills were not the same. In the banking industry it was found that Managerial and Soft skills were suitable, but Technical Skills were not suitable. In manufacture industry it was found that Soft skills and Technical Skills were suitable, but Managerial Skills were not suitable. Public Accounting it was found that Managerial and Technical Skills were suitable, but Soft kills were not suitable.

Keywords*: Managerial Skills, Technical Skills, and Soft skills, Internship Program*

A. Background

Education system and process in higher education (HE) institution must have link and match with the needs of industry that needs employees. Besides transferring knowledge to enhance the students' competence, HE institutions have also been trying to equip students with skills such as managerial skills, technical skills, and soft skills. These skills should be designed to be involved into the curriculum. Knowledge is explicitly transferred through subjects or courses, while skills often do not refer to one specific subject or course, instead, being integrated into any subject and developed within the mechanism of the learning process.

Managerial skills which refer to behavioral job skill training or refer to theories, techniques, and behavioral guidelines, if applied properly, will enhance a manager's practice for example the ability to work in a team, for a problem solving, decision making, face a conflict etc. (Evers et al, 1998). Technical skills are skills used to represent the ability to accomplish a certain task, for example preparing a report properly. While soft skills refers to wider area that are often not easy to make a strong border with

managerial skills, such as communication skills, interpersonal skills, innovation and creativity, language skills, and assertive skills (Gandhi, 2008).

HE institutions should be aware of the needs for the students to get and enhance those skills so they are successfully employed. One program that bridges the gap between HE institutions and the industry as the recruiter or graduates-user is taking students to have some working experience. Internship program then becomes a very valuable media to make it. The benefit for the students is that they gain valuable experience in the industry through an internship program. This helps them make decisions about their potential career and can provide an advantage when they search for employment upon graduation. From the point of view of the company employing the internship students is that internship to a qualified student provides companies with a great worker recruitment advantage. Students that intern and have a good experience with a company will have opportunity to seek employment from that company after graduation. It is also a good way for the company to evaluate the student's abilities and fit within the company before committing to hire them as employee. In addition, an internship student can be an inexpensive support to the company.

In one hand, if the company evaluates the students' ability for the fitness, the HE institution, in other hand, also evaluate the success of the internship program. Whether the internship students (the interns) have shown good performance comes to the consideration for the sustainability of the relationship between the HE institution and the industry, as well as for the effectiveness of the curriculum and preparation program for the internship. Never mind, the variety of the users or industries employing the interns might have different priority over the interns' competency.

To cope to the matter of assessing the respond of the industry employing the interns, this research is conducted looking at the three groups of users which are manufactures, banks, and public accounting offices evaluating the managerial, technical, and soft skills of the interns.

B. Problem Statement

How is the responds of manufactures, banks, and public accounting offices over the managerial, technical, and soft skills of the internship students of STIE Perbanas Surabaya?

C. Theoretical Framework

c.1 Hardskills and Softskills

Hard skills refers to theories and applications toward which students' technical skills are structured. Hard skills are technical capabilities that tied to specific technologies or work experiences but are not necessarily adaptable elsewhere (Hasbullah and Sulaiman, 2002). The students of Business and Banking College should master their hardskills in business concept, banking operation and policy, business strategy, marketing, etc. Those theories are not transferable to those studying in Engineering Institute. So hardskills are not transferable across fields.

Students' ability in hardskills must get along with the other skill that seems to be more difficult to obtain and develop, i.e softskill. University should consider the inclusion of softskills development through the curriculum structure and through extra-curriculum activities. Since hardskills and softskills are important for students to master in the nowadays competitive world, both must be structurally systemized within the education

institution. The following skills are mentioned most frequently (Hasbullah and Sulaiman, 2002).

- Knowing how to learn new knowledge
- Competence in reading, writing, and computation
- Effective listening and oral communication skills
- Adaptability through creative thinking and problem solving
- Personal management with strong self-esteem and initiative
- Interpersonal skills
- Ability to work in teams or groups
- Leadership effectiveness
- Basic technology skills

Softskills can be led to the condition at work, in short, how the students may perform their softskill at work is called their managerial skills. For example, the ability in making decision or the ability in working in a can be viewed from the point of view of softskill in general condition; or when they are more specifically viewed from working, then they can be such as making decision at work, being ably to work in the office.

c.2 Internship as Industry Network

In the recent years, there have been great industry demands for students to have more soft skills than technical. However, since industry is using real life setting, there are soft skill components that university cannot provide. To overcome this problem, university has to establish simulated environments, but this approach unable to effectively fulfill soft skills needs. Collaboration is the proposed solution, where students are sent to industry to gain real soft skill experiences (Cotton, 2001) Entry level college graduates have not acquired the skills necessary for the workforce and, as such, are not prepared for the demands of industry careers .College students are expected to learn content at a faster rate than ever before. In doing so, they are expected to develop the "hard" technical skills as well as the "soft" people skills necessary to be successful in the workplace. Because graduates begin careers in specialized positions, preparing students for all types of employment becomes difficult for higher education institutions. Therefore, "hard" technical skills are job specific and best suited to be taught by industry professionals on the job. However, "soft" skill development is needed by all college graduates. According to Shane (2008) skills most desired by employers were those that were transferable to a variety of situations; specifically the skills of "problem-solving, communication, teamwork, and critical thinking.

D. Research Method

This study examined managerial, technical, and soft skills of students working as internship staff in companies that went to three groups of banking, public accounting service, and banking industries. Managerial skills referred to the ability of students in developing the tasks carried out while technical skills referred to carrying-out and completion of jobs. Soft skills referred to skills that helped students adapt, think, communicate and interact with other people at work. The students were prepared with the three skills, then companies hiring the students on internship program evaluated the way the students work through the three skills.

D.1 Sample and Sampling Method

The purposive sampling method was used in this study since its sample was the companies having been the users for the interns of STIE Perbanas Surabaya for 1-3 months. The companies fell into three groups of industry i.e banks, manufactures, and public accounting offices.

D.2 Data Collection

The questionnaires were distributed to 60 users, but only 54 questionnaires were sent back. Out of the 54 questionnaires, only 48 were completely filled and proper for analysis. This 48 questionnaires were filled by 13 companies (8 banks, 3 manufacture companies , and 2 public accounting office and tax service office) categorized into three different industries as follows:

Table 1
Groups of Respondents

Industries	Number of Questionnaires
Banks	22
Manufactures	21
Public Accounting & Tax Office	5
Total	48

The number of questionnaires filled by each user represented the number of the interns working with that user. The information on this point is as follows:

Table 2
The Interns Concentration in Each User

Industries/ Users	Number of Questionnaires
I. Banks:	
1. Yudha Bhakti Bank	5
2. Mandiri Bank	2
3. Bank Jatim-Lamongan	2
4. Bank Jatim- Pasuruan	2
5. Bank Jatim- Gresik	4
6. Bank Tabungan Negara (BTN)	1
7. BTPN	2
8. Bank Indonesia	4
Total Interns at Bank	22
II. Manufactures	
1. PT Semen Gresik	12
2. Info Media Nusantara	7
3. PTPN-XII	2
Total Interns	21

III. Public Accounting & Tax Office	
1. KAP Edy Supoyo & Rekan	3
2. KPP Kanwil XII Surabaya	2
Total Interns	5
Total	48

D.3 Validity and Reliability Tests

The validity test is used to measure whether a questionnaire is valid or not. A question is certified to be valid when the questions presented are able to reveal the matter to be measured by the questionnaire. The validity test of this study was performed by correlating the scores of questions with total scores of variables.

The reliability test is used to measure questionnaire that is the indicator of variable or construction. A questionnaire that is the indicator of variable or construction. A questionnaire is considered to be reliable when the answer to the question therein is consistent from time to time. A construction or variables is considered to be reliable when it gives cronbach alpha score (α) > 0.60 and is considered to be unreliable when it gives cronbach alpha score (α) < 0.60 .

Result of this research and discussion

Descriptive statistic

The questionnaires were distributed to 60 users included into 15 companies, but 54 questionnaires from 15 companies were sent back. There were 48 out of the 54 were completely filled and proper for analysis.

The Result from the point of view of Banks

Table 1
Competence Analyzed by Banks

	N	Range	Minimum	Maximum	Sum	Mean	Std	Skewness
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Deviation	Statistic
Soft Skill	22	1.800	2.000	3.800	67.800	3.08182	.373703	.662
Technical Skill	22	2.000	1.000	3.000	43.000	1.95455	.556781	.169
Managerial Skill	22	1.000	2.250	3.250	63.750	2.89773	.239780	.531

Based on descriptive statistic analysis, the result was that from the 22 banks as the place for the 22 interns working there, the banks evaluated that the mean score of soft skills was 3,081 and managerial skills was 2,897, that were considered good. Anyhow, the mean score for technical skills was only 1,954 showing lower level.

