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CONTENTS

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EDITORIAL

Greetings and welcome to the second edition of JIRSEA for 2014.

As you would have seen from the Contents page, this edition of JIRSEA has more than normal number of articles published. Ten articles to be exact. On behalf of the Editorial Board I wish to thank all the authors whose papers are published in this edition of JIRSEA.

I also would like to thank those authors who submitted their articles and regrettably found that their articles this time do not seem to fit the requirements. There were many reasons for their articles not being published. I would therefore like to remind intending authors to check carefully the requirements that we published on the SEAAIR website (http://www.seaairweb.info). To those whose articles are not published this time, please do not feel disgruntled. I applaud those who try again next time. I welcome more papers in the IR areas.

This time around, with a total of ten articles we naturally cover quite a bit of the spectrum of IR. I am pleased that we are able to bring readers articles on various aspects of teaching and learning. I am also pleased that there seems to be an increasing number of researches on it in this region of the world. It is no secret that with the impending ASEAN Economic Community coming on stream in 2015 effective teaching and learning can only be seen to be a neglected imperative. Many countries in South East Asia desperately need almost to revolutionize their teaching and learning from *rote* to *student-empowered learning*, particularly given the rapid technological advancement and the staggering generational changes that have indeed impacted on the way teaching and learning is to be conducted.

The first four articles in this edition therefore deal with various aspects of teaching and learning challenges. The fifth brought up yet another aspect of learning regarding the readability of the sources of information, namely books. This is something that should not be neglected either in our endeavour to make the learning effective. The contribution from The Philippines raised the ante by involving students in evaluating the curriculum of an undergraduate degree there. This of course is refreshing for it treats students as responsible adults who can and are willing to think *outside the box* and simultaneously charting their own future by being involved in drawing up their learning map as it were. We are then reminded of the need to measure and evaluate what we do as well as of the importance of data accuracy and the treatment needed if incomplete. The final two articles cover the even broader aspects of IR and university governance. I am pleased to see the involvement of the President of a Jordanian university in talking about governance.

I hope that you will enjoy the selection of articles in this edition of JIRSEA.

I also look forward to receiving more articles for consideration to publish

Happy reading!

Nirwan Idrus

Editor

CIRCUIT LEARNING - TEACHER'S AND STUDENT'S REACTIONS TO AN INNOVATIVE APPROACH IN LANGUAGE TEACHING

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Abstract

This article reports on teachers' and students' reactions to "Circuit Learning" (CL), an innovative teaching approach implemented at a public tertiary institution in Malaysia. It highlights specifically observations made of the students' reactions towards this new learning approach and the teachers' perceptions towards its effectiveness in improving the English language learning experiences among low proficiency students in a Foundation English course. The analyses of findings suggest that majority of the students showed positive reactions towards CL, although some reservations were detected at the initial stage. Teachers' reactions towards its effectiveness were generally mixed. Nonetheless both teachers and students identified many aspects of CL that were noteworthy, especially in the promotion of motivation and confidence among these students, hence indicating its feasibility and potential as a teaching innovation for ESL teaching and learning. This article begins by explicating the design and underpinnings of CL and this is followed by analyses of the responses from participating students as well as teachers through students' questionnaires and students and teachers' reflections. The paper concludes with implications and recommendations that promotes better the implementation of the CL approach.

Keywords: English language proficiency, ESL teaching methodology, small group learning, Mentoring-coaching approach

Introduction

The awareness of the decline in English language proficiency among Malaysian students not only among school leavers, but also among university graduates has led to continuous efforts to

improve English proficiency at all levels. This is due to the realisation that to possess a high proficiency level in English, is the passport to secure a job in the current competitive job market in Malaysia (Lee & Wong, 2006; Gill, Saran K. 2009; Zarina Othman et al, 2011). It is difficult to understand why Malaysian undergraduates who have had in general a total of 11 years of formal education in primary and secondary school education where English is one of the key subjects, do not possess at least an intermediate level of proficiency in English. Researches have revealed that a variety of factors may have contributed to this phenomenon. One of the factors that stands out significantly is, pressure from peers against speaking English. Those who speak English are viewed as "showing off" or forgetting their own origins (Lee, 2005; Lee et al., 2010). This stigma has led to the lack of opportunity to practise English and a lack of motivation to learn English. The problem of eradicating the cultural stigma associated with using English is difficult which lead to many initiatives to address this problem and the current study is one such initiative.

The Circuit Learning

The main thrust of the CL approach is to enhance confidence among low level proficiency students and to motivate them to speak English. This is achieved through improved classroom methods and techniques which focus not on the content of the teaching but the approach of teaching. With this aim in mind, it was decided to adopt the approach of 'mentoring' or 'coaching' of a small group.

This approach was adopted as the researchers believe that with a smaller number of students in one session there will be more opportunities for personal coaching. This small group coaching system operates in a circuit manner where students are coached on a different teaching component at each 'work station'   until every student completes the circuit. This idea of a circuit of 'work stations' stemmed from the OSPE (Objective-Structured Practical Examination) method of assessment (Harden et al 1975, 1979) used for assessing medical student practitioners. This mode of assessment received favourable feedback. , Faldessai, N. et al (2014), for example, reported that OSPE was an effective tool to gauge perceptions and performance of students in Biochemistry. Deshpande et al. (2013) further found it useful in evaluating the attitudes of undergraduate medical students. This is t the first time that this tool has been adapted for use in a language learning context, thus it would be interesting to find out the applicability of this tool to a language teaching context.

Studies have shown that small group learning can generate active participation of members among members in a group. Springer et.al (1999) found that various forms of small-group learning are effective in promoting greater academic achievement, more favourable attitudes toward learning, and increased persistence. Gillies (2003) investigated the effects of cooperative learning on junior high school students who were assigned to work in structured and unstructured cooperative groups of three to four persons per group. The results showed that the children in the structured groups were more willing to work with others on the assigned tasks and provided more elaborate help and assistance to each other than their peers in unstructured groups. The small group mode learning also enables students to be able to reflect on their learning more precisely. What is most important is that this mode of learning has been found to generate i) self-

active learning ii) self-motivation iii) exploration of issues iv) deep learning v) an adult style of learning and vi) transferable skills.

The literature reveals that among the different approaches such as mentoring, coaching and supervision, mentoring seems to be most effective in enhancing teachers' professional development (Carter & Francis, 2001; Yost, 2002). Thus, it is worth to investigate the effectiveness of mentoring or coaching in enhancing students' language proficiency. A preliminary study undertaken by ZarinaOthman et.al. (2012) revealed that the mentoring approach was effectivein enhancing academicians 'competence in speaking English in her study to improve the international working language among academics. .

Description of the Circuit Learning Components

This approach was utilised in the Foundation English course offered by this public university to teach drama skills and evaluate students' performance in the drama presentation. Four 'stations' that focus on four components:

i)   confidence building
ii)   language awareness
iii)   text understanding and
iv)   virtual learning.

These four components complete one circuit of learning beforeitwas subsequently repeated. The component on *Confidence Building (CB) aims at* enhancing student competence in speaking particularly in conversations by focusing on pronunciation, intonation, voice projection and articulation. The *Language Awareness (LA)* component aims to build up students' awareness of Englishlanguage by focusing on grammar items (tense aspects) and sentence structure, WH-questions and the positive and negative statements. Next, the *Text Understanding (TU)* component aims to build up student understanding of texts, in particular dialogues and conversational texts by focusing   on vocabulary building and understanding main points of reading texts (in particular the reading of 'penguin readers' short story books. Finally, the *Online Virtual Learning (VL)* component aims at building students' competence to interact online by focusing   on the use of *MyLine* - an English Learning Support system coordinated by the Ministry of Higher Education. The activities offered by *MyLine*include quizzes and grammar exercises.

The CL Rotation Schedule

A total of 7 circuits (at approximately 120 students per circuit) were required to handle the 800 first-year students who enrolled at the university when the innovation was piloted. The circuits were conducted separately by different groups of teachers and were based on scheduled times and days. In essence, each circuit was conducted by 4 teachers who run parallel sessions for each of the components, CB, LA, TU and VL for a small group of 15 students for each week. In this way, each group of students would be taught different components every week as they moved

along the circuitas depicted in Diagram 1.0 below. It demonstrates the *modus operandi* for a typical circuit.
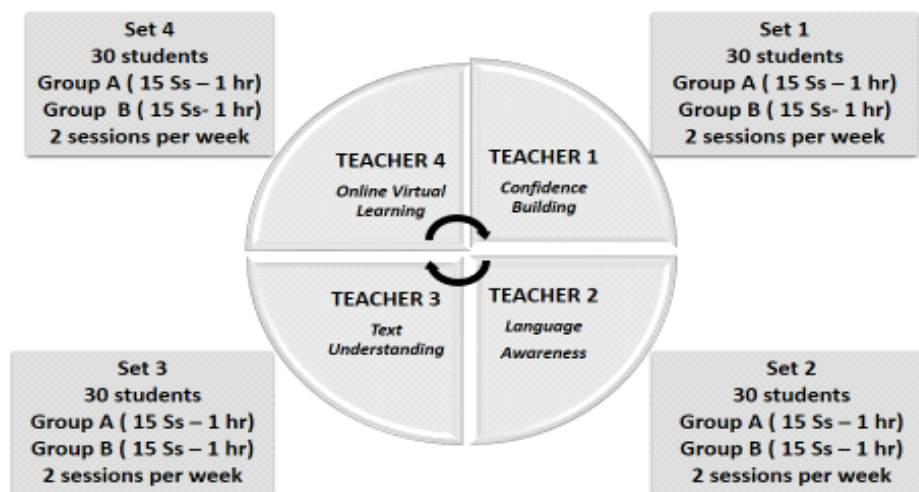
Diagram 1.0 – Circuit Rotation Schedule

For example, Set 1 (which comprised 30 students) was divided into two groups of 15 students (Groups A& B). Each session would be for two hours with one hour face-to-face learning with the same teacher and the other hour of self-learning. While students of Group A were doing face-to-face learning the students in Group B would be doing self-learning. After one week, Set 1 would move to a different teacher and a different component and this would continue until the completion of the circuit. After that the next circuit of activities would begin.

The Method

In determining the students' reactions toward Circuit Learning at its initial implementation phase, data were collected mainly through quantitative method where 230 questionnaires were distributed to random sets of classes of low English proficiency learners. These selected students scored bands 1and 2 (lowest level of proficiency) in the Malaysian University English Test (MUET). The questionnaires were distributed to gather students' perceptions on CL and how receptive they were toward this new learning approach. The responses were analysed using SPSS.

The qualitative data on the other hand were gathered through students' written reflections and teachers' verbal reflections. Altogether, 23 students' written reflections were gathered. These reflections were contextually analysed. Apart from asking students of their general opinion of what they thought of the approach, other comments mentioned by the students were analysed according to themes such as teacher rotation, class time allocation and recommendations.

Students were allowed to reflect in the Malay language, the main medium of instruction in Malaysia, to enable ease of reflections since this students had low proficiency in English.

As for the teachers, 4 teachers were selected at randomly based on their years of experience. Two teachers selected had more than 20 years of English language teaching experience and two had 10 to 15 years of teaching experience. They were each asked to briefly reflect on their reactions towards CL at a time convenient to them. These reflections were verbally recorded. Their verbalised responses were recorded and content analysed.

The Student Results

The quantitative results of the students' perceptions of CL revealed that they were receptive toward this new learning approach. In general, they said that they enjoyed this new approach to learning English and found it an effective and useful way to learn English. Some preliminary findings from the quantitative analysis were reported in the proceedings by A.Ya'acob, et al. (2013).

Students' perceptions of their experiences with the CL approach

Table 1.0 illustrates the students' views on the circuit approach and their experiences in learning English through this approach. As shown in the Table 1.0, their responses towards CL were generally positive.

Table 1.0: Student Perceptions of the CL Approach

STATEMENT	SA* N(%)	A N(%)	DA N(%)	SD N(%)	Missing data
This system is a good way to learn English.	98 (42.6)	113 (49.1)	14 (6.1)	2 (0.9)	3 (1.3)
This system is a good way to increase the use of English.	84 (36.5)	125 (54.3)	18 (7.8)	- (-)	3 (1.3)
This is a good system as I always get the attention of the teacher in class.	60 (26.1)	118 (51.3)	43 (18.7)	5 (2.2)	4 (1.7)
**I do not feel pressure to meet the demands of four different components.	75 (32.6)	107 (46.5)	31 (13.5)	14 (6.1)	3 (1.3)

STATEMENT	SA* N(%)	A N(%)	DA N(%)	SD N(%)	Missing data
I like being exposed to a variety of teaching styles.	108 (47.0)	112 (48.7)	4 (1.7)	2 (0.9)	4 (1.7)
I like the system because there is a continuity of Learning Circuit between the components of the course.	55 (23.9)	139 (60.4)	30 (13.0)	2 (0.9)	3 (1.3)
**I am not confused learning together with four different instructors.	92 (40.0)	92 (40.0)	30 (13.0)	10 (4.3)	6 (2.6)
**I do not feel pressure to meet the demands of four different instructors.	85 (37.0)	91 (39.6)	43 (18.7)	8 (3.5)	3 (1.3)
This system encourages the active participation of the individual student.	89 (38.7)	120 (52.2)	17 (7.4)	1 (0.4)	3 (1.3)
I am always excited to attend this class with circuit system.	72 (31.3)	124 (53.9)	22 (9.6)	6 (2.6)	6 (2.6)
I am delighted learning in small group of students	87 (37.8)	110 (47.8)	23 (10.0)	6 (2.6)	4 (1.7)
I love being exposed to different instructors.	76 (33.0)	124 (53.9)	19 (8.3)	6 (2.6)	5 (2.2)

*SA=Strongly Agree A=Agree DA=Disagree SD=Strongly Disagree
** Items were reverse coded

A majority of the students indicated that the circuit learning approach is a good way to learn English (91.7%) and it is also a good way to increase the use of English (90.8%). 77.4 % of the student agreed that it is a good system as they would always get the attention of the teacher. With regards to their learning experience with four different components and four different instructors, a high percentage of the students stated that they like learning from different instructors (86.9%) who have various teaching styles (95.7 %). They also said that they did not feel pressured to meet the demands of the four different components and instructors. About 80 % of the students stated that learning English from four different instructors did not cause any confusion.

Students' perceptions of the effectiveness of the CL teaching and learning components

Students' perceptions on the effectiveness of the CL approach based on the four teaching components which are Confidence Building (CB), Language Awareness (LA), Text Understanding (TU) and Virtual Leaning (VL) can be seen in Table 2.0. The student responses are categorized into the following sections: Improvement of language skills, Enhancement mastery of English, Boost motivation, interest and confidence, Class time allocation and the Component structure.

Table 2.0: Student Perception on the Effectiveness of the CL Teaching Components

STATEMENTS	CB*	LA*	TU*	VL*
	Positive (SA+A)	Positive (SA+A)	Positive (SA+A)	Positive (SA+A)
I. Improve of Language Skills				
This component can improve my listening skills in English.	205 *(89.2 %)*	202 *(87.8%)*	195 *(84.8%)*	181 *(78.7%)*
This component can improve my speaking skills in English.	205 (89.1%)	200 (87.0%)	198 (86.1%)	179 (77.9%)
This component can improve my English grammar	190 (82.7%	199 (86.5%)	201 (87.4%)	195 (84.7%)
This component can improve my English comprehension	203 (88.3%)	201 (87.4%)	201 (87.4%)	198 (86.1%)
This component can improve my writing skills in English	174 (75.7%)	186 (80.9%)	188 (81.7%)	180 (78.3%)
This component can improve my pronunciation in English	206 (89.5%)	206 (89.5%)	199 (86.5%)	194 (84.3%)
This component can improve my reading skills in English.	191 (83.1%)	191 (83.0%)	195 (84.8%)	180 (78.3%)
This component can increase the level of my English vocabulary.	180 (78.3%)	186 (80.6%)	188 (81.7%)	185 (80.4%)
II. Enhance Mastery of English				
The activities carried out throughout the course to enhance my English language	204 (88.7%)	205 (89.1%)	202 (87.8%)	205 (89.1%)
These components increase my ability to use English outside the classroom.	200 (86.9%)	198 (85.9%)	200 (86.9%)	183 (79.6%)
III. Boost motivation/ confidence to use English				
This component can help boost my motivation to use the English language	210 (91.3%)	208 (90.5%)	200 (86.9%)	201 (87.4%)

STATEMENTS	CB*	LA*	TU*	VL*
	Positive (SA+A)	Positive (SA+A)	Positive (SA+A)	Positive (SA+A)
This component can improve my English language use in the classroom.	193 (83.9%)	192 (83.5%)	192 (83.5%)	187 (81.3%)
Activities of this component can give me confidence to use English	192 (83.4%)	189 (82.2%)	188 (81.7%)	182 (79.2%)
IV. Class time allocation				
Class time allocated for the component is insufficient	113 (49.1%)	111 (48.2%)	117 (50.7%)	109 (47.4%)
V. Component structure				
This component should be re-structured in the future.	159 (69.1%)	166 (72.1%)	165 (70.7%)	162 (70.4%)

CB=Confidence Building; LA=Language Awareness; TU=Text understanding; VL=MyLinE

Improvement of Language Skills

As can be seen in Table 2.0, students generally have positive view of CL in helping to improve their writing skills. 75 % of the students stated that the four components were effective in improving their listening skills, speaking skills, reading skills, writing skills, reading comprehension, pronunciation and vocabulary.

Enhancement Mastery of English

A high percentage (80%) responded that the activities carried out in the four components had helped to enhance their English. More than 80 % the students agreed that the components facilitate their ability to use English outside classroom.

Boost Motivation and Confidence

A majority of the students expressed that each of the circuit learning component had helped boost their motivation and confidence to use English. About 80% indicated that the activities of the four components increased their confidence to use English in class.

Class time Allocation

With regards to time allocation for each component, about half of students felt that the class time allocated for each component was insufficient.

Component Structure

As to whether there is a need to restructure the components, more than two thirds of the students (70 %) agreed that the components need to be re-structured for future implementation. This calls for a thorough review of the system.

It is encouraging to note that a majority of the students felt more confident, interested and motivated to use English after going through the CL approach and appeared receptive to the class and online activities. This is a significant revelation as Brown (2001) pointed out that students' elevated interest and motivation are two key determining factors for successful second language learning. However, despite the positive responses on the approach, it is necessary to look into the concerns raised regarding class time allocation, teacher-student meeting and the various components. This is because the students showed mixed reactions toward the one hour face-to-face meeting and one hour of self-learning time with almost 50% of the students expressing dissatisfaction. The reasons for this will be unraveled in the qualitative data.

The students' written reflections on "Circuit Learning"

Students were asked to reflect on the CL approach and to provide reasons for their acceptance of the CL approach. In general all the students express positive reactions toward the CL approach with some concerns to take note in making CL more effective.

(i) Reasons

We elicited the reasons that indicated student general positive responses from the students' written reflections. Table 1.0 below lists all the reasons that are coded based on what they felt they had improved, whether they felt that the activities were meaningful and their personal views on what they thought were added value they had gained.

Table 1.0 Students' reasons for positive response toward the CL approach

What has improved?	Meaningful Activities	Personal View
a. Improve my English b. Built my confidence to speak with others although not very good. c. Understand more about noun, verbs, adjectives and other	a. Knowledge about drama gives confidence to speak b. Virtual learning allows us to do many exercises c. Facebook really works well d. Facebook does not really work because students keep silence	a. No more spoon feeding b. Students don't feel burden because most of the activities students do in class c. *Mengingatikembalibelajarsewaktu di sekolah* (The approach reinforces what we had learnt in schools) d. Student got closer to each other e. *Pembelajarantidak 100% pembelajaran whiteboard* (The teaching is not a 100% whiteboard teaching) f.

13

What has improved?	Meaningful Activities	Personal View
components d. *Meningkatkanpen guasaan BI dankeyakinandirip elajar* (Build the mastery of BI and self-confidence) e. *Menambahperben daharaan kata* (Increase vocabulary) f. *Tidakberasamalub ercakapdalamkela s* (Don't feel shy to speak in class)	and do not respond e. We learn different things every week- learn how to read, learn correct pronunciation f. The activities make the subject so fun to learn English- drama, reading, etc g. *Penguin readers membantusayamena mbahperbendaharaa n kata* (the penguin readers help me increase my vocabulary) h. *Aktivitimenarikseper timenggunalagu* (Interesting activities like singing)	*Pembahagianbahagiandalamsubjekmendedahkank epadapelajarsecaralebihmendalamdalammenguas ai Bahasa Inggeris* (The different components expose student to more in depth understanding

*Those in *italics* are students' responses in Malay Language

(ii) <u>Teacher Rotation</u>

Most of the students expressed that the rotation of different teachers exposed them to different teacher styles, ideas and knowledge. A few students expressed that with different teachers students do not feel bored (*tidakbosan*). The most interesting reflection was on the students' views that teachers appear to be non-favoritism (*tidakpilihkasih)* and that this rotation of teachers had motivated them to learn English. One student specifically mentioned that 'a rotate teacher is good'. There were a number of students, however, who felt that the teacher rotation had caused difficulties for them to remember the teachers ('*sukarmengingati guru'*) and they got confused with which teacher was coming into class (*kekeliruan lecturer manaygakanmasuk*).

(iii) <u>Class Time Allocation</u>

This CL approach proposes an hour classroom meet whilst the next of prior hour is meant for students to do preparations for the upcoming class sessions. About half of the student respondents expressed their preference for such a mechanism as they felt that a one hour class meet is sufficient as they can do preparations or practice in the next hour. A student states that '*my opinion about one hour class is also good because it's not too long but the input I get is very useful'*. However, a few students expressed that the one hour classroom meet was insufficient as they felt that they needed more teaching and more time for in class practice on grammar learning

in the Language Awareness class. A student expressed that '*But I think it would be better for me if this class held in 2 hours. Because I think 1 hour is not enough for me to learn the course'*. Another expressed that '*sayaharapkelasuntuk grammar lebih lama sebabkebanyakanpelajar yang tidakmahirberbahasaInggerisdisebabkanmerekatidakfahamdengan grammar'* (I hope that the grammar class is longer as many students are not proficient because they don't understand the grammar).

(iv) <u>Students' Recommendations</u>

Students recommended in general that the teachers should consistently monitor the students' take home assignments or progress in group work. According to a student, teacher rule is needed to monitor students' homework or group work. A student also expressed the need for a longer time to spend with one teacher. The student felt that perhaps maintaining one teacher per class set would make it easier for the teacher to identify specific student weaknesses.

Teachers' reactions toward "Circuit Learning"

Teachers play key roles in determining the success of a curricular innovation (Adamson and Davison, 2003). Generally, the four teachers (Teacher A.B, C and D) found the CL approach to be effective in enhancing students' proficiency. Since the teachers at this experimental stage were given the flexibility to explore the kinds of materials or activities they wished to use or conduct in the classroom learning, there was no fixed materials or activities provided by the course committee. However, some activity materials were recommended to the teachers; some of which were the existing materials of the previous Foundation English (FE) course. This included the evaluation components from previous FE course; i.e. quiz on grammar, penguin readers reading and movie video watch as well as the online *MyLine* activities other than the final evaluation of a drama presentation.