Table 2
Competence Analyzed by Public Accounting Offices

	N	Range	Minimum	Maximum	Sum	Mean	Std	Skewness
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Deviation	Statistic
Soft Skill	5	.400	2.800	3.200	15.000	3.00000	.141421	.000
Technical Skill	5	1.000	2.333	3.333	14.667	2.93333	.365148	.293
Managerial Skill	5	1.000	1.000	2.000	7.000	1.40000	.454148	.567

Based on descriptive statistic analysis, the result was that from the 5 public accounting office and tax service office as the place for the 5 interns working there, the offices evaluated that the mean score of soft skills was 3,000 and technical skills was 2,897and technical skills was 2,933 showing lower level. This skill showed good level. The mean score for Managerial skills was 1,400 showing the low level.

Table 3
Competence Analyzed by Manufacture

	N	Range	Minimum	Maximum	Sum	Mean	Std	Skewness
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Deviation	Statistic
Soft Skill	21	1.600	2.000	3.600	62.400	2.97143	.434906	.830
Technical Skill	21	2.000	2.000	4.000	62.000	2.95238	.617213	.178
Managerial Skill	21	1.750	1.500	3.250	52.250	2.48810	.515244	.081

Based on descriptive statistic analysis, the result was that from the 3 manufacture companies as the place for the 21 interns working there, the companies evaluated that the mean score of soft skill was 2,971 and technical skill was 2,952 . Those score showed good level, while the mean of managerial skill was 2,488 that was not really good.

Table 4
Competence Analyzed by All Users

	N	Range	Minimum	Maximum	Sum	Mean	Std	Skewness
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Deviation	Statistic
Soft Skill	48	1.800	2.000	3.800	145.200	3.02500	.383988	.788
Technical Skill	48	3.000	1.000	4.000	119.667	2.49306	.750066	.046
Managerial Skill	48	2.250	1.000	3.250	123.000	2.56250	.595863	.380

Based on descriptive statistic analysis, the result was that 48 questionnaires showed the mean score of soft skill was 3,0250 that was good, but the mean score of technical skill was 2,493 and managerial skill was 2,562 that were not really good.

Discussion

The implication toward the result of the research that might be considered by the HE institution is that as follows:

Banking industry analysis showed the low level of technical skill of the interns. Technical skills applied in banking industry refers to the ability of the intern to

accomplish and the assignments as well as their knowledge application in the internship program. To improve the students' technical skill, they need to involve better during the course of banking laboratory as one of banking subjects at STIE Perbanas Surabaya. The instructors must evaluate and do closed watch of the students' activities during that course. So, the students are conditioned with scheduled and targeted jobs.

At other two industries i.e manufacture and public accounting office or tax service office, students or the interns had weaker aspect in managerial skills. These skills covers curiosity and motivation of the interns to complete the assignments and other responsibilities, the ability of the interns to be in a team work and have discussion with the team. Referring to this weakness, the teaching in class must redesign to be student-centered approach and set the students to work in a team. This teaching method is considered to be able to condition the students'pattern in managerial skills (Shane,2008)

Some suggestions that might be potentially help students to have good motivation is by inviting companies as the users to share to the institution how market orientation teaching and graduate should be at the moment. Other suggestion is inviting alumny to share their knowledge and experience for the students. These collaboration might trigger bigger motivation both for the institution to redesign the curriculum and the teaching method as well as the innovative inclusion of industry into campus. And for the students, they can learn directly from the practitioner and the alumny so they can catch the points directly.This is considered giving good impact to encourage the students' quality and, in turn, they will be good in getting good job (Cotton, 2001).

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APPENDIX

1: poor
2: fair
3: good
4: excellent

QUESTIONNAIRE

No	Statement	1	2	3	4
A.	**Soft Skills monitored**				
1	Attitude, behaviour, and moral and the interns				
2	Communication skill with the supervisor.				
3	Adaptation ability at work and jobs				
4	Ability to work cooperatively in accomplishing the task from the supervisor.				
5	Ability in analyzing problems and in understanding the instruction.				
B.	**Technical Skill Monitored**				
1	Ability of the interns in their responsibilities.				
2	Ability of the interns in completing their assignment.				
3	Ability of the interns in applying their knowledge in their work.				
C.	**Managerial Skills Monitored**				
1	Honesty.				
2	Discipline and punctuality both for coming to office and task completion.				
3	Motivation of the interns in completing their tasks.				
4	Ability of the interns in discussing and conveying ideas at work.				

UNDERSTANDING THE RELATIONSHIP BETWEEN THE UNIVERSITY AND THE WIDER SOCIETY IN THE KNOWLEDGE BASED ECONOMIC WORLD ORDER

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ABSTRACT

It is non debatable that the university as an ivory tower had not fulfilled the aspirations of society and seems to have consequently lost its position as one. The last few decades have witnessed a monumental growth of knowledge within but, of more relevance and possibly much more importantly, outside of the university. This has led to the belief in certain quarters that the university has also lost its position as the citadel of knowledge. In this conceptual paper, I will be arguing that although the generation, dissemination and communication of knowledge is not limited to the four walls of the university, the university is still the fulcrum of 'knowledge generation and management' in its various forms. Indeed it is evident that the capacity building for higher education in any society has become the strategic portfolio of its universities. Thus it is not surprising that the higher education reforms that started a few years ago in the leading countries of the western world have irreversibly transformed the world economy into one that is described as being knowledge based. In addition, I will be proposing a model of university 'knowledge generation and management' that is capable of maximising higher education capacity as a key driver of sustainable societal development.

Introduction

In their book 'A University System in Crisis, Prof. Cote and his co-author, Anton Allahar, as reported by Allison Hanes in National Post published Saturday April 28 2007 sound the alarm about the demise of higher education, where many students are more interested in the piece of paper they get at the end of their programmes than in the intellectual journey along the way, where professors are cowed into watering down courses and bumping up grades, and where universities are run like corporations hawking mass-produced degrees which are increasingly in demand but increasingly meaningless. The consequences, the authors argue, are a disengaged student body, disillusioned faculty and a glut of bachelor-degree-holding graduates with unrealistically lofty aspirations in for a shock when they land in a job market fuelled by "credentialism" and plagued by under-employment'. Cote and Allahar (2007) gave this seemingly scathing attack on the Canadian university system. But in reality this reflects the feeling of countless individuals both in and outside of the university wall irrespective of their geographical location or country of domicile. It is this type of observation and possibly many more that have led to the recent significant reforms of higher education in a number of western countries notably Australia and the United Kingdom (UK), United States of America (USA) and the Netherlands. Intriguingly the reforms in the UK are characterized among others by massification which literarily gives many more people access to further and higher education. Consequently the university has ceased to be only for the elite: it now offers

opportunity to every one irrespective of race, colour, social status, age and gender. While studies capable of yielding hard evidence are still being carried out on the effect of the reforms in the UK on the 'quality' of education being offered particularly on the economy, anecdotal evidence points to a positive impact. In addition even the initial protagonists of the reforms and some critics of the Dearing Report which kick started it seem to be acknowledging that the reforms are not only good for higher education in the UK but for the country as a whole. This clearly reinforces that degree and diploma milling is a function of quality (or a lack of it) rather than quantity.

The university as an institution of 'advanced' learning has been in existence for a little over 900 years (Pawloski 2004). During the period its perceived relationship to the wider community has been reflected usually in the descriptive appellation it enjoys. It has been at various times described as a 'citadel of knowledge', the ivory tower etc. At the moment it does appear that the name Ivory Tower connotes the very opposite of what it was initially meant to and should be. This is principally because it has been implicitly linked to the kind of issues that Cote and Allahar (2007) highlighted. It is arguable however that the ivory tower nature of the university is responsible for the avalanche of degrees and diploma milling rather, it is a stage in the evolutionary development of the relationship between the university and the society or 'the community' it serves. While it may no longer be correct to refer to the university absolutely as the citadel of knowledge, the same cannot be said of its 'ivory towerism'. Indeed the realisation of this became apparent indirectly as a result of claims by critics that it is responsible for the 'credentialism' and milling of degrees and diplomas. It is perceptible that an accompanying feature of the era of 'degree milling' is an unequivocal round condemnation of the practice shortly after it has been detected. In fact the phrase 'degree milling' itself is derisory and constitutes an appropriate response. Reflecting on this issue however, it is explicit that majority of the degrees and diplomas being awarded in the era of 'credentialism' still go to individuals who have passed through the rigour of a university education. To imply otherwise will be dishonest and a travesty of justice. What we are seeing really is that people with 'soft or milled degrees' are like a 'little leaven which leavens the whole lot'.

The nature and indeed the triumph of knowledge is that it is about truth and truth always prevails. The relationship between the university and the wider community it serves is a very complex one and, obviously both sides have a role to play in the evolutionary process of this relationship. One of the attributes of knowledge is that it is functional. Thus knowledge acquired in the process of passing faithfully through the discipline of a degree or diploma programme is certainly going to reflect in the holder in contrast to individuals whose degrees/diplomas are milled or obtained by cutting corners.