Teacher A, found the inclusion of several evaluation components to be a burden on the teachers and would prefer students to be evaluated on mainly the drama presentation with perhaps 1 or 2 on-going assessments; such as the quiz and reading aloud. In implementing the CL approach at this stage, the committee had maintained the existing Foundation English course syllabus with respective evaluation components same as before. Thus, a comment to note was that it was not necessary to evaluate many components that had contributed to teacher 'exhaustion' to evaluate. They wishedformore time to focus on the components that would contribute to students' drama presentation instead.This was further elaborated with the fact that the course objective was to primarily build students' confidence to speak English with drama presentation as its learning outcome.

Teacher B found the teaching itself 'exhaustive' when the teachers needed to provide input in the short one hour class meet. This is especially so for those teachers whose focused component was on Language Awareness; i.e. the grammar. Teacher A tried out a meet of 2 hours for each sub set instead of one for all 30 students and found it to be less effective due to a student absentee and

similarly, the circuit became rather 'haywire' when there was a teacher absentee. This concern is also shared by Teacher A.

Teacher C and Teacher D seemed to find 'all well' with the CL approach. Teacher C whose component was on the virtual learning, explored other virtual activity than *MyLine* by including the use of *facebook* (FB). She found that the active interaction of the students via the use of FB had encouraged students to participate in responding to statements the teacher had posted on FB. A similar response was gathered from Teacher D whose component was on Language Awareness. She found it effective to allow students to engage ina self-independent learning mode. Students had participated actively and were keen to present what they knew and understood to other to class mates.

Figure 1.0 illustrates a scenario of the CL approach of one of the sets of classes. It shows the small group set up of a class for each session and it evidently shows how this mode of learning encourages students' participation and interaction between themselves in discussion of an activity task that the teacher had assigned. The respective teacher commented that students appeared less 'shy' to speak in English and made attempts to communicate within the group members in English.

Figure 1.0 Students in CL Classroom

In figure 2.0, students showcase the work they had prepared for their Language Awareness class where the teacher had assigned for each group of students to read and bring to class input of an assigned grammar item, e.g. WH questions. It is at the stage of student presentation of each item assigned that teacher makes effort to monitor the input and to elaborate further. Taking into consideration of the level of student maturity at tertiary level, it is emphasised in this approach that students should be encouraged to explore and to discover the 'grammar' of English for instance rather than to 'spoon feed' them with the input.

Figure 2.0- Students Showcasing Preparation for Class Assignment

Discussion

This study aimed to understand the reactions from teachers and students who had experienced the teaching and learning of English language through the Circuit Learning way. Students' perceptionstoward the CL approachvia the questionnaire had indicated a substantive response for 'liking' the approach. The results show that a large majority (80 %) of the students favoured this approach as there is a continuity of learning circuit between the learning components of the course. They liked the fact that learning took place in small groups. The students also indicated that they were excited to attend class and that the classes had motivated them to be active students in class.

The emphasis on a smaller number of students in each teaching session may have been one factor that had contributed to the acceptance of this new teaching approach. Having small number of students in each class meeting had allowed the teacher to be able to coach and give more attention to each student's capability. With this practice of small teacher-student ratio, it encourages and provides more opportunities to students to interact with the teacher and also with other students in the class. It promoted active participation from the students in class.

In response to the effectiveness of the teaching components, it is crucial to note that a majority of the students felt more confident, interested and motivated to use English through the course components and the in class and online activities. This is a significant revelation as Brown (2001) pointed out that students' elevated interest and motivation are one of the determining factors for successful second language learning. However, despite the positive responses on the approach, it is necessary to look into the concerns voiced regarding the class time allocation, teacher-student meeting and the components.

The selected sampling of students' written reflections had allowed the students to use their own choice of words in expressing their positive learning experience. This gist of reflections captured

had helped provide the teachers with the why and how students were favourable to the CL approach at its initial stage of implementation. Though the teachers' reactions showed a mixed reaction, the negative accounts can be identified as a management problem. The expression of being too 'exhaustive' was being referred to the multi evaluated assignments given to students in the course. Thus, this is a course syllabus management factor that can be resolved by excluding them from the course evaluation. It does not in any way deter the enriching experience of student learning experience which had managed to a great extent motivated students to learn English when they themselves had expressed clearly in their written reflections of the 'enjoyment' of learning English through the circuit way and how it had boosted their confidence to use English. These are factors that help to validate the effectiveness of the CL design in empowering low proficiency students to be confident to use the language.

Implications and recommendations

The negative accounts from both the students and teachers have brought upon several pedagogical implications. One of which is to focus on classroom tasks that will coach students to be prepared with the drama class evaluation component and to reduce the number of evaluated tasks which had caused 'exhaustion' on the part of the teacher. Secondly, the number of teachers and sets of classes in a circuit can be recommended to be reduced to two teachers and two sets of classes. With this change, the class meetings between these two sets of class would be two hours per class meeting/session. Teacher –student time is also increased with this improvised circuit round. The set teacher will meet the set students every week instead of waiting for another three weeks to meet when the circuit is completed.

The teaching and learning components of the course were recommended to be reduced to two which are the Confidence Building (CB) that will incorporate Understanding Texts and the Language Awareness (LA) that incorporates the Virtual Learning. Both components will be taught to the two sets every week.

The positive feedbacks on the approach show evidence of the meaningful learning experience with the new innovated CL approach. The students believed that they benefited learning from multiple teachers, various learning components and different teaching styles. The course design had given them a wide range of input which supported, encouraged, provided fun and non-threatening ways to practise the language inside and outside English classrooms. This approach seems to have provided a conducive, stress-free language learning environment and interactive and creative teaching and learning components for successful language learning (Hussin et al, 2001). A more prominent impact is the allowance for teachers to develop their expertise with the specific given components for them in the CL teaching and learning approach.

According to A. Yaacob et al (2013), the uniqueness of this 'circuit learning' approach is that students go through the language learning process with more than one teacher who collaboratively and alternately teaching the components that they are assigned to. They believe that this approach is a 'paradigm shift of teaching method in dealing with low proficiency students'. The quantitative findings revealed that the students benefited from this new innovative

learning approach. They favoured learning from different teachers and exposed to different language learning components. Most promising was that majority of the students indicated that the approach had helped in the enhancement of their language skills, grammar, vocabulary and pronunciation. Improvement in the language skills, grammar and vocabulary is important to these students of low English proficiency as this will boost their confidence, interest and motivation in learning. Bernaus (1992) poses that, "motivation is possibly the main factor affecting students' foreign language acquisition, followed by socio-cultural factors".

Bearing in mind the influence of socio cultural factors and the peer pressure factor on the lack of proficiency in using English language as mentioned earlier, motivation is still the thrust of the problem. It is the lack of low proficiency students' motivation to learn English and to boost their confidence to speak English thatare dealt by the CL approach. This concept of CL approach given some respective considerations, may not only be a workable approach for language learning as it is feasible to adopt this approach with other learning subjects such as Maths and Science. It may significantly also be applicable for soft skilled courses where students are expected to master respective competency skills.

As a conclusion, the 'Circuit Learning' (CL) approach is a workable approach that primarily has managed to primarily create students' awareness in aspects of English language use. It has to a certain extent boosted low English proficiency students' interest and motivation to participate in the learning of English despite the mixed reactions received from students and teachers. The findings presented in this paper have indicated that the Circuit Learning (CL) approach is feasible as a means to empower the learning of low English proficiency learners. Considering that the teaching and learning of English to low proficiency students in a non-native context has been a challenge for teachers, the CL approach has provided evidences that support its validity.

Acknowledgment

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EMPIRICAL STUDIES OF SECOND LANGUAGE DEVELOPMENT IN A THAI UNIVERSITY

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Abstract

Language accuracy acts as a major contributing factor in the development of quality writing. Theoretically, the accuracy of second language (L2) learners' language in their written communication can be improved by language correction. In contrast to the findings of this five-year study series revealed the significant effect of teacher corrective feedback on students' writing competence, teacher correction has sometimes been considered unproductive for students' language development and success in acquiring writing skills. To verify some of the non-theoretical facets of the feedback effects on L2 writing competence, the five-year cross-sectional study examines what pertinent language barriers impeded 25 from 367 first-year Thai university undergraduate students' development of language accuracy with the provision of corrective feedback are, and how the students view their language development with the aid of correction. Based on the results of the study series, this paper provides insights for the teaching community to realize the key variables hidden in learners' learning process and being detrimental to their learning progress when teaching L2 writing.

Keywords: second language writing, metalinguistic correction, writing competence, language development, Thailand

Background

The importance of English language literacy has been promoted for decades at all levels of basic and higher education in both ESL and EFL contexts. Nevertheless, in the EFL context, a number of the previous studies on English language teaching and learning have identified L2 learners' problems in using English to communicate (Larsen-Freeman and Long, 1991; Lightbown and Spada, 2003; Brown, 2007; Ellis et al., 2008). One of the most significant unresolved problems is L2 learners' difficulties in writing at the levels of basic and higher education (Asian Scientist Newsroom, 2011).

In the Thai EFL academic setting, this literacy issue has been raised with the Thai Education Ministry owing to the existing problems with the English writing skills of Thai students. One of

the signs of weaknesses in Thai learners' English-language writing skills is a deficiency in the ability to use grammar correctly (Ministry of Education, 2008 and 2012). The necessity for writing competence in English has been especially emphasized for university undergraduates who wish to qualify as national and global citizens (Bhangananda, 2007). In order to enable these EFL learners to apply their English language knowledge in written communication, teachers of English are required to provide opportunities for their learners to practice writing in English.

L2 Writing Instruction and the Learning Process

Although there has been a shift in ESL and EFL writing instruction towards a more process-oriented approach, a product-oriented approach is still predominantly used for EFL writing assessment in the curricula of most countries. The product writing approach emphasizes form or language accuracy in writing (Ferris, 1999; Schlig, 2006; Vickers and Ene, 2006). Sinceit is generally accepted that language accuracy in writing helps improve the quality of written texts, grammar instruction has become an indispensable part of EFL writing instruction.

Grammatical or language knowledge includes not only the ability to use correct forms to express literal and intended meanings, but also covers the ability to use the forms appropriately in a given context (Larsen-Freeman, 2008). Canale and Swain (1980) acknowledge that grammatical form and meaning are interconnected and that together they constitute one ofthehallmarks of grammar competence. Grammar competencerefersto knowledge of the rules of phonology and knowledge of the lexicon, the syntax and the semantics of a language (Canale and Swain, 1980: 29).

In a formal classroom setting, grammar instruction is provided during L2 writing classes to promote the development of L2 learners' writing accuracy in authentic contexts (Brown, 2007). The different resulting language competencies of individual language learners can be explained in terms of which key components of Monitor Model (Krashen, 1981) were applied in the L2 learners' language learning process.

In the Monitor Model, affective filters are considered the first screen controlling the amount of language input and the last one for the language output. An affective filter screens input and selects useful input for language learning (intake) for the UG (Universal Grammar) or for the Monitor. UG is the innate knowledge of the 'universal' principles common to all languages (White, 2003; Lightbown and Spada, 2003; Brown, 2007; Gass and Selinker, 2008). When learners are relaxed and in a pleasant learning environment (i.e. a lowered affective filter), more intake will reach the UG. When the input is acquired, it goes to the UG and when the input is learned, it goes to the Monitor. Then, the learners will self-correct the acquired input or the learned input, which can be in the form of received statements. If the learners' affective filter is at a low level, they could feel more confident about producing what they are going to write after the self-correction.

However, in L2 writing instruction, deviations can occur naturally during learners' language learning. Competence deviations or errors occur when learners do not master complete language knowledge in their learning process (Ellis, 1989; Brown, 2007). Responses to competence

deviations, known as feedback, in written communication are needed in the writing process (Williams, 2003; Mahmoud, 2006). In the writing process, learners need to practice the chronological steps: prewriting, drafting, writing and rewriting (Oshima and Hogue, 2006). When learners are exposed to these writing steps, their language learning components function in the learning process as defined in the Monitor Model.

L2 Writing Correction

If L2 students' learning processed as envisaged in the Monitor Model, their successful language learning should be predictable when writing instruction is provided. In order to develop the learners' learning process, the provision of written feedback is an essential part of English language writing instruction (Williams, 2003) and language acquisition in classroom learning situations (Corder, 1975; Osborne, 2005).

In this study series, comments or responses provided by the teacher concerning learners' writing errors are categorized as corrective feedback: '*direct*' feedback is the identification of an error and the subsequent provision of the correct form while '*indirect*' or '*metalinguistic*' feedback is the provision of a written correction code or symbol at an error without giving the correct form, for example, SP: spelling, SV: subject-verb agreement, T: tense usage, and π: paragraph). The metalinguistic symbols used in the series were adapted from Hogue (1996: 202-203). In L2 written communication, the provision of corrective feedback in language correction is a useful means to assist learners to understand the misuse of language rules (Brown, 2007). The teacher's corrective feedback helps develop the learners' writing accuracy and helps create positive effects in the L2 learning process since it stimulates the learners to discover their own relevant linguistic concepts and rules (Bitchener et al., 2005; Ferris and Hedgcock, 2005; Tran, 2007).

Theoretically, L2 learners can develop their writing accuracy after teacher feedback. This envisages that learners will not subsequently repeat their previous writing errors. However, often the learners' quality of writing does not improve after the provision of teacher feedback. After years of writing instruction, the researcher relatively came to the conclusion that the number of learners failing to respond to their teacher written feedback appeared much higher proportion than that corresponding with the feedback.The provision of an instructor's L2 writingcorrection is not always effective in improving L2 learners' linguistic or grammar competence, language learning process, and/or their writing skills. Some learners still make the same types of writing errors in spite of revised writing tasks. This may be because there are language barriersand developmental transitions in L2 grammar acquisition that aredetrimental to the learners' language learning and subsequently language accuracy in writing.

The Five-Year Study Series

Context and Purposes

This study series was conducted in a university in Thailand between 2008 and 2012. In most of the bachelor's degree English language programs, first-year Thai university students arerequired to complete two compulsory English subjects. In a standard Thai academic program, the first-year undergraduates in an English class are usually from the same year level and discipline.

Due to the existence of the participants' repeated writing errors after teacher feedback, this study series was carried out to (1) examine the effects of teacher corrective feedback on students' writing competence; (2) identify the language barriers that impeded the development of the participants' language accuracy after the provision of teacher correction; and (3) determine the participants' views on their language development after having their written tasks corrected.

Participants

The participants, which were all first-year university students, were enrolled between 2008 and 2012 in compulsory English language classes as summarized in Table 1.

Table 1 Five-Year Study Series at a Thai University (2008-2012)

Academic Year	Semester (Duration)	Class	Writing Genres		Faculty	Total No. of Students
			Weeks 1-7 (7 weeks)	Weeks 9-16 (8 weeks)		
1/2008	One (June-October 2008)	Compulsory English I	-Narratives -Pros and cons	-Opinions	Commerce and Accountancy	35 (Calculated n = 35)
					Communication Arts	29 (Calculated n = 28)
2/2008	Two (November 2008-March 2009)	Compulsory English II	-Opinions	-Persuasion	Economics	32 (Calculated n = 32)
1/2010	One (June-October 2010)	Compulsory English I	-Narratives -Pros and cons	-Opinions	Commerce and Accountancy	35 (Calculated n = 35)
					Education	31 (Calculated n = 30)
					Science	34 (Calculated n = 32)
2/2010	Two (November 2010-March 2011)	Compulsory English II	-Opinions	-Persuasion	Architecture	30 (Calculated n = 30)
					Economics	35 (Calculated n = 35)
1/2011	One (June-October 2011)	Compulsory English I	-Narratives -Pros and cons	-Opinions	Engineering	32 (Calculated n = 31)
					Commerce and Accountancy	34 (Calculated n = 34)
1/2012	One (June-October	Compulsory English I	-Narratives -Opinions	-Persuasion	Commerce and Accountancy	14 (Calculated n = 14)

Academic Year	Semester (Duration)	Class	Writing Genres		Faculty	Total No. of Students
			Weeks 1-7 (7 weeks)	Weeks 9-16 (8 weeks)		
2012)					Sports Science	26 (Calculated n = 24)
		Total				367 (Calculated n = 360)

The participants in the five-year studies were first-year Thai undergraduate students from eight disciplines: Architecture, Commerce and Accountancy, Communication Arts, Economics, Education, Engineering, Science, and Sports Science. All 367 participants were assigned to write narratives, pros and cons, opinions, and persuasive essays in accordance with the basic requirements of the University English Language Curriculum. All the participants were volunteers who had expressed a need in the initial survey of the needs of students' in compulsory English courses to improve their English writing skills so they could get good grades.

All participants were treated equally in the studies in terms of writing practice procedure, provision of teacher's written feedback, and data collection procedures. The study series was conducted with the informed consent of the participants. All identifying information was removed when the data was collected. Approximately 2.6% of these students (i.e. seven out of 367 participants) dropped out of their course after the midterm examination and were therefore excluded from the studies. Of the 360 participants (Table 1), 25 who had difficulties with writing accuracy and whose writing scores on the University's standardized test of English proficiency were assigned a low level of competency (i.e. less than 400 TOEFL-equivalent score), referred to as 'very limited users', were selected for interviews.

Data Collection and Analysis

In the study series, the research instruments used to collect data for the mixed quantitative and qualitative methods (Creswell, 2003) included the participants' writing tasks, pre- and post-tests, a closed and Likert-scale questionnaire and a semi-structured interview.

The value of the writing tasks and tests in terms of validity and reliability was established by having the tasks verified and approved by a team of experts and by assessing the mean value of the 5-year inter-rater reliability at $r = .84$ (p < .01), respectively. The acceptability of the implementation of the tasks was unanimous. The questionnaire and the semi-structured interview were both piloted in February, 2008 and then revised before being utilized in the studies between June, 2008 and October, 2012.

During different years of the studies, participants from different faculties in the same semester were set the same writing topics for classwork and in tests. The writing practice procedure used

in the studies after the writing pre-test had been administered to the participants was first for the teacher to explain how to write in a specific genre. Then, once the teacher was certain that the participants understood and could complete their assigned writing task, they were assigned a writing task as specified in the course curriculum. Writing topics were carefully selected so that they provided useful and relevant writing practice for the particular type of genre writing being taught.

Participants in the first semester of the course were required to select and utilize appropriate information from supplied texts in their writing. During their second semester, the participants were required to incorporate one of their own ideas into their writing in addition to the information they selected from the supplied texts. In the ten writing sessions per semester, the participants had experience with three writing processes: pre-writing, drafting, and revising. After the participants submitted their individual writing tasks, the teacher provided corrective feedback on the basis of the course writing rubric (i.e. content, organization and language). Direct feedback was given for minor errors which did not cause communication breakdown while indirect feedback was provided for major errors which affected the meaning of written communication (e.g. tense, voice, subject-verb agreement, fragments, and run-on sentences). After the writing tasks were returned, the participants reviewed and revised their writing in response to the teacher's feedback. The participants were required to submit their final drafts for each writing task before starting the next writing topic. After completing the writing process, the writing post-test and the questionnaire were administered to the participants. A week later, the selected participants were interviewed in their native language for additional qualitative data.

Results and Discussion

This study series, which employed a consistent methodology for the years 2008 to 2012, investigated both the participants' improvement in language accuracy during writing after their teacher's corrective feedback and their views on their language accuracy development after the language correction. The results of the studies are as follows.

The Effects of Teacher Corrective Feedback on Students' Writing Competence

Throughout the 5-year collective studies, the mean scores of the pre-test and the post-test (Figure 1) suggested that the teacher's corrective feedback had significant though variable effects (adapted from Becker, 2000 and Hopkins, 2002: See Figure 2 and Appendix A) on the 360 participants' English-language writing competence.

Sources of Repetitive Language Errors

Despite the significant effect of teacher's correction, numeric data analysis of the participants' score improvement showed that writing errors could still recur after the teacher's corrective feedback. Content analysis was undertaken on the participants' written tasks. In the participants' final drafts, the most frequent repetitive language form errors were those listed in Table 2.

In the analysis of the participants' final drafts of the writing genres after corrections, it was found that the participants from 2008 to 2012 made a variety of broadly similar types of grammatical

errors. The errors in the final drafts of tasks in four writing genres (i.e. narratives, pros and cons, opinions, and persuasion) are shown as cumulative percent. Repetitive errors, listed in order of frequency, can be classified into five categories: fragment, tense, subject-verb agreement, active-passive voice, and singular-plural form (Figure 3).

In terms of Krashen's Monitor Model, the participants' tense errors, for instance, offered them more chances to be exposed to and to thus acquire better knowledge of accurate grammatical tenses. The participants should have been motivated to monitor and clarify those tenses that led to verb tense errors in their writing tasks after the provision of their teacher's language correction. However, when they revised their final drafts, they again made the same language errors in spite of the fact that they had apparently understood their teacher's language correction.

Interestingly, all of the error types that recurred in the participants' final revision (Table 2) were those that received the teacher's indirect feedback. The results of this study series seem to be at variance with several previous studiesthat credit teacher's indirect feedback with helping learners understand the nature of the errors they have made. Indirect or metalinguistic feedback employs many strategies for indicating errors to encourage learners' explicit knowledge or their understanding of errors (Sheen, 2007) and to stimulate self-correction of their errors (Brown, 2007; Ellis et al., 2008; Larsen-Freeman, 2008). If the teacher's metalinguistic correction did actually activate the learners' explicit knowledge, it is unclear why the participants still made the same types of errors after they received teacher feedback. The effectiveness of the teacher's metalinguistic feedback was determined from the participants' views as expressed in their interview responses (Table 3).