An interesting emerging global phenomenon is that a number of businesses are developing strong research and operational links with university departments that are known to have strong portfolios in their field of activities. This model is perhaps giving us a glimpse of the likely relationship between the university and the wider society in the immediate future. It is not likely to be limited to businesses but all aspects of human activity, well all human activity itself is business. Furthermore research has come to be recognised and associated with progress, and although research can be carried out in and out of the university, the university by nature has the potential for carrying out the most

effective researches at relatively cheaper costs. The concentration of research infrastructural facilities along with the intellectual capabilities in the university no doubt provides the fertile environment to make this happen. This model is now developing fast in the USA and Japan to mention the forerunners of this initiative. In the longer term, the 'refined forms of this relationship' in my opinion is going to be an enduring one for several years to come. However, true to the nature of knowledge, there is no doubt that there will always be the need for change and the university must be ready to institute the necessary changes. That is why it has to be the 'refined forms of the relationship' that is capable of enduring. By its very nature the university is meant to and is capable of rising up to the challenges of the changing world for which she provides the basic ingredient. The basic ingredient for change of course is knowledge. The essence of a university is about knowledge its existence is for knowledge which includes generation, management and dissemination and, it is inextricably linked to the society it serves with knowledge as the cord.

Perhaps a trip into the not to distant past will shed some light to this. Up till about two decades ago, it was conventional to have departments of Physics, Chemistry etc in many reputable universities. Many of these university departments of basic sciences did produce Nobel Prize winners for science and seemed to be performing creditably. However in recent times these traditional departments started breaking up and a number of them have even disappeared completely. It is a global phenomenon happening on all sides of the Atlantic. For example in the early stages of the UK higher education reforms which started in the late 1980s, a number of departments especially of Physics and Chemistry started to disappear. This was brought about by a progressive and persistent declining student enrolment for these disciplines despite the fact that many students were taking these subjects at Advanced Level (A Levels). It was noteworthy that most of the students who studied these subjects at A Levels were ending up in vocational courses like Medicine and Engineering which continue to have phenomenal increases in the number of applicants. In addition such departments as Chemical Biology, Physiological Chemistry and Biological Physics etc. in their stead have sprung up with impressive student enrolments. What the new names as well as their course contents have shown is that knowledge acquired in any college or university programme must straightaway be capable of relevant direct application. Thus it will be right to say that what is happening in this respect constitutes a part of the continuous change that the university must undergo in meeting the needs of a dynamic society in which it is operating. The idea of very narrow or purely theoretical knowledge without any apparent relevance to the societal needs is no longer acceptable. It is not limited to the basic sciences alone. The same phenomenon possibly instructs the new experiment by the Johns Hopkins School of Business (JHSB) which was opened in 2007 and as reported by Inside Higher Education-*online* of June 2, 2008, would be scrapping all departments beginning of July 2008. According to the Schools dean Professor Yash Gupta all professors will be encouraged to be part of multidisciplinary centres for research because 'departments aren't needed and business decisions are integrative'. It will be interesting to see how this plays out in the next few years but I have a strong feeling that the JHSB is bringing the future forward to now. I will be surprised not to have this road crowded in the next decade.

A model of university knowledge generation, management and transmission

It cannot be overemphasised that the university is about knowledge and must be in a position to serve the wider community through its generation, management and transmission of knowledge. By this it will be capable of maximising higher education capacity as a key driver of sustainable societal development. The fact that the global economy is described as knowledge based puts the responsibility of doing this on the shoulders of the university. Obviously the university is expected to take a lead in this and the key word is change: the ability to effect change within itself and in the wider society and that on a continuous and continuing basis. The issue of change becomes more relevant if we look at some historical antecedents.

Prior to the middle of the 19th Century science was not done in the university but in private laboratories for example Cavendish and Joule had theirs; Count Rumford (Founder of the Royal Society 1799) owned the laboratory where Davy and Faraday were doing their science; Ecole Poly in France (1790s): set to break down barriers between 'mathematical sciences' and Baconian and applied sciences (Chemistry, Magnetism, Heat). The first university which was set up principally for the teaching of science is University of Berlin (Founded 1810). It was to provide 'particular knowledge' as well as 'general philosophical education'. Particular knowledge consisted of Chemistry; Mathematics; Physics; Physiology. By mid of the century the 'particular knowledge' had eclipsed all others and form the bases of enduring discoveries turning the German science and industries into 'world beaters'. The last century witnessed a phenomenal technological breakthrough which hinged essentially on the physics, chemistry and mathematics. These disciplines constitute the core of the particular knowledge which in combination with the general philosophical education have revolutionised the scholarship of inquiry (research). Thus information revolution is currently holding sway, the internet, email, digital technology etc. Consequently, new ways of doing things have emerged or in actual fact are emerging by the hour; fast communication, incredible access to huge amount of information at the tap of a button, new methods of learning including e-learning in various forms, more efficient ways of doing things while always aiming at lowering costs. In general all these and others are done at breadth taking speeds.

The fact is the 'particular knowledge' has considerably changed our lives and the way we do things but we do not want the 'form' of the particular knowledge to change. However the nature of the particular knowledge indeed knowledge in general is to keep changing forms as it brings about changes. Impetuously, this is what has been happening and which we cannot hold back. However we can adjust and take control of things to facilitate the changing of the forms of the particular knowledge to continually bring about the desired changes in society. The university as a generator, manager and transmitter of knowledge has to rise up to the occasion and provide the desired leadership. This is where academics as professionals on whose shoulders lay the wholesome responsibility of both the scholarships of inquiry and teaching in the universities and allied institutions have to be innovative and be ready to change both in what we do and how we do them.

The university course curricular constitutes an important vehicle of change. Curricular have to be reviewed constantly. Though it is very difficult to put a time scale, it would have to depend on the subject or discipline. One of the major issues to be considered is the research output in the field. For example in disciplines such as the biological sciences and biomedicine where research output is phenomenal, it is imperative for this to happen

often say in a five year cycle. Of course this should also apply to those professions that are embryologically linked to those disciplines. The current global economic crunch also suggests that the curricular of the various business disciplines in the different universities and colleges need a complete overhaul. It is intriguing that there are business studies curricular that have not been significantly revised for over fifty years. This indicates that graduates of such a programme are being taught on economic models that may no longer be applicable in today's world. Furthermore for business studies, the fact that we have a global economy should be borne in mind during curriculum development/revision. Thus students need to be able to see the "big picture" and the intent behind it. This means that they need to have knowledge across the disciplines of business. In addition students really need to be able to integrate across functions. Thus an integrative curriculum and its continuously developmental forms should be the way forward into the future. But changes should not be limited to the curriculum it should apply to all aspect of higher education management including student assessments. Thus reforms that will have pedagogical benefits and that encourage greater flexibility and innovation in the classroom and in designing metrics for evaluating students must be applied.

Finally higher education is at the verge of unprecedented exciting times: we must therefore be ready to be part of it or be left behind. It is a time to maximise higher education's capacity as a key driver of sustainable societal development.

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STUDY OF MANAGERS VIEWPOINTS REGARDING OCCUPATIONAL HEALTH & SAFETY ISSUES IN A TECHNOLOGICAL UNIVERSITY

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ABSTRACT

Occupational health and safety is gaining in prominence within the workplace as revealed by an Australian study. However, a literature search reveals a dearth of published institutional research within a University context in this area. Higher education in general, but more particularly those offering Science and Technology programs, present certain risks to both students and staff in terms of chemicals, radiation and other hazardous material. Accordingly, this study reports on a survey of managers perceptions of Occupational Health and Safety within an Australian University of Technology. The quantitative analysis indicates a number of positive aspects of the safety environment including the fact that most managers understood their responsibilities under the relevant Act, and most of the respondents knew where to raise any outstanding health and safety issues within the institution. Nevertheless both the quantitative and qualitative survey analysis suggest certain concerns in this area, including perceived resource difficulties, need for future training in health and safety and enhanced functioning of the University-wide associated committee structures. Future research and associated implications of the findings of the study are considered.

INTRODUCTION

Occupational Health and Safety (OH&S) is an important issue in universities, given the need to maintain a safe environment for students, staff and visitors on campus. These issues are particularly relevant to a technological university such as the case study institution since it offers programs in the physical sciences, engineering and the like where perhaps more hazards exist including chemicals, radiation, large machines with moving parts and the like. Despite the relatively large importance of OH&S in higher education institutions, an electronic search yielded a dearth of published institutional research on this topic. A number of University websites (see below) covering OH&S policies and procedures were located but none found that covered any evaluative institutional research on the customers' perception as to how well such systems were working. Hopefully the present study that reports on senior managers' viewpoints on satisfaction with a range of OH&S issues within an Australian University will help to focus more attention and institutional research into OH&S matters in the future.