Five-Year Average Scores of Writing Tests

Category	Average Post-Test Score	Average Pre-Test Score
Sports Science, 1/2012	17.75	10.37
Commerce and Accountancy, 1/2012	20.57	13.03
Commerce and Accountancy, 1/2011	20.67	14.13
Engineering, 1/2011	18.3	9.3
Economics, 2/2010	21.94	15
Architecture , 2/2010	20.17	12.55
Science, 1/2010	20.08	12.67
Education, 1/2010	16.5	8.38
Commerce and Accountancy, 1/2010	19.63	12.22
Economics, 2/2008	20.54	12.79
Communication Arts, 1/2008	19.29	10.69
Commerce and Accountancy, 1/2008	19.3	12.91

Figure 1: Five-Year Average Scores of Writing Tests

The provision of the teacher's metalinguistic corrections promotes the learners' learning process since the coded errors stimulate the learners to discover their own relevant linguistic concepts and rules, and then self-correct their writing (Sheen, 2007; Larsen-Freeman, 2008). In the study series, as noted in Table 2, the repetitive language errors made after the teacher correction and the participants' self-correction most likely was due to the participants' detrimental codes for learning to write.
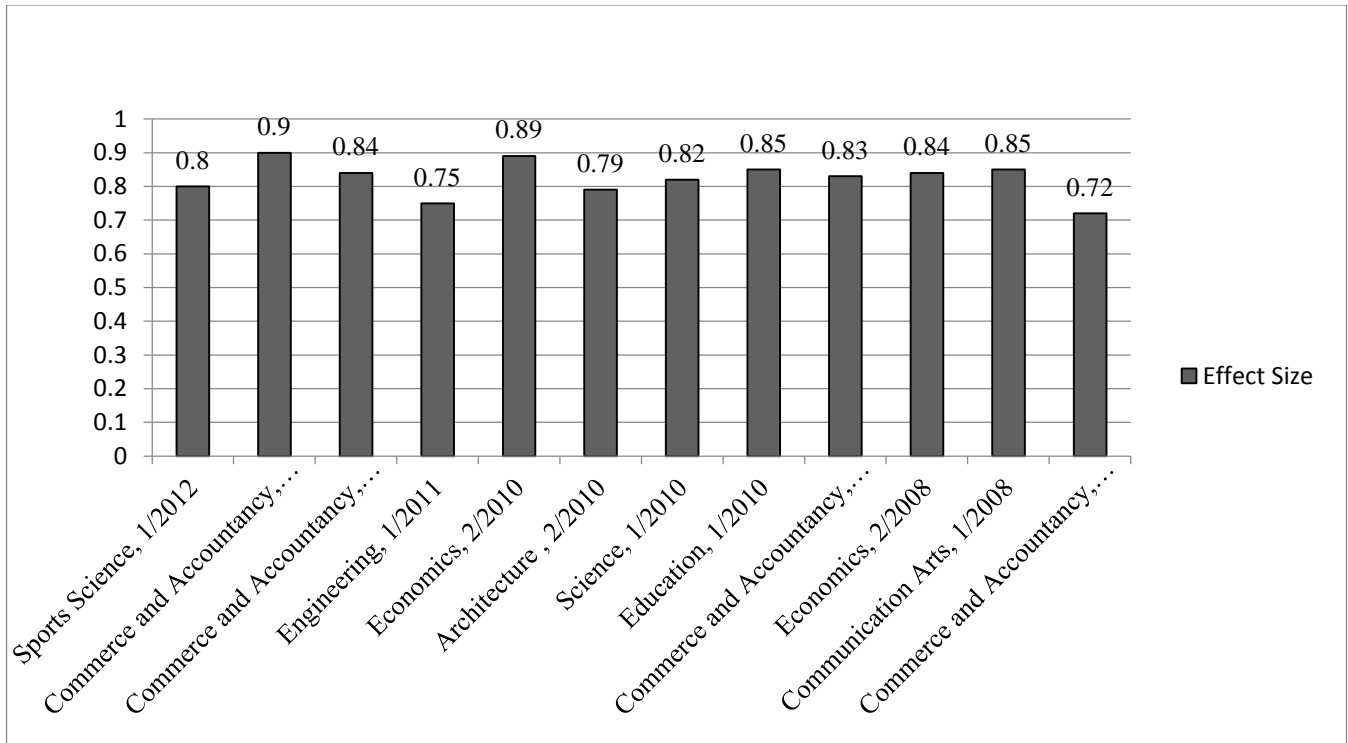
Effect Size Levels	Interpretation of Effect Size
> 0.9 – 1.0	Nearly perfect to perfect difference effect
> 0.7 – 0.9	Very large difference effect
> 0.5 – 0.7	Large difference effect
> 0.3 – 0.5	Moderate effect
> 0.1 – 0.3	Small effect
< 0.1	Trivial effect

Figure 2: The Five-Year Teacher Correction Effect Size Levels

Detrimental Codes: Learners' Interlanguage System

Language barriers or errors can occur during the process of L2 learning when L2 learners create their own language knowledge or "learner language" (Gass and Selinker, 2008). Learner language occurs when a learner's L2 knowledge has an intermediate status between the native and target languages (Brown, 2007). The language errors can result in incomplete language development in L2 learners. In other words, the first detrimental code in the participants' development of writing accuracy viably represents L2 learners' interlanguage: L1 interference, overgeneralization, inert knowledge problems, incomprehensible input, backsliding, or fossilization/ stabilization.

Table 2 Participants' Repetitive Language Form Errors in Final Drafts

Language Dimension	Language Error	Frequency (Cumulative %)	Selective Examples	
Form	Fragment	43.9	-"*Because car rental is too expensive.*" -"*The place where I want to visit.*" -"*When teenagers splurged on mobile phones.*" -"*Having experiences abroad and developing the English language skills.*" -"*My brother and I always late in our high school years.*"	
	Tense	31.3	Past Tense:	-"*She understant...*"; -"*I telled...*"; -"*I knowed...*"; -"*Though I just goed to the USA last summer, I am not confident enough to speak English.*"
			Perfect Tense:	-"*I have study English...*"; -"*I hasstart...*"; -"*My mother has explain...*"
			Continuous Tense:	-"*I sleepinglate...*" -"*He was smile at me.*"
			Future Tense:	-"*… teenagerswill had ...*"; -"Parents *will to allow...*" -"*Children will becoming adults...*"
	Subject-Verb Agreement	19.4	- "*She try to ...*" - "*We was working...*" - "*I were anxious...*" (not being in the past conditional) - "*Their behavior have created lots ofproblems ...*" - "*Thailand need to stimulate...*" - "*Studying overseas are one of ...*" "*There is places in Thailand ...*"	
	Active-Passive Voice	9.3	-"*It called 'honesty'…*" -"*This place was name as…*" -"*My role model (name) is knew as...*" -"*Video-hidden cameras can use in many ways.*"	

Language Dimension	Language Error	Frequency (Cumulative %)	Selective Examples
	Singular-Plural	2.1	*Many childs*; *the United State*; *staffs*; *a members*; *many person*; *every people*
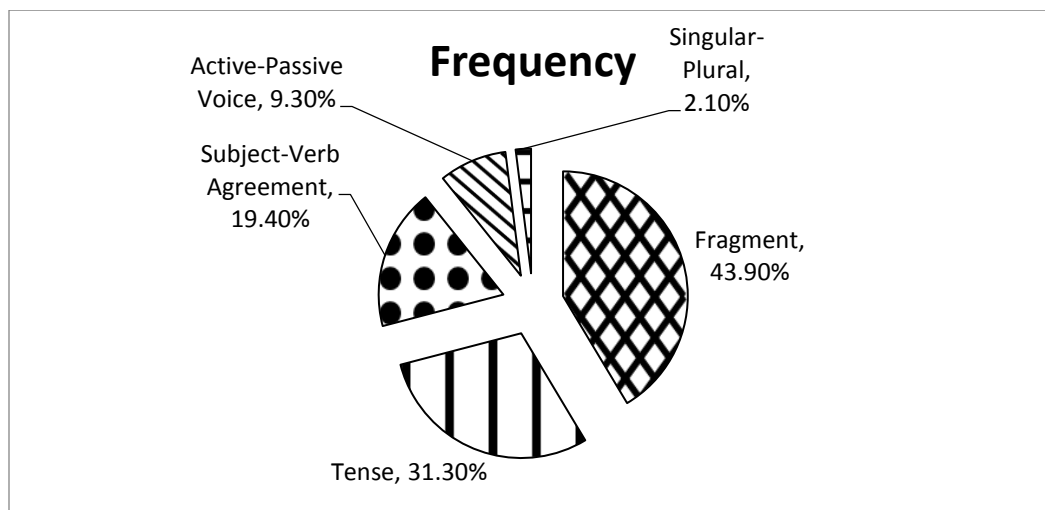
Figure 3: Frequency of Repetitive Errors in Writing

The learner's L1 interference may be pertinent to their L2 overgeneralization. Theoretically, in terms of *L1 interference*, the way L2 learners think and express themselves in L1 can sometimes interfere with learning in L2, and thereby the rules of L1 are transferred to L2 ungrammatically (Larsen-Freeman, 2008; Gass and Selinker, 2008). Alternatively, when the learners have learned and made progress with a particular grammatical form, they tend to *overgeneralize* grammatical rules. They may overgeneralize the learned structure form with a new form, or they use a grammatical form where it is unnecessary (Larsen-Freeman, 2003). As shown in Table 2, the participants often made errors with verb forms for subject-verb agreement: "She try to…" (Table 2). In English, verbs are inflected for the third-person singular subject, whereas in the Thai-language linguistic system, verbs are not inflected for the third-person singular. On account of this, the participants tended to replace L2 input with L1 interference. In terms of overgeneralization of the grammatical rules, it was found that the participants still incorrectly conjugated past-tense irregular verbs. In other words, they produced incorrect past-tense irregular verb forms such as 'understant', 'telled', and 'knowed' (Table 2). Such overgeneralization of the grammar rules of the participants may have been because the learners were engaged in construction of the L2 grammar rules, based on interference from the target language forms (Larsen-Freeman, 2003).

Learners' *inert knowledge* problems (Larsen-Freeman, 2003 and 2008) could have also been the case when the participants appeared to have learned grammar in class, but could not use it later,

for example for subject-verb agreement when was acquired, previously in the same lesson. In addition, the initially *incomprehensible input* of the participants was likely to block their language competence and they might have backslid or the input might have stabilised or even fossilised. In the case of *backsliding,* the participants might appear to have initially progressed and acquired a particular structure of the active-passive voice, but later changed to being unable to apply what they had learned (Brown, 2007; Larsen-Freeman, 2008). Furthermore, it should be noted that in L2 writing instruction, teacher metalinguistic correction or indirect corrective feedback on the participants' errors sometimes causes anxiety, impeding or even *fossilizing* their language learning development (Selinker, 1992). This means that the participants' language competence does not improve despite repeated writing correction.

Views on Language Development

In their interview responses, the participants expressed both favorable and unfavorable views on their language development after receiving their teacher's metalinguistic correction as indicated in Table 3.

Table 3 Participants' Views on their Language Development after Metalinguistic Correction (Interview Extracts)

Participants' Views on Language Development		Examples of Extract
Favorable	**Unfavorable**	
■ Developing self-study and metacognitive skills		-*After I tried to understand my teacher's feedback and had chances to talk to her, I turned to more understand and be cautious about my writing errors than before.* -*... In the process of rewriting, I had checked the accuracy with grammatical books and rewrote before submitting the revision.*
■ Developing self-monitoring	■Negative attitudes toward L2	-*Even so, I don't like grammar because I don't understand it yet even I have been studying it. ... I mean, I don't understand anything about English... (laugh). ... However, after rewriting my work, I noticed that my grammar like the use of tenses, was getting better.*
■ Raising awareness of grammatical accuracy	■ Time	-*I think that my writing revision helps me more careful to language accuracy such as subject-verb agreement and tenses.* -*I think that having chances to rewrite my own tasks including my teacher's writing correction helps enhance my grammatical accuracy. At least, I started to be more careful about the use of singular-plural nouns and tenses in writing. But... hmm, I feel rather pity that I don't have enough time to review the correction, and this may make me again produce writing errors. You know, I have lots of homework and the University activities. ...*
■ Self-reflection	■ Dislike, demotivation, anxiety, and less self-confidence	-*I'm not satisfied with my grammatical accuracy yet because I still made errors in word spelling and others... a kind of my carelessness, I'm satisfied, to some extent, with the use of tenses.* -*... However, I felt little satisfied with my grammatical ability since I'm not sure yet of which tense and voice should be used in making a sentence. For example, when I translated my written sentence into Thai, the sentence could be used in both active and passive voice.*

Participants' Views on Language Development		Examples of Extract
Favorable	Unfavorable	
		-I don't feel confident yet since I scarcely practice writing. Actually, I don't like writing at all, especially grammar. When I think in Thai, I know what I will write. But in English, I know neither how to start to write nor use English grammatically. I am too lazy to start with reading those grammar books. … Umm, sorry to say that I don't read the lecturer's written feedback either.
	■ Influence of significant others	*I feel kind of confused with what I've learned from some songs of my favorite singers. You know, after I noticed your* [her teacher's] *grammar corrections on my essay, some content of which was taken from my favorite lyrics. Oh, even a popular song,* [the name of the song], the name of which is grammatically misused, was in the top twenty singles [!?]…

Some of the participants' interview extracts in Table 3 showed that the participants regarded self-correction after the teacher's language correction as a useful language learning process since it made them aware of linguistic accuracy in communicative writing. Additionally, having the chance to correct language in writing after the teacher's feedback also helped enhance their ability to carefully recheck, reflect on, and self-correct their coded errors (Ellis et al., 2008). Furthermore, they also gained more knowledge of English while looking up relevant vocabulary. This process automatically trained and helped them develop metacognitive awareness of their own learning and writing processes (Freeman, 1998).