The University of Wollongong (2003) monitors certain OH&S and Workers Compensation statistics in order to provide the key University stakeholders performance measures that facilitate the review and evaluation of OH&S on campus. In particular, on a monthly basis such measures as the number of workers compensation claims and OH&S incidents are monitored whereas on annual basis certain statistics including nature of injury, location of injury (on the body) and the mechanism of injury (such as muscular stress, hitting stationary objects, falls and the like) are reported. Unfortunately this article

does not provide any specific details about the actual values of the performance measures or indeed any trigger points for future corrective action.

The University of Queensland (2005) specifies the goals of its OHS Unit. More specifically, it identifies the goal of the unit as being to promote the highest practicable standard of OH&S within the University and to ensure compliance with legislation and national standards for OH&S. Again how well the University is achieving its OH&S goals and objectives are not so clearly available through the public domain.

Similarly the Canadian Simon Fraser University (2005) identifies the OH&S policy and responsibilities within that institution. Broadly the policy is directed at maintaining the safety of all members of the university community, including visitors to the campus by protecting them against unsafe conditions and hazards; formulating and carrying out safety programs; giving priority to a safe work environment in the planning and implementation of university activities; and complying with relevant statutes, regulations and OH&S standards. Again how well such policies are implemented from the stakeholders' perspectives does not appear to be considered in such publicly available documents.

National Occupational Health and Safety Commission (1999) reports on a community survey of certain OH&S issues within the Australian context. Whilst this study did not focus on higher education OH&S matters, given the lack of any published studies related to OH&S issues, this more general community study may be of broader relevance to the institutional research project of interest in the present study. Interestingly, one of the key findings of this study was that OH&S was found to be a "middle order" health and safety issue in Australia and had assumed a greater priority than 1995. Further, three-quarters of the respondents felt informed about workplace health and safety and this constituted a 10% increase in awareness since 1995. Finally four in ten of the respondents employed at the time, anticipated a work-related injury or illness in their workplace within Australia in the next 12 months.

The national study findings mentioned earlier suggest that an institutional research project on higher education OH&S matters could be quite useful at this time in determining future priorities for policy and planning in this area. This then provides cogent rationale for the current study that reports on a survey of management level staff regarding OH&S issues in a University context. Indeed the broad purpose of the present survey was to ascertain where the gaps lie in terms of the University's safety systems that are coordinated by the institution's Human Resources (HR) department. A literature review was undertaken prior to the drafting of a questionnaire (the previously mentioned national OH&S Commission study was of particular relevance). This draft was considered by HR and changes made to capture the information required to manage OH&S at the University level. The revised survey instrument was subsequently implemented using a web-based survey. It is the purpose of this paper to present the findings of the survey.

SURVEY METHODOLOGY

Following the previously mentioned literature review, a survey instrument was drafted to address the basic purpose of the study during June 2006 within the multi-sectoral university of technology offering programs ranging from certificates/diplomas to research

doctorates. The survey questionnaire was segmented into three broad areas including background or general OH&S issues, satisfaction/agreement regarding the campus OH&S environment and related specific OH&S matters and finally qualitative feedback from respondents on the topic. It was then considered by Human Resources and following inputs from the department, the instrument was modified accordingly and set up on the website. The Director, HR then sent an email to the University managers inviting them to participate in the survey with a closing date of 17 July 2006. A total of 57 University managers (the total population of such senior institutional managers) were invited to participate in the survey with a follow up email sent to the managers on 11 July by the Director, HR seeking their responses to the survey. A total of 34 managers responded to the survey, thus providing a response rate of just fewer than 60%. Given that this is a web-based survey, the response rate appears to be very good overall.

RESULTS OF THE SURVEY

Demographic Related Variable:

In order to maximize the response rate, the questionnaire was deliberately kept very compact and hence very few questions of a contextual and background nature were included in the survey. Nevertheless a question did seek information on the respondents' affiliations in terms of broader grouping of the University's organizational structure. Table 1 below provides data on area category of the responding staff and associated response rates. Many of the areas achieved a reasonable response rate, given that the survey was web-based. However, relatively low response rates were achieved with the International management unit and other (residual) areas, suggesting that the responses suffer certain limitations. Further, it is noted that the very large dominance of the TAFE area may also skew the results somewhat, as indeed would the relatively small absolute numbers in some of the cells in Table 1 (but this is undoubtedly due to the targeting of relatively senior managers with OH&S responsibilities in the survey).

TABLE 1: STAFF BY AREA

	Frequency	Response Rate (%)
TAFE	14	100
Higher Education	6	40
Resources	4	50
Student Affairs	3	43
International	1	25
Chancellery	5	83
Other	1	33
Total	**34**	**60**

General OH&S Issues:

A number of survey questions elicited binary responses from the relatively senior staff included in the survey. These issues are considered in the present section.

The managers were asked to indicate whether they understood their responsibilities under the OH&S Act. A relatively high percentage (88%) felt that they did understand their OH&S responsibilities with the balance (12%) not being conversant about the matter. Although the latter is relatively low, it is significant enough to warrant perhaps some targeted training of the managers involved.

Most of the respondents (94%) knew where to go within the University to raise any outstanding OH&S issues. This is undoubtedly a very positive outcome for the tertiary educational institution.

Senior staff were also requested to state whether they were familiar with the OH&S Committee structure within the University. Unfortunately a majority of managers (53%) were not familiar with the University's Committee structure. This suggests an urgent need to raise awareness of the relevant OH&S structures with the University.

A majority of the respondents (76%) had attended OH&S training program. Nevertheless nearly a quarter had not participated in such programs, again suggesting a relatively urgent need for staff development programs in the OH&S area. Managers who had attended OH&S training program were given an opportunity to provide details of the courses attended. These details suggest that virtually all who attended a program undertook the OH&S course for managers organized by the University. Interestingly, one staff had also attended a tertiary education program in Occupational Hygiene. Further most of the respondents had indicated that they had attended an OH&S program for managers in recent times (either 2005 or 2006); again this is a positive outcome suggesting that the process of providing OH&S training has begun and that many managers have sustained relatively recent development in this area, meaning that their knowledge of OH&S ought to be relatively current.

Perceived Experiences with OH&S Services

The managers were requested to indicate their degree of agreement using a four point Likert scale (1= strongly disagree and 4= strongly agree) with a number of statements concerning their understanding and experiences with a range of OH&S matters. The percentage of respondents agreeing with the statements and other relevant details are contained in Table 2. The following comments and observations are made on the data included in the table:

- There are a number of areas of very highly positive perceptions including the respondent's business unit providing a safe environment for their students (100% agreement); unit provides safe facilities, plant and equipment (100%); the unit ensures that staff and students wear appropriate protective equipment (100%); and unit provides safe working environment for staff (94.1%).
- In a couple of areas the managers' perceptions were negative in nature in that a majority of respondents did not agree with the OH&S statements. These include the satisfactory resolution of OH&S issues when raised by the business unit (only 28% agreement with this statement) and satisfaction about how effectively the OH&S University Committee was operating (43%). Clearly these are areas of urgent future action by the University.
- Other areas of moderate agreement include managers being adequately consulted about OH&S issues within the University (56%), having access to sufficient

resources to address OH&S challenges in their business unit (59%) and capacity to resolve OH&S issues in a timely and adequate manner within the respondents' business unit (67%). These OH&S issues may require action in the short to medium term for improvement.

- Finally relatively high satisfaction rates are noted in respect to the respondent resolving all health and safety issues in a timely manner within their unit (75%); their business unit report on any instances of unsafe work environments/practices (85%) and they identify all health and safety risks in a timely manner within the respondents' business unit (85%).

Table 2: Managers OH&S Experiences and Perceptions

Item	Strongly Disagree	Disagree	Agree	Strongly Agree	% Agree/Strongly Agree
Unit provides safe learning environment	0	0	13	11	100
Unit provides safe working environment	1	1	14	18	97.1
Unit provides safe facilities, plant & equipment	0	0	13	18	100
It ensures staff & students wear protective equipment	0	0	6	12	100
Unit report on instances of unsafe environment/practices	0	5	15	14	85.3
Health & safety risks identified in timely manner	1	4	17	12	85.3
Able to resolve OH&S issues in timely & adequate manner	1	10	15	7	66.7
Access to sufficient resources for OH&S	5	9	14	6	58.8
Resolve OH&S issues in timely manner	1	7	19	5	75
OH&S issues resolved when raised	3	18	6	2	27.6
Adequately consulted about OH&S issues	3	12	15	4	55.9
Satisfied with operation of OH&S Campus Committee	5	12	9	4	43.3

The responses contained in Table 2 were cross-tabulated against other questions included in the survey instrument yielding some statistically significant results as follows:

- Respondents who were familiar with the OH&S Committee structure within the university (94%) were more likely to agree that they identify safety risks in a timely manner within their business unit in comparison to those who lacked the familiarity with such structures (78%, Chi-square=10.8, $p<0.05$).
- Managers who were more familiar with the University's OH&S Committee structure (44%) were less likely to agree that they have access to sufficient resources to address OH&S challenges in their business unit (72%, Chi-square=8.1, $p<0.05$). This finding appears to be contrary to expectations, however, it may be that those familiar with the structures hold higher expectations of OH&S resource requirements.
- Respondents with greater familiarity with the OH&S Committee structure were more likely to agree that they were adequately consulted about the OH&S issues within the University (75%) than those lacking the familiarity with the structures (39%) and the result was almost statistically significant (Chi-square=7.3, $p=0.06$).