However, it was noticeable that other groups of participants had unfavorable views toward their language development as discussed in the next section.

Detrimental Codes: Learners' Individual Differences

The second group of possible sources of language barriers for the participants represents L2 learners' individual differences. In Williams and Burden's (1997; cited in Dörnyei, 2002) frameworks, individual differences are classified into internal and external aspects. Learners' internal or psychological variables include attitudes, motivation, anxiety toward L2, and linguistic self-confidence. Additionally, the learner's language mastery, involving feelings and awareness of competence in developing language skills, is also grouped into internal variables. Learners' external variables are regarded as any factors outside of the learners' own desire to study the language such as significant others like parents, teachers and classmates, time, the classroom learning environment, and the local educational system.

The participants' interview responses indicated the influences of the learners' L1 interference. Other groups of participants admitted that they had high affective filters and demotivation to learn L2 grammar, which thereby lessened their self-confidence in rewriting their final drafts (Dörnyei, 2002; Larsen-Freeman, 2008; Brown, 2007; Gass and Selinker, 2008). Additionally, most participants admitted the causes of their repetitive language errors included their initial negative attitudes toward English, dislike of English, carelessness, laziness, and/or lack of knowledge of grammar, writing and English. In addition to the psychological differences of the participants, their repetitive errors may have been externally derived from their lack of time

management and significant others, like their favorite singers whose lyrics influenced the participants' misuse of grammar in writing as indicated in Table 3.

Nevertheless, the examples of the extracts (Table 3) are from those who did repeat their language errors in writing after they received language correction. Interestingly, some participants reported positive views on their language accuracy improvement despite their repetitive errors in language forms. For a particular linguistic threshold, the participants could have an opportunity to reflect on their writing processes, thereby developing their acquisition of English language accuracy afterwards.

Detrimental Codes: Developmental Transitions in L2 Accuracy

L2 learning input is sometimes not equal to the learning output. Similarly, what a teacher teaches to learners is not equal to all that learners learn. The differences in L2 learners' language learning progress depend upon not only the learners' language barriers derived from L2 learners' interlanguage and their individual differences, but also their L2 accuracy development in their learning process.

Learners' learning progresses differently. Some may learn either slowly or quickly, while others may not make any progress at all. It is assumed though that the L2 learners' language learning process can be developed through the time of competence (Smith and Truscott, 2005). Learners' language accuracy can progress along the L2 learning process as a sequence of developmental transitions that resemble a staircase. The stage-by-stage development signifies that there are periods of relative stability followed by short-term periods of change within a sequence of progress stages. However, it is likely that the development of language accuracy can sometimes deteriorate and is unlike a staircase. Deviation from the normal sequence of progress stages is derived from the issue of L2 learners' language barriers in writing.

Teacher corrective feedback, particularly metalinguistic correction, on learners' errors is sometimes impractical when it impedes or even fossilizes L2 learners' learning progress (Selinker, 1992), or when the learners' errors have fossilized (Larsen-Freeman, 2003). The latter case can occur when the learners' motivation to improve their language competence tends to drop (Corder, 1971 in Larsen-Freeman and Long, 1991). In a debate over teachers' grammatical corrections in learners' written tasks, Truscott (1996) claimed that grammar correction is ineffective for students' writing accuracy, particularly in the long term (Schlig, 2006). Truscott (1996) also adds that the correction also hinders language learning processes since it results in learners' stress and demotivation to learn. Thus, the improvement in learners' writing accuracy has nothing to do with grammatical correction, but rather is related to the timing of the natural order of L2 grammar acquisition.

Limitations

There were two major limitations of the studies. First, the studies were conducted with 367 first-year Thai undergraduate students from eight faculties of a university in Thailand over a five-year period. The findings of the studies, thus, cannot be generalised to all first-year undergraduates at other universities in Thailand. Second, in this series of studies, individual groups of the students

in each semester were from different disciplines and would be enrolled in different sections in subsequent years. Therefore, the individual groups of the students were independent of one another.

Conclusion and Implications

L2 writing instruction in the EFL context frequently emphasizes language accuracy and follows a product-oriented approach despite the ongoing trend towards the process-oriented approach. L2 learners' incomplete language competence after the provision of the teacher feedback, in this five-year study series, suggests that depending only on a quantitative analysis of the learners' writing products in the form of scores may not always be a valid indicator of the learners' actual competence. In order to avoid producing some misconceptions or generalizations of L2 learners' language competence, a qualitative study helps determine some of the tacit causes of the learners' language incompetence.

The repetitive language errors from language correction most likely resulted from the participants' language barriers (i.e. interlanguage system and individual variations) and developmental transitions in L2 accuracy. Learners' interlanguage is dynamic and continually updates when the learners receive more input and revise their hypotheses about the L2. The complexity of the L2 linguistic form per se results in the development of L2 learners' language and frequently L2 language errors or barriers. The language errors are considered a result of the learners' incomplete development in grammatical acquisition and thereby language accuracy. The barriers, occurring in the grammar learning processes and impeding progress in language learning outcomes, are derived from the L2 learners' L1 interference, overgeneralization, inert knowledge, incomprehensible input, backsliding, or stabilization/fossilization.

Students' learning demotivation, one of the L2 learners' variations in learning, viewed from the studies' interview responses highlights the issues of the suitability of the writing task types used and their relevance to improving writing skills and of the students' socio-cultural factors in class. These issues may be some likely causes of the lack of progress by the students in improving their writing performance. There are still the complexity and the sensitivity of individual learner variations in writing class contexts to be further investigated.

However, from time to time, the learners may have difficulty with particular linguistic features in situations which are stressful or which present them with some type of communicative difficulty. Language barriers may then temporarily reappear and reflect the linguistic system that the learners had learned at an earlier stage of their language development (Truscott and Truscott, 2005). The issue of a sequence of developmental transitions in the L2 language learning process needs further research involving a longitudinal study. This might determine how long the learning process takes for an average learner to be able to improve his or her language skills, particularly in writing.

The learners' language accuracy was supposed to improve after receiving the teacher's language correction. However, in light of the results of the studies from the final writing drafts and the interview responses, the roles of the teacher's language correction (e.g. to what extent can the

teacher's correction motivate L2 learners to monitor and clarify their language-form errors as a means of language awareness-raising?) should be investigated in future studies.

Without an understanding of the issues of L2 learners' variations, interlanguage system, language learning progress and L2 accuracy development during the learning process, a large number of effective teaching strategies for English language writing would not be applicable and practical in contexts where English is taught as EFL, ESL, EIL (English as an International Language) or EAL (English as an Additional Language). In L2 writing instruction, it is crucial for the English language teaching community to take these issues into consideration so as to create some mutual understanding of any learning complexity involving writing instruction between teachers and L2 learners in some specific contexts. This could help specifically in the design of pertinent, tailor-made and context-suited teaching strategies to promote L2 learners' language accuracy for the quality of written communication.

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Appendix 1: Participants' Five-Year Average Scores of Writing Tests

Semester/Academic Year	Faculty	No. of Participants	Average Pre-Test Score (25)	Average Post-Test Score (25)	*t* Value at Significant Level *p* (.05) and Effect Size(*d*)
1/2008	Commerce and Accountancy	35	12.9071	19.3000	*t* = 23.85, p < .05; Effect level *d* = .72
	Communication Arts	28	10.6879	19.2857	*t* = 21.23, p < .05; Effect level *d* = .85
2/2008	Economics	32	12.7856	20.5353	*t* = 21.31, p < .05; Effect level *d* = .84
1/2010	Commerce and Accountancy	35	12.2183	19.6254	*t* = 21.44, p < .05; Effect level *d* = .83
	Education	30	8.3840	16.5000	*t* = 25.65, p < .05; Effect level *d* = .85
	Science	32	12.6722	20.0822	*t* = 21.74, p < .05; Effect level *d* = .82
2/2010	Architecture	30	12.5503	20.1710	*t* = 21.12, p < .05; Effect level *d* = .79
	Economics	35	14.9969	21.9360	*t* = 28.49, p < .05; Effect level *d* = .89
1/2011	Engineering	31	9.2965	18.2984	*t* = 11.57, p < .05; Effect level *d* = .75
	Commerce and Accountancy	34	14.1253	20.6659	*t* = 19.34, p < .05; Effect level *d* = .84
1/2012	Commerce and Accountancy	14	13.0279	20.5714	*t* = 18.83, p < .05; Effect level *d* = .90
	Sports Science	24	10.3704	17.7500	*t* = 18.22, p < .05; Effect level *d* = .80

ASSESSING DISADVANTAGED STUDENTS' CONFIDENCE IN LEARNING: A CASE OF ENABLING PATHWAY PROGRAMS

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Abstract

The widening participation policies have increased the access and opportunity for many diverse groups of students in higher education. In recent years there has been an increased participation of underprivileged students in higher education. This paper is based on a study undertaken in an Australian University with students who have embarked on enabling or preparatory programs to access undergraduate studies in various disciplines. It assesses student self-confidence in undertaking science courses in the Open Foundation program over a two year period. The study uses the 'third person effect' to show that students in enabling or preparatory programs are less confident to undertake course requirements compared to their rating of a third person. The paper argues the need to build student confidence and raise aspirations in early stages of study to optimise student engagement, retention and success.

Keywords: enabling education, student confidence, disadvantaged students, widening participation

Introduction

Attracting and retaining students has become increasingly important as competition intensifies and as institutions endeavour to attract a greater share of both domestic and international students (Helgesen, 2008; Hemsley-Brown and Oplatka, 2006; Bowden and Wood, 2011). Bowden and Wood (2011)have suggested that institutions build relationships to develop and maintain the student university relationship. In particular universities should be cognisant of the importance of developing a strong psychological attachment and emotional bond between the student and the institution in the development of enduring loyalty (Bowden and Wood, 2011). Student confidence in university study is an important factor in determining their success. The study of confidence has a long history in psychology (Fullerton and Cattell, 1892; Henmon, 1911). Students who repeatedly underestimate their performance may lose motivation for learning due

to a lack of self-confidence. Similarly students who over estimate their performance may be at a disadvantage in the long term as their over confidence may impede their motivation to learn new techniques (Stankov, Morony, and Lee, 2014). It is argued that building confidence where confidence is low is critically important for the student's success.