Within a technological university with perhaps greater exposure to hazardous chemicals, radiation and the like it is of critical importance for the institution to maintain a safe learning environment for students and safe working environment for staff. So it was decided to further investigate the key factors that impact on the positive perception of these dual aspects of the safe environment. This matter was investigated in more depth as follows:

- A composite score was obtained for the agreement of respondents to the two statements "I believe that my business unit provides a safe learning environment for our students" and "I believe that my business unit provides a safe working environment for our staff" by averaging the two scores on the four point Likert scale.
- Stepwise multiple regression analysis was performed on this aggregate measure of safe university environment for students and staff against other variables included in the questionnaire on the respondents understanding and experiences with OH&S at the University. Results are summarized in Table 3 below.
- The multiple regression analysis eliminated all the variables with one exception, namely, that related to the respondents perceived ability to resolve OH&S issues in a timely and adequate manner for their business unit. Indeed this variable was positively related to the safe environment and explained around 65% of the variance in relation to it.

Table 3: Multiple Stepwise Regression Analysis for Safe Environment on Campus

Variable	Unstandardised Coefficient	Standardised Beta	T	Significance
Constant	1.976		6.026	0.000
Able to resolve OH&S issues in timely & adequate manner	0.537	0.816	4.674	0.001

Some of the elements included in Table 2 are "external" in nature to the management unit concerned, that is, they are beyond the control of the unit itself. These include the sufficiency of resources to resolve OH&S issues, the University resolving OH&S issues when raised by the unit, the unit being consulted by the University on OH&S matters and the operation of the OH&S Committee. However, other issues listed in Table 2 are within the control of the business unit concerned and therefore could be considered as being "internal" in nature. A priori the hypothesis can be proposed that the managers would express greater satisfaction on the 4 point Likert scale for the internal items (since they can do something about them) than they would for OH&S issues that are external in terms of control. This hypothesis was tested by comparing the mean agreement of the internal items (3.25) with those of external items (2.45) showing that indeed a greater satisfaction was noted within the internal items ($t=3.79$, $p<0.001$) since the difference in mean was highly statistically significant. Further analysis of internal and external factors against demographic and other binary variables indicated no statistically result except in one case. In particular, it was found that factors external to the respondents' unit were significantly related to the respondents' familiarity with the OH&S committee structure within the University. Managers who were familiar with such structures (mean=2.68) expressed greater satisfaction with the external OH&S issues than those lacking such familiarity (mean=2.17, $t=2.00$, $p<0.05$).

Qualitative Reponses

The respondents were requested to provide some qualitative inputs regarding possible improvements for the future, any other comments on OH&S and details of any OH&S Training courses attended. Some of the major themes emerging from the qualitative observations are considered in this section. It is noted that not all of the respondents commented, for example, around 55% of the respondents provided feedback of this nature (or a third of all managers approached to participate in the survey); this suggests some limitations of the qualitative data. Nevertheless, it must be noted that a majority of respondents did infact respond to the qualitative section of the questionnaire and hence one ought not to ignore their suggestions.

Respondents were requested to indicate the improvements that they can recommend for the future at the University in relation to the OH&S issues. A major theme emerging relates to the OH&S Committee related matters. One manager stated that "the disappearance of the University OH&S Committee leaves an unclear reporting line…" whilst another was unsure whether this Committee was operating and suggested 'information about the central OH&S Committee needs to be circulated" and another respondent pleaded for the "consistent management of OH&S committees".

Another area identified for improvement relates to the resources and related OH&S matters. Examples of comments made in this area include "in my unit we have staff who have to work in work spaces which do not necessarily meet OHS standards…", "as a manager most of the complaints that I have to deal with pertain to physical working conditions and am powerless to do anything about them …" and "clarity and direction about who is responsible, financially, for identified problems…".

A further major theme emerging from the suggested improvements relate to the OH&S training. For instance one respondent indicated that "a tailored consultation/training session for international division managers would be useful…" and "general OH&S awareness training session (is required) for all staff".

A final opportunity was provided in the questionnaire for the managers to include "any other comments". Once again the three themes of OH&S training, Committee structure and related issues and resource related matters emerged from these comments, reinforcing the earlier matters raised under suggested OH&S improvements.

CONCLUSION

This is the first survey of this nature undertaken within the Human Resources Group within the technological university; judging by the literature review there are very few published studies in this area, particularly with respect to higher education. It provides both quantitative and qualitative perception of the managers of the OH&S services. Some of the key findings and related dimensions of the study are as follows:

- The quantitative and qualitative inputs from the managers identified three major themes regarding health and safety issues in the University, namely, raising concerns about the University's OH&S Committee; perceived resource difficulties were mentioned by some respondents; and the need for future OH&S training programs was also identified by a few managers.

- The study suggests that the maintenance of a safe environment for students and staff appears to be highly positively correlated to the manager's capacity to resolve OH&S issues in a timely and adequate manner within their business unit.
- The findings of the study suggest that qualitative improvements may be required in the three broad areas of enhancing the functioning and awareness of the university's OH&S Committee; offering of appropriate training programs for managers currently requiring such development; and providing sufficient resources to managers so as to empower them to resolve OH&S issues in a timely and adequate manner within their business unit. The resource issue gains prominence in Universities that devolve OH&S responsibilities but have highly centralised resource management systems, creating a degree of dissonance between the two spheres. Resource planning ought to harmonise the two areas by embracing such concepts as activity based costing as an input into financial decision-making.

The present survey was limited to managers only. Given the importance of maintaining a safe learning environment for students and safe working environment for staff, it would be useful to obtain the students and staff perceptions of the OH&S environment. Similarly the present survey provides data at one point in time. Perhaps in future a follow up survey could be undertaken in order to obtain temporal comparison and trends in OH&S perceptions; this may help to convert the "data" into "information" and thereby enhance planning and policy development in this area. Finally this study suggests greater satisfaction by managers in OH&S areas within their control in comparison to the external factors. Universities that devolve OH&S to operating units ought to empower them to solve any difficulties within their unit, for example, by providing adequate resources to rectify OH&S problems locally.

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ASSESSING AND MANAGING CUSTOMERS' EXPECTATIONS IN A COLLEGE INSTITUTION

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ABSTRACT

Drawing from the rich theories on customer expectation and satisfaction, as well as the resolve of school administrators to acquire greater knowledge of these concerns in relation to the peculiar nature of service quality in the school setting, a survey among 468 respondents was conducted to determine the degree of customer expectations on the different components or service quality offered by a college institution. It also analyzed the ranking of the specific factors that will make customers satisfied in a college institution.

Findings indicated that both students and parents are similar in their high degree of expectations on the different components that should be provided by the school. The top three components that should be very adequately provided according to the customers are: (1) laboratories, (2) library, and (3) instructions. Customers have the least degree of expectations on the areas of: (1) community involvement, (2) student services, and (3) faculty. Results also revealed that students and parents ranked (1) competitive learning environment, (2) quality of faculty, and (3) school reputation , as the top three indicators that will give them customer satisfaction, while the last three are (1) reasonable tuition fee, (2) co-educational system, and (3) brand/image.

In conclusion, a college institution needs to improve its ability to manage customers' expectations, and thereby dramatically improve its competitive advantage. Some strategies that can be considered towards this goal are establishing portals and placements; adopting a tool to measure the fit between customer expectation and experience; and upgrading laboratory and library facilities..

Keywords: Customer Expectation, Customer Satisfaction, Competitive Advantage, College Education

1. Background of the Study

Research studies in marketing usually link customer expectations with customer satisfaction. Customers' expectations often reflect many aspects of the company's business activities, including the actual product, service, company, and how the company operates in the global environment (Smith, 2007). It is influenced by numerous factors that are inherent to the customers themselves, to the aspects of the firm's business activities, and to the environment as well. These factors enable customers' expectations to have a dynamic nature. This explains the marketing reality that customers' expectations may change during and after the service consumption process.

Customers' satisfaction is largely a reflection of the expectations and experiences that the customers have with a product or service. It shows that expectations influence the evaluation of the product or service. When customers make major purchases, they research about the product or service, and acquire information from advertisements,

salespersons, and word-of-mouth from friends, relatives, and colleagues. These gained information influence customers' expectations, ability to evaluate quality and value, and the ability of the product or service to meet their needs (Smith, 2007). This means, keeping the customers satisfied by meeting or exceeding their expectations translates to the firm's profitability and sustainability, thus, marketers should be proactive in their approach to create highly satisfied customers.

Lastly, customers' expectations after the service progress may be different from their expectations before the process (cf. Grönroos,1998). Expectations that change during the service consumption process may also affect how the service is perceived. Based on their empirical findings, Boulding *et al*. (1989) noted that "a person's expectations color the way he or she perceives reality". They proposed two types of expectations: predictive "will" expectations and normative "should" expectations, and finally observe that "though we suggest conceptually, and demonstrate empirically, that customers update their expectations and perceptions, interesting aspects of this process have not been investigated." Recent research by Johnson and Matthews (1997) suggested that customers' experiences influence the formation of "will" expectations but not of "should" expectations.

Another primary concern of any company or organization, aside from the identification and development of customer expectations, is to design and implement other strategies on how to manage these expectations. It also addresses those factors in the supply and delivery of services and products which influence customer quality perceptions. In order to be successful in managing customer expectation, an organization must offer services and products that : (1) meet a well-defined need, use or purpose; (2) satisfy customer expectations and requirements; (3) comply with Standards, specifications, and regulations, and (4) the requirements of society provide at a price which will be competitive and commercially viable (Pontoni, 2008).

The experience in managing customer expectations is that, companies try really hard to improve their customer service because in the end, they have a fairly good idea which specific aspects to focus on. Consequently, they try to identify which are the crucial areas and make sure they are right, thus, spending less effort on the things that matter less. Proactive and smart companies have realized that in reality, there are always just some things that a customer must have right; whereas for others, they will be a bit more laid back. This means taking ownership of the customers' requests, problems, and other concerns, and ensuring that their needs are met to their satisfaction

In the context of educational institutions as part of the service sector, it is widely recognized that education is of fundamental importance in this era of globalization. In order to develop societies that enjoy freedom, justice, social well-being and democracy, the nations of the global community will need more education, not only primary education but a deeper understanding of the arts, the humanities, technology and science (Hicks, 1998). The search for greater relevance, higher quality and accessibility by our institutions of higher education are certainly the major concern of school administrators. As such, Cognos (2008) believed that most college and university mottos center on the ideas of knowledge, wisdom, and virtue, and that the institutions exist to impart these values to people. Institutions of higher education increasingly see the co-dependence between educators and the educated, particularly in the pragmatic world of finances.

The global trend indicates that increasingly, college administrators and faculty are becoming interested in student expectations and satisfaction. Students are flocking to colleges because the world is now more reliant on knowledge than ever before and they

see college education primarily as a springboard to employment. The general attitude is that satisfied students are more apt to persist in school since their expectations are met. Consequently, administrators and faculty have become overly sensitized to issues of how to satisfy students' learning needs. While some faculty members are interested in innovative ways of meeting the learning needs of students, others have succumbed to the pressure of overcompensating for obvious student learning inadequacies (cf. Keri, 2002).

In the last decade, studies performed on student satisfaction have examined multiple factors associated with teaching and learning across disciplines and cultures. In Astin's (1993) book, "What Matters In College" as cited by Keri (2002), the author found substantial statistical evidence in support of student satisfaction based on the following variables: career development, learning ecologies, student beliefs, values and attitudes that impact student satisfaction in college.

Concerning satisfaction with college environment, Astin (1993) as cited by Keri (2002), focused on two fundamental interests: First was on students' satisfaction with their undergraduate experience as a whole, and second was on the rating of the college environment. Satisfaction with total undergraduate experience was operationally defined to include the following variables: specifics of personal experiences, curriculum, college administration, facilities, quality of instruction, and contacts with faculty. Whereas ratings of contextual factors span across areas of the degree of faculty interest in students, students' relationships with administration, and the degree of institutional priority given to issues, such as diversity, social change, resource acquisition, and enhancement of institutional reputation.

In an article on "Students' expectations-How do we measure up?" (Tricker, 2008), he indicated that in the United Kingdom, students of higher education increasingly perceive themselves to be customers of a service. This is partly as a result of the funding arrangements in the UK where students (or their parents) contribute directly to the cost of their education, and partly because of the growth of consumerism in public services. The student experience has become an important dimension in the measurement of quality of education. The nature of student expectations have changed over the last three decades and the form of appropriate university responses are clearly complex issues, touching on almost all aspects of higher education.

In order to examine parents' satisfaction with the quality of their children's schools, a telephone survey was conducted on a stratified random sample of parents in one Texas district in the USA by Falbo, et. al.(2008). The results showed that the mean of the parents' satisfaction scores was similar to the national mean for customer satisfaction. Hispanic parents indicated the greatest satisfaction, while non-Hispanic White and African American parents, the least satisfaction. Low-income parents expressed greater satisfaction than the other parents. Parents of elementary school students reported greater satisfaction than the parents of secondary school students. These differences are interpreted in terms of meeting expectations, parent involvement, and school success.

The increased emphasis on customer care seen in the 1980s and 1990s has also affected university libraries around the world and, as a result, the need to understand what library customers expect in terms of service quality is now necessary for good school management (Calvert, 2001). The findings of a survey of Chinese university library students' expectations of service quality were compared to a similar survey done previously in New Zealand. Calvert found marked similarities in the results in that there is perhaps a global set of customer expectations that can be used to measure academic library service quality. Three dimensions, such as staff attitudes, the library environment,

and services that help the customer to find and use the library's materials efficiently, were shown in both studies. Calvert further asserted that it has become increasingly clear, following research in the United States, New Zealand, Singapore, and the People's Republic of China, that academic library customers have very similar expectations of service.

Based on the above review of related literature, universities and colleges need to take a more strategic approach in the management of student expectations. This management might take the form of spelling out more clearly to students what they will experience and in addition be prepared to change student expectations. This is especially important in light of evidence that suggested that student expectations can be shaped significantly by a two-way dialogue between 'provider and customer' (James, 2002). As pointed out by Sander et al. (2000) "higher education has typically adopted an 'inside out' approach – with us on the inside assuming we know what students expect and want from higher education. However, successful service industries have been shown to think 'outside in'. They research what customers expect of the service and then work to provide the service that meets those of customer expectations."

In the Philippines, similar to other countries, customers such as students and parents have expectations about the service quality they will receive from a school like a college institution. It is also widely accepted that the key to good service quality lies in providing performance that meets or exceeds customer expectations of the service. That places the onus on school administrators to know the expectations of their customers. Separately, but perhaps as importantly, a fuller knowledge of the origins, or antecedents, or customer expectations will provide management with a fuller understanding of the complex nature of service quality.

2. Research Problem

Drawing from the rich theories on customer expectation and satisfaction, as well as the resolve of school administrators to acquire greater knowledge of these concerns in relation to the peculiar nature of service quality in the school setting, these research questions were posed:

1. What is the degree of customer expectations on the different components or service quality offered by a college institution?

2. What is the ranking of the specific factors that will make customers satisfied in a school offering college education?

3. Objectives of the Study

Specifically, this study aims to

3.1. Examine the level of customer expectations on each of the following components or service quality:

- 1.1. Statement of purposes and objectives
- 1.2. Community involvement/outreach
- 1.3. Faculty
- 1.4. Instruction
- 1.5. Library
- 1.6. Laboratories
- 1.7. Physical plant
- 1.8. Student services
- 1.9. Administration

3.2. Identify the particular performance standard in each of the component/service quality area that creates positive impact on the students as customers.
3.3. Analyze the top three specific factors that will bring customer satisfaction to students and parents as school customers.
3.4. Determine the possible courses of action or strategies that the school can adopt to manage their customer expectations.

4. Theoretical Framework

4.1 Conceptual Framework

The perceived service quality model was developed and introduced as a theoretical construct by Gronroos (1998) to help academics and practitioners understand the nature of the missing product of service firms, i.e. to understand the service process itself as the solution to customer problems – the object of marketing – in order to develop a consistent service marketing model and well-functioning marketing programs in service firms. How good the quality of the service was perceived to be by customers was expected to be measured using customer satisfaction approaches.

The disconfirmation concept was introduced, because it seemed theoretically obvious that quality perception is a function of what the customer expects of the process as well as of what in fact is experienced. In the model, customers' perceptions of the process are divided into two dimensions, the process dimensions or how the service process functions, and the output dimension or what the process leads to as a result of the process. In the perceived service quality model (cf.Grönroos, 1998), these two quality dimensions were called functional quality (how the service process functions) and technical quality (what the service process leads to for the customer in a "technical" sense). Image, on a company and/or local level, was introduced in the model as a filter that influences the quality perception either favorably, neutrally or unfavorably depending on whether the customer considers the service firm good, neutral or bad. As the image changes over time depending on the quality perceptions of a given user of a service, the image component adds a dynamic aspect to the model, which in other aspects is static (cf. Grönroos, 1998).