After 100 years of science education there has been an improvement in the form of assessment but there is an over emphasis on lower order reasoning. The dominance of recall is one of the main reasons cited for student disenchantment (Osborne and Collins, 2001). Teaching staff play an important role in student learning and their success. Teachers provide assistance to students and develop teacher-student relationships. Teaching needs to involve active learning experiences and aim toward students reaching an understanding of key concepts (Leung and Kember, 2006). It is typical of enabling students that their past educational experience has been less than satisfactory and indeed at times negative (Hodges et al., 2013). A recent Australian Government report on University Experience found that both first and final year undergraduate students rated the skill 'developed confidence to learn independently', as high in undergraduate study (Coates, 2012, p.112). Studies on first year experience and retention has shown that students who are confident in their university study have better chances of remaining and progressing compared to less confident students (Archer, Cantwell and Bourke, 1999; Habel, 2012).

The level of student preparedness for University-level study has been widely debated (Coughlan and Swift, 2011). The transition to university – level study can place great demands both academically and socially on the student. The student's experience during first year is said to be the most critical (Gourlay, 2009). Poor transition into higher education can impact on the student achievement and the drop-out rate, particularly in courses where there are high attrition rates (Beaubouef and Mason, 2005;James et al, 2010; Kift, 2009,). There is an increasingly diverse student population and students now coming from non-traditional backgrounds in the context of widening participation exacerbates concerns. Expectations of education in the 21st century increasingly focus on higher order thinking (Osbourne, 2013). Higher order thinking involves synthesis, analysis and evaluation, and these are impacted when confidence is low. Different levels of preparedness for University study can also have an effect on confidence influencing the transition to higher education (Boyle, Carter and Clark 2002; Ertl et al., 2008).

There is a powerful emotional component underpinning the transition to university. It can be an intensely emotional process which brings with it conflicting feelings of uncertainty about student life, age, class and gender. The risks and uncertainties involved in becoming a student often outweigh anticipation, pleasure and self-esteem (Christie, 2009). Movement into a semi-structured institutional environment, loss of identity within the new institutional environment and adaptation to the new lifestyle have been identified by Bowden (2012) as key elements in the transition. In addition(Waycott et al, 2010) observed that young people who have grown up with computers and the internet are said to have a natural affinity with technology and are able to effortlessly adopt and adapt to changes in the landscape. Older people who have encountered digital technology later in life are thought to be more challenged by technologythan their younger counterparts (Waycott et al., 2010). Prensky (2001) described this gap as the biggest single problem facing education today.

An important aspect of disadvantaged student motivation to undertake undergraduate study is raising their aspirations and building confidence. Studies have suggested that dreams and aspirations in learning give courage to pave a road to collective and personal betterment (Sizer, 1996). Sizer (1996) further argues that student aspirations need to be honoured, and institutions should rearrange support structures for the pursuit of what it believes to be worthy aspirations (p.125). Rudduck et al. (1996) suggest the need to engage young students to reflect on issues affecting their lives. A UK based study on disadvantaged students found that young people's aspirations are closely bound with their identities and these are shaped by their social class (Archer et al. 2005).

A study by Thomas et al. (2012) found disadvantaged students play an important role as advocates in raising aspirations with similar groups of students. Studies undertaken by various scholars (Astone and McLanahan, 1991; Kao and Tienda, 1998) suggest parental educational attainment and income exert significant influence on educational aspirations. Studies in Australia with high school students showed regional students expressed high-level aspirations, most of which centred on future careers. The study found disadvantaged students aspired to obtain an education to improve their life and contribute to the community (Alloway et al. 2004). Similar studies with Indigenous students at Australian high schools suggest that the key inspiration for these students is to undertake post-secondary study and get a job (Craven et al. 2005). Studies undertaken in the US with disadvantaged students suggest that education systems have so far not met heightened aspirations with sufficient or well-targeted resources to help all students prepare adequately for college education (Venezia et al. 2004).

There is a body of contemporary studies, writings and reports on assessment and enhancement of university student experience. Most of them are based on student feedback surveys, sometimes in combination with other data, such as student demographic details and/or academic achievement indicators (Grebennikov and Shah, 2012). This is the first time this type of study has been undertaken with students from an Australian university who are undertaking preparatory or enabling programs. According to Shah et al (in press) students enrolled in enabling programs have experienced a range of barriers limiting their access to higher education. They include, but are not limited to, location and distance from the University, financial pressures, academic achievement in high school, failure to complete high school education due to illness or other reasons, lack of appropriate careers advice, parental discouragement of higher education due to limited University education attainment within the family, lack of confidence to undertake University education, parenting or carer responsibilities, mental health issues and other social problems.

The 'third person effect' has been used in previous research to question responders about an ordinary reasonable person in comparison to a public figure (Baker, 2011). In this study the 'third person effect' has been used as a technique to get an insight into the thought patterns of enabling students. The student is asked to judge the performance of a third person in comparison to their own performance. The third person acts as a reference point so that students can score their performance on a scale with reference to another student. When compared the scores for the third person and the student can show up a lack of confidence on the part of the student in comparison to others. In this study students in an enabling program seeking entry to University courses were surveyed to compare themselves to another student and rate their ability against the

other student. It is important to note that the other student is the third person and is a figure of their imagination. Appendix one lists the questions in the survey.

This study is significant to disadvantaged students who experience lack of confidence in University study. Disadvantage arises from being first in family students seeking entry to university, refugees, Indigenous backgrounds, disability, single mothers, mature aged, remote regions, and students that suffer from mental health. Assessing their confidence in learning is critical to assess their expectations and to develop teaching strategies and support mechanisms to engage and retain students in learning. Assessing student confidence with disadvantaged student is also critical to prepare student for success in undergraduate education with effective transition from enabling to undergraduate study in various disciplines. Lack of student confidence will no doubt result in high attrition, low engagement of students, and limiting their access in undergraduate education.

Methodology

The quantitative investigation in this paper aims to gain a better understanding of the student's thought processes. The paper also aims to quantify the student's confidence level. The surveys were conducted with students enrolled in enabling or preparatory programs taking part in the full time and part-time courses in science. The surveys were paper based and the student demographic encompassed both males and females predominantly in the 20-40 age bracket. The experiment reports results of ongoing surveys from two consecutive years, 2013 and 2012. The numbers of students involved in the courses in 2013 were Full time = 59, Part-time = 58, and in 2012 Full time = 95, Part-time = 64. Students completed the survey in class.

The survey was designed with the intention of gaining a further understanding about the confidence of the student going into the exam, determining if the 'third person effect' exists in the realm of education and if so, what is the underlying cause of the 'third person effect' for these students. The surveys were designed with six parallel questions asking firstly about the third person and secondly about the student. The questions on the survey commenced by putting the student at ease before teasing out as much third person effect as possible with the subsequent questions.

Findings

For every question in the survey there was a disparity between the response concerning the third person and the response concerning the student. The greatest disparity occurred when the student was asked about the tests they completed and the exams to be done for their science course. The disparity in the responses is evidence that the third person effect exists to some extent for the students as a group. The students rated their performance lower than the third person who is a hypothetical ordinary person. The results show that the students' poorer rating may be due to a lack confidence about their performance. The data had a similar pattern both for 2013 and 2012 despite the fact that the students in the courses in each year group were different. Figure 1 displays the data for 2013 and Figure 2 displays the data for 2012. There was little significant difference between the full time and part-time student responses which was surprising. Overall the results reveal an imputation that the third person effect exists and that it

is significant for quizzes, tests and exams. The most important features in both the data sets are that the students are more uncertain when rating themselves than when rating another person. Students felt that they understood and related to the lectures and tutorials but when it came to their own performance in the quizzes, the test or the exam they were more uncertain and rated the third person higher than themselves.
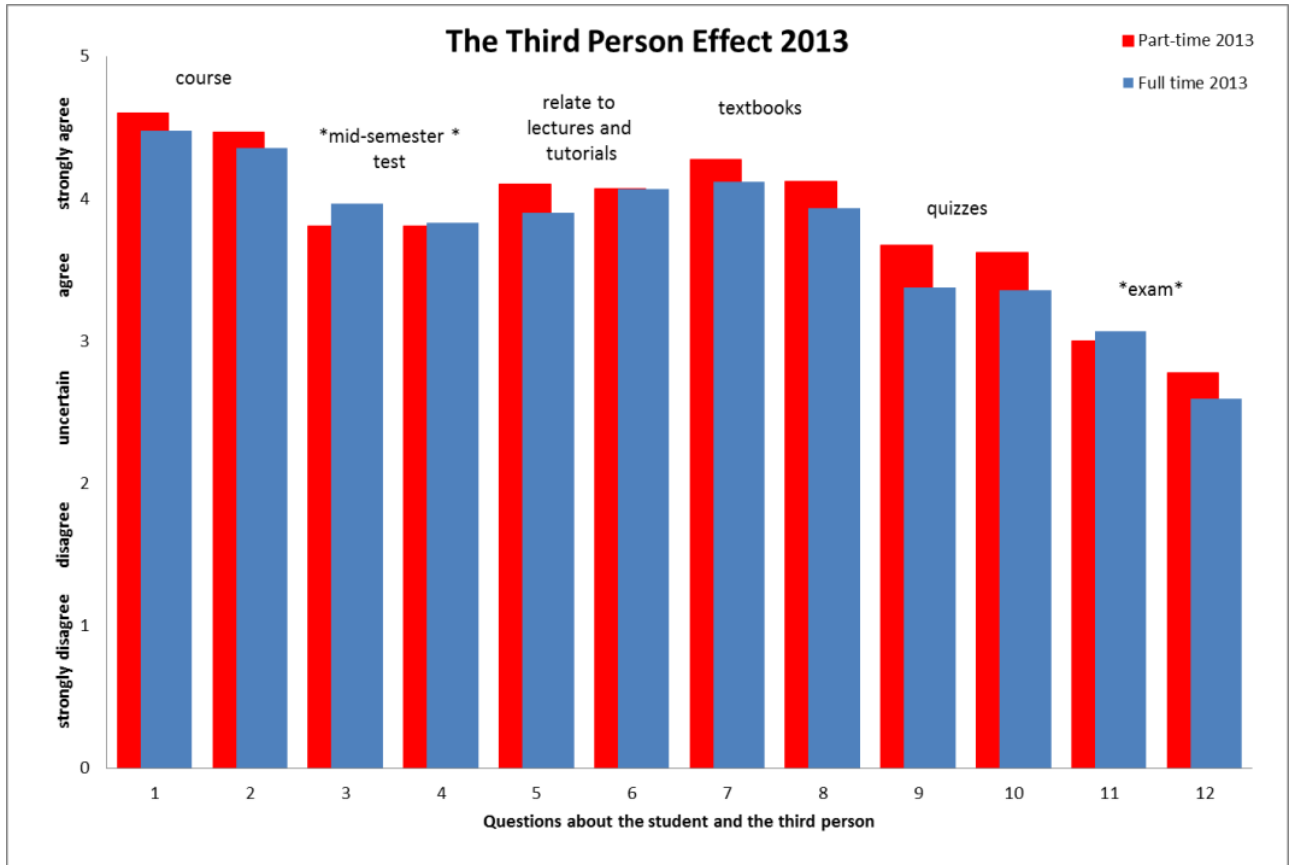
Figure 1 - Third Person Effect 2013

Table 1: Means, standard deviations and count of survey participants in 2013 full time course.

2013 Full time	1	2	3	4	5	6	7	8	9	10	11	12
Mean	4.474	4.355	3.966	3.831	3.898	4.067	4.118	3.932	3.372	3.355	3.067	2.593
SD	0.703	0.688	0.693	0.874	0.687	0.612	0.872	0.98	0.763	1.029	0.98	1.035
Count	59	59	59	59	59	59	59	59	59	59	59	59

Table 2: Means, standard deviations and count of survey participants in 2013 part-time course.