4.2 Operational Framework

The customers' expectation model was developed as an operational framework to comprehend the customers' (students and parents) degree of expectation on the quality of service in each of the nine college institutional areas that were identified. This was patterned after the accreditation standard areas of the Philippine Accrediting Association of Schools, Colleges and Universities (PAASCU). As shown in the framework, these nine areas which are assumed to be the components/quality service indicators are: (1) Statement of purposes and objectives; (2) Community involvement/outreach; (3) Faculty; (4) Instruction; (5) Library; (6) Laboratories; (7) Physical plant; (8) Student services; and (9) Administration.

The degree of customer expectations and satisfaction was measured using a 5-point Likert scale. The degree of expectations range from "should be very adequately provided, to should be provided in a very limited extent."

The operational framework also includes intervening variables, such as high school performance of entering freshmen, enrollment size, school location, appropriate working conditions in the organization, needs of parents and students, and promises given by the school to the students and parents. These are dynamic factors that can influence the degree of customers' expectations as well as the school's extent of providing the different service quality.

5. Methodology

The survey was administered to 500 respondents. Usable responses were received from 468 individuals, consisting of La Consolacion College Manila with 343 students (4th year HS=50, 1st year college transferee=75; new 1st year college = 218), and 40 parents of LCCM students (4th year HS=17; 1st year college=23). Respondents were asked to indicate their degree of expectation on the components/service quality of schools offering college education using a 5-point Likert scale.)

The components/ service quality indicators were patterned after the PAASCU accreditation areas which are: (1) Statement of Purposes and Objectives, (2) Community Involvement/Outreach, (3) Faculty, (4) Instruction, (5) Library, (6) Laboratories (7) Physical Plant, (8) Student Services, and (9) Administration.

The respondents were also asked to rank from highest to lowest 10 indicators found in a college institution that will bring them customer satisfaction.

The responses of the students and parents as customers from the various questions were analyzed by percentage, mean ($\overline{X}$), and ranking computations.

6. Findings

The analysis of the data revealed a number of interesting patterns regarding customers' expectations and satisfaction on the service quality offered by college institutions. The results of the study are as follows:

6.1. Demographic Characteristics of the Customers

Age: The average age of the 343 students is 17 years, while the 40 parent respondents' mean age is 45 years.

City Address: The city address of the majority of students (49.35%) and the parents (66.04%) is in Manila. The other more frequently cited city address by both type of respondents are in Quezon City (11.27%), Mandaluyong (7.39%), Pasig (6.69%), and Marikina (4.93%).

Provincial Address: On the other hand, the provincial address indicated by many students (43.04%) and the parents (57.04%) is in Rizal. There are also quite a number of both students and parents who stated the province of Bulacan (12.79%), Laguna (8.14%), and Batangas (6.98%). These provinces are in Regions III and IV.

Course Enrolled in: The students are enrolled in various courses in LCCM. A good number (27.39%) of them are in BS Hotel and Restaurant Management and BS Nursing (26.75%), and BS Tourism (13.38%).

Occupation of Parents: The parents of the 4th year high school and 1st year college students are engaged in different types of occupations. Some are professionals (38.89%) like engineers, accountants and teachers; business people / entrepreneurs (27.78%); and as employee (22.22%). There are also those who are OFWs (5.56%).

6.2. Customers' Expectations from Schools Offering College Education

Table 1. Mean Score of the Nine (9) Components of Schools Offering College Education

Item	STUDENTS				PARENTS/GUARDIANS			Overall Mean
	LCCM 4th Year HS	New 1st Year College	1st Year College Transferees	$\bar{X}$	Parents of LCCM 4th Year HS	Parents of 1st College	$\bar{X}$	
Laboratories	4.37	4.24	4.38	4.33	4.48	4.39	4.44	4.38
Library	4.08	4.22	4.21	4.17	4.38	4.49	4.44	4.30
Instruction	4.19	4.14	4.19	4.17	4.30	4.18	4.24	4.21
Physical Plant	4.29	4.12	4.21	4.21	4.29	4.09	4.19	4.20
Administration	4.27	4.08	4.13	4.16	4.22	4.25	4.24	4.20
Statement of Purposes and Objectives	4.18	4.08	3.96	4.07	4.32	4.32	4.32	4.20
Faculty	4.07	4.03	4	4.03	4.27	4.31	4.29	4.16
Student Services	4.22	4.05	4.04	4.10	4.21	4.05	4.13	4.12
Community Involvement/ Outreach	4.03	4.07	3.92	4.01	4.15	3.83	3.99	4.00
Mean	**4.19**	**4.11**	**4.12**	**4.14**	**4.29**	**4.21**	**4.25**	**4.20**

On the average, the students' expect that schools offering college education should adequately ($\bar{X}$=4.07) provide for having its vision-mission clearly communicated and understood. On the other hand, parents expect that it should be very adequately provided ($\bar{X}$=4.32).

Both students and parents expect that there should be an adequate ($\bar{X}$=4.01; $\bar{X}$=3.99, respectively) provision of an active, functioning, and effective community involvement/outreach program.

The overall mean score of the students' expectations regarding the faculty is "it should be adequately provided" ($\bar{X}$=4.03), while the parents have a higher expectation ($\bar{X}$=4.29) which is "it should be very adequately provided". This high degree of expectation is particularly shown in their rating of the teachers' involvement in professional development ($\bar{X}$=4.27); having competent teachers ($\bar{X}$=4.43); research-orientation ($\bar{X}$=4.37); and commitment to work ($\bar{X}$=4.31).

As a whole, the students and parents expectations on teachers should be adequately provided ($\bar{X}$=4.16) by the school.

Instruction is the core business function of any academic institution. As such, both students and parents expect that this should be provided by the school very adequately ($\overline{X}$=4.21).

Among the specific indicators of instruction, both students and parents asserted that these cover areas on: (1) passing the government licensure examination; (2) using a variety of instructional/learning methods; and (3) offering different courses which they can choose from.

Moreover, students reiterated that academic freedom in campus should be very adequately ensured ($\overline{X}$=4.21), while parents concerns are more on the very adequate provision of: (1) placement of graduates ($\overline{X}$=4.32), (2) relevant courses to industry needs ($\overline{X}$=4.38), (3) assessment of the academic performance of students ($\overline{X}$=4.26), (4) availability of academic guidance and counseling ($\overline{X}$=4.25), and (5) conduciveness of classroom management ($\overline{X}$=4.27).

There is a very high expectation by the students and parents on the library facilities and services ($\overline{X}$=4.30) and laboratory facilities and equipment ($\overline{X}$=4.38). They indicated that as a whole, these facilities should be very adequately provided by the school.

This expectation is rooted in the current trend of knowledge acquisition from computer technology. It is always expected that the library, as the repository of knowledge, is always state-of-the art, while computer, science, and food technology laboratories should also be very adequate to enable the students to learn the needed technical skills to gain employment after college.

Regarding physical plant, the overall mean score ($\overline{X}$=4.20) showed that both types of customers expect a very adequate provision of this facility. The top ranking components that are expected to be offered very adequately by the school are; (1) illumination and ventilation of buildings ($\overline{X}$=4.36); (2) school buildings are functionally designed, durable and safe ($\overline{X}$=4.34); (3) campus space for all activities and programs ($\overline{X}$=4.28); (4) location of school campus in a wholesome environment ($\overline{X}$=4.27); (5) use of information technology, e.g. internet, intranet/portals ($\overline{X}$=4.26); and (6) infirmary and clinic ($\overline{X}$=4.25). The customers' least concern is the dormitory which is expected to be moderately provided ($\overline{X}$=3.88). However, students differed with the parents' assessment when they said that dormitory facility should be adequately ($\overline{X}$=4.01) offered.

Provision of student services to enhance personality, develop leadership, assist students/parents, and offer financial grants through scholarship are qualities present in prestigious and reputable schools. As such, students and parents are of the opinion that these should be adequately provided ($\overline{X}$=4.11). Among the six qualities, the very adequate provision ($\overline{X}$=4.31) of Students assistance program e.g. scholarship is number 1, while the establishment of an alumni association is at the tail-end of their priority expectation ($\overline{X}$=3.99). On the contrary, parents do not think that co-curricular programs and activities ($\overline{X}$=3.98) and the establishment of an alumni association ($\overline{X}$=3.91) should be very adequately provided.

In the realm of administration, students' ($\overline{X}$=4.16) and parents' ($\overline{X}$=4.23) overall mean scores differ. Parents have higher expectations from administration than the students. But with the combined average score, the service qualities that are expected to be very adequately provided are: (1) administration of records and reports ($\overline{X}$=4.29); (2) acceptance of different types of students in campus ($\overline{X}$=4.24);(3) institutional planning

and development ($\overline{X}$=4.21); (4) financial/business administration ($\overline{X}$=4.20); and (5) international exposure linkages ($\overline{X}$=4.20).