2013 Part-time	1	2	3	4	5	6	7	8	9	10	11	12
Mean	4.603	4.465	3.811	3.81	4.103	4.068	4.275	4.12	3.672	3.62	3	2.775
SD	0.699	0.731	0.736	0.926	0.552	0.769	0.913	0.938	0.758	0.834	0.917	0.937
Count	58	58	58	58	58	58	58	58	58	58	58	58

Figure 1 relates to the 2013 student's perception of a third person and themselves in relation to the course, their performance in the mid-semester test, how strongly they relate to the course material, if they perceive that it is important to get the textbooks, their performance in the quizzes and their performance in the exam. Figure 1 represents the mean scores for the six pairs of questions in the survey. Columns 1, 3, 5, 7, 9, 11 are a rating of the third person by the student and columns 2, 4, 6, 8, 10, 12 are the student's rating of their own performance. In each of the questions there was a disparity between the student's rating of the third person and the student's rating of themselves. The most significant disparity occurred in relation to the exam and it is clear that the students rated a third person performing better that themselves. Tables 1 and 2contain the means, standard deviation and numbers of participants. It is clear that the question relating to the exam created the highest uncertainty and highest deviation from the mean in the responses.
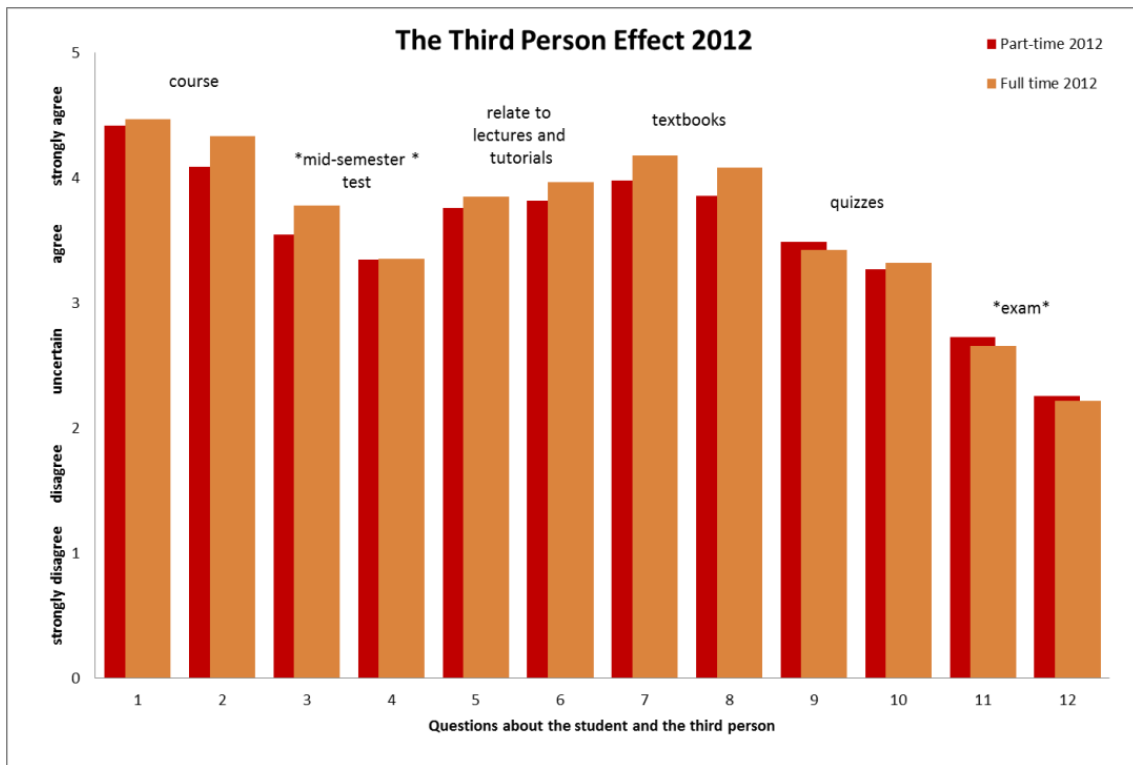
Figure 2: Third Person Effect 2012

Table 3: Means, standard deviations and count of survey participants in 2012 full time course.

2012 Full time	1	2	3	4	5	6	7	8	9	10	11	12
Mean	4.468	4.333	3.781	3.354	3.854	3.968	4.177	4.083	3.427	3.322	2.656	2.218
SD	0.724	0.643	0.698	1.142	0.845	0.746	0.833	1.042	0.926	1.051	1.064	1.028
Count	96	96	96	96	96	96	96	96	96	96	96	96

Table 4: Means, standard deviations and count of survey participants in 2012 part-time course.

2012 Part-time	1	2	3	4	5	6	7	8	9	10	11	12
Mean	4.421	4.141	3.578	3.25	3.781	3.828	4.015	3.875	3.531	3.359	2.734	2.281
SD	0.557	0.613	0.637	0.908	0.744	0.746	1.105	1.133	0.776	0.948	1.027	1.03
Count	64	64	64	64	64	64	64	64	64	64	64	64

Figure 2 represents the 2012 student's perception of a third person and themselves in relation to the course, their performance in the mid-semester test, how strongly they relate to the course material, if they perceive that it is important to get the textbooks, their performance in the quizzes and their performance in the exam. The greatest disparities between the third person and the student were apparent in the assessment items. The full time students rated themselves significantly lower in their performance in the mid-semester test. Both the full time and part-time students rated their performance lower in the quizzes and exam. Tables 3 and 4 present the means, standard deviations and number of participants. The greatest deviation from the mean was present for the student rating their performance in the mid-semester test, the part-time students' assessment of whether it was important to obtain the textbook early and both full time and part-time students in assessing the quizzes and exam. The results show a general uncertainty in the students rating their performance in the exam.

The 2013 and 2012 results are consistent in all six areas but especially relation to the exam. Students who participated in the survey showed higher levels of uncertainty in relation to the exam than the other features of the course even though the range of answers was greatest. Interestingly the students in both 2013 and 2012 rated the performance of a third person higher than their own performance in relation to the exam. The results show that students in both 2013

and 2012 suffer from a lack of confidence in themselves when considering the quizzes, the test and especially in relation to the exam.

Discussion

The results show a collective misapprehension by the students that a'third person' will perform better in tests and exams than the student themselves. The results are consistent over a two year period and provide evidence that enabling students have low confidence when comparing their performance to another student's performance. Surprisingly the students had the perception that they relate to the lectures and tutorials better than the third person. This contradiction insinuates that they are somehow inferior and amplifies the idea that the students' confidence is low. Their perception is that although their understanding of the course material is greater there are barriers impeding their success in quizzes, tests and exams. Both cohorts acknowledged that it would be important for the 'third person' to get their text books early, perhaps because they felt that would assist in preparation for success.

There was a slight drop in student numbers in 2013 due to a new course offering within the program. In 2013 students strongly agreed that the course was conducted at a satisfactory level. A rating of themselves was slightly lower compared to that of a third person. The full time students rated their performance lower compared to the third person while the part-time student's rated their performance as equal. Although they related better to the lectures and tutorials than the estimate of the third person, they rated their performance in the exam as much lower. The part-time students seemed not to have such a great difference when comparing themselves to a third person. In 2012 a similar trend was observed with the greatest difference between the third person and the student being in the question relating to the mid-semester test and the exam. Again the full time students rated a third person as having a much stronger performance in the test and the exam. It is possible that the higher workload and higher stress level in the full-time course leads to a greater lack in confidence in the students. The 2012 full time cohort showed a higher level of certainty about their perceptions than the part-time students. In both 2013 and 2012 the only uncertainty in the student's performance related to their own performance in the exam. This result was clear for both the full time and part-time students and demonstrates a lack of confidence in both groups.

The findings of this study have shown lack of confidence in enabling students in relation to University learning, and especially in relation to exams. The lack of student confidence has implications for engaging students in courses, for retaining students within courses and for overall student performance and success. If enabling student bring low confidence as a result of past barriers to learning they may continue to struggle and they may continue to suffer low confidence within their academic careers. Consequently their performance will suffer and performance may be low compared to traditional entry students. Hodges et al., (2013) reported that mature age students from enabling programs demonstrated more confidence in approaching their studies than younger students following traditional pathways. However the data on attrition for Open Foundation programs in 2007 – 2012 was in the region of 50% and indicates that many students encounter barriers to success. One of the aims of the Open Foundation program is to test student readiness for university via assessment of academic knowledge and skills, as well as

confidence and study habits. Confidence levels continue to be an important indicator of every student's success.

Conclusion

Enabling students come from diverse range of backgrounds and have had to overcome a multitude of barriers to begin studying. It is clear that their confidence is low and that they experience a lack of confidence throughout their courses whether they study part-time with a light workload or full-time with a heavy workload. It is clear from the results of this study that building student confidence early is important to help them achieve their full potential. The research reported in this paper has important implications for university teaching staff. It exposes a potential misconception that enabling students have confidence in learning. Of the multitude of barriers to learning that are encountered by enabling students, a lack of confidence is one of the resounding factors that affects their performance. The study provides evidence that there is a need to assess enabling student confidence prior to commencement of the course. A measure of student confidence will provide a guide to whether relevant academic and non-academic support is required to retain these students and whether support provided will improve their performance and success.

Acknowledgements

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Appendix 1: Student Survey

I would recommend this course to a friend who might be starting Open Foundation next year?

Were you satisfied with the way the course was conducted?

Would you expect that your friend would do well in the mid-semester test?
How would you rate your score in the mid-semester test? Did you do well?

Would you expect that someone starting the course would understand and relate to the lecture material and tutorials?

Do you feel that you understood and related to the lecture material and tutorials?

Would it be important for someone starting the course to get the textbooks early?

Was it important for you to get the textbooks early?

Would you expect that someone starting the course would be satisfied with their scores for the quizzes?

Are you satisfied with your scores for the quizzes?

Do you think someone starting the course could achieve a score of 100% in the exam?

Do you think you could achieve a score of 100% in the exam?

DEALING WITH LEXIS: TERTIARY STUDENTS' AUTONOMOUS LEARNING EXPERIENCES IN AUSTRALIA

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Abstract

This study was undertaken to probe the extent of autonomy prevalent among students at a tertiary institution in Australia with regard to dealing with lexis in their academic life. The scope of enquiry for self-directed or autonomous vocabulary learning was based on Nation (2001)'s three facets of autonomy, that is, attitude, awareness and capability. A self-report questionnaire was administered on a group of 101 Finance and Economics major international and local students at an Australian university. Focus group interview was also conducted with six participants drawn from this sample. The results show that these students possess moderate or reasonable level of autonomy in dealing with lexis. There is significant difference in the attitude and awareness levels of L2 (second language) international students compared to the L1 (first language) local students in improving language proficiency. However, the qualitative data show that L2 students do make commendable effort in meeting the standards expected of local students. The study also shows that the course lecturer is an important moderating variable in encouraging autonomous behaviour among learners.

Keywords: *lexis; autonomous learning; tertiary students in Australia; attitude; awareness; capability*

Introduction

University students in Australia are enrolled either as local students whose schooling has been conducted in English, or as international students. If international students' schooling has been undertaken in a language other than English, they are required to reach a certain level of English

language attainment which is examinable through International English Language Testing System (IELTS), Test of English as a Foreign Language (TOEFL) or equivalent, or through tests