The overall mean score of the nine (9) components/service quality of schools offering college education reveal that customers expect that these should be very adequately provided. But on a per component analysis, students and parents have the highest degree of expectation on the provision of: (1) laboratories ($\overline{X}$=4.38), (2) library ($\overline{X}$=4.30), and instruction ($\overline{X}$=4.21). Customers have the least degree of expectation on the provision related to: (1) community involvement ($\overline{X}$=4.00); (2) student services ($\overline{X}$=4.12); and (3) faculty ($\overline{X}$=4.16).

It is a surprising revelation that this group of customers has higher expectations on school laboratories and library compared to instruction and faculty. It seems that the students and parents are now recognizing that these facilities will promote the kind of learning students need, to meet emerging challenges in the workplace and in an interconnected world. Moreover, these customers perceived that these facilities will help college students become intentional learners who can adapt to new environments and integrate knowledge from various sources.

6.3. Performance Standards that Create Positive Impact on the Students

Table 2. Summary of Specific Indicators of Performance Standards

Item	Students (freq.)	Parents (freq.)	Total (freq.)
School's Purposes and Objectives			
• Vision-Mission clearly communicated and understood	18	12	30
Community Involvement/Outreach			
• There is an active, functioning, and effective community involvement/outreach program	19	13	32
Faculty			
• Competent, committed, research-oriented faculty	10	14	24
Instruction			
• Variety of courses	13	8	21
Library			
• Library collections and holdings (books, periodicals, journals, documents, etc.)	17	13	30
Laboratories			
• Space, ventilation, lighting, and safety of laboratories	10	7	17
Physical Plants/Facilities			
• Campus space for all activities and programs	6	1	7
• School buildings are functionally designed, durable and safe	2	4	6
Student Services			
• Guidance program	8	5	15
• Student assistance program	6	4	10
Administration			
• Administration of records and reports	6	3	9
• Affordable amount of tuition fees	3	4	7

Considering the different components or service qualities of a school offering college education, the students and parents were asked to indicate specific performance standards/indicators under each area that they perceive create positive impact on the students.

Table 1V illustrates that there are only one or two specific indicators that customers more frequently identified to bring positive impact on them. Noteworthy to mention are: (1) Vision-Mission clearly communicated and understood - School's Purposes and Objectives; (2) There is an active, functioning, and effective community involvement/outreach program – Community Involvement/Outreach; (3) Library collections and holdings (books, periodicals, journals, documents, etc.)- Library; (4) Competent, committed, research-oriented faculty- Faculty; and (5) Variety of courses – Instruction.

6.4. Ranking of Customer Satisfaction Indicators

Table 3. Ranking of Customer Satisfaction Indicators

Indicators	STUDENTS				PARENTS/GUARDIANS			Overall Composite Rank
	LCCM 4th Year HS	New 1st Year College	1st Year College Transferees	$\bar{X}$	Parents of LCCM 4th Year HS	Parents of 1st College	$\bar{X}$	
Competitive Learning Environment	4.77	4.67	3.96	4.47	5.21	4.00	4.61	4.54
Quality of Faculty	5.35	5.38	4.98	5.24	4.69	4.97	4.83	5.03
School Reputation	4.94	4.14	4.33	4.47	5.90	6.06	5.98	5.23
Quality of Instructions	5.50	6.26	5.63	5.80	4.79	4.59	4.69	5.24
Employability of Graduates	5.98	5.82	5.67	5.82	5.14	4.69	4.92	5.37
Graduate's Performance	5.87	5.88	5.80	5.85	4.97	5.53	5.25	5.55
Catholic Education	4.90	5.01	5.85	5.25	6.46	5.81	6.14	5.69
Reasonable Tuition Fee	6.21	5.50	6.20	5.97	5.79	5.31	5.55	5.76
Co-educational System	5.33	6.14	6.44	5.97	5.64	6.50	6.07	6.02
Brand / Image	5.67	6.13	5.94	5.91	6.90	7.28	7.09	6.50

There were 10 factors that the students and parents ranked in order of priority that will give them customer satisfaction.

The top three qualities are: (1) competitive learning environment ($\bar{X}$=4.54); (2) quality of faculty ($\bar{X}$=5.03); and (3) school reputation ($\bar{X}$=5.23).

On the other hand, the bottom three factors are (1) reasonable tuition fee ($\overline{X}$=5.76); (2) co-educational system ($\overline{X}$=6.02); and (3) brand/image ($\overline{X}$=6.50).

These results simply confirm that students are flocking to college because the world is more reliant on knowledge than ever before and they perceive that a school with a competitive learning environment, good faculty, and good reputation will enable them to get immediate employment and prepare them better for life.

The findings further validate the theory of Fombrun (1996) regarding the notion of reputational capital- a form of intangible organizational wealth. He explained that a college or university with a large stock of reputational capital actually gains competitive advantage against rivals because its reputation enables it to charge premium prices for its products. Fombrun concludes that reputations matter- and greater reputations matter most.

7. Conclusion

Expectations are impossible to turn off. But schools can improve their ability to manage them, and thereby dramatically improve their service effectiveness. Recognizing that schools can assess and manage customer expectations in the increasingly competitive market for college education, the need to identify the degree of valid and reliable measures of the service quality of college education from the viewpoint of the customers-students and parents is now imperative.

Based on the findings, the following conclusions emerge out of the study:

1. Both students and parents are similar in their high degree/level (very adequately) of expectations on the different components/service quality that should be provided by the school.
2. The top three components/service quality that have the highest degree of expectation from the customers are on the provision of: (1) laboratories ($\overline{X}$=4.38), (2) library ($\overline{X}$=4.30), and instruction ($\overline{X}$=4.21). These are also expected to be very adequately provided by the college institution.
3. Customers have the least degree of expectations on the areas related to: (1) community involvement ($\overline{X}$=4.00); (2) student services ($\overline{X}$=4.12); and (3) faculty ($\overline{X}$=4.16).
4. Students and parents ranked (1) competitive learning environment ($\overline{X}$=4.54); (2) quality of faculty ($\overline{X}$=5.03); and (3) school reputation ($\overline{X}$=5.23), as the top three indicators that will give them customer satisfaction, while the last three are (1) reasonable tuition fee ($\overline{X}$=5.76); (2) co-educational system ($\overline{X}$=6.02); and (3) brand/image ($\overline{X}$=6.50).
5. There are only one or two specific indicators that customers more frequently identified to bring positive impact on them. These are: (1) clearly communicated and understood school vision-mission; (2) presence of an active, functioning, and effective community involvement/outreach program; (3) library collections and holdings (books, periodicals, journals, documents, etc.); (4) competent, committed, research-oriented faculty; and (5) variety of course offerings.

8. Recommendations

In this paper it has been shown that there is a high degree of students' and parents' expectations in the various components/service quality that college institutions should provide to its customers. It is important that educational providers devote more attention to ascertaining just what the expectations and experiences of students are. But it is equally imperative that schools improve their ability to manage them, and thereby dramatically improve their service effectiveness. Below are some courses of action or strategies that the schools can consider in managing their customers' expectations to enable students to have a successful, satisfying, and life-long experience with the college institution.

1. Finding the Students to Meet the School Goals. Map your recruiting and admissions policies and strategies against desired student population profiles. Monitor data elements such as gender, ethnicity, socio-economic levels, college admission scores, grades, and other metrics. (Cognos, 2008).
2. Measuring Classroom Performance and Analyzing Curricula. In the classrooms, measure individual student performance across courses and disciplines and compare against academic benchmarks. Improve management of the curriculum offerings, by tracking trends in course enrollment, analyzing the relationship between curriculum and revenue, defining the classroom factors that lead to better performance, and optimizing the mix of faculty profiles (e.g., full-time, part-time, PhD holders, faculty researchers, etc.) (Cognos, 2008).
3. Establishing Portals and Placements. Set up useful student portals online, an essential component of a modern college. These portals can help disseminate key student information on curriculum, finances, housing, administration, and other student services available in campus. Moreover, manage student placements for work-terms or post-graduation jobs; increasing the quality of those placements by measuring the record of previous placements (Cognos, 2008).
4. Adopting a tool to measure the fit between customer expectation and experience. Implement a radically different philosophy from the more conventional satisfaction survey. Adopt a template that would apply to the situation that students (as customers) find themselves in with their school. In the context of education courses, this translates as a gap that might exist between what students expect from their course and what they in fact experience. (Tricker et al,1999 and Long et al. ,2001).
5. Upgrading laboratory and library facilities. In the different laboratories, assess their existing equipment, tools, and materials, and compare against academic laboratory benchmarks. Improve management of these facilities by ensuring very adequate space, ventilation, and lighting, coupled with safety procedures and continuing proper maintenance. Analyze the relationship between the curriculum and student academic performance; and define laboratory class factors that lead to better performance. In the library, closely monitor the inventory of library holdings. Acquire more recent collection of books, journals, and magazines, both in printed and on-line form. Improve the customer relations skills of the library staff.

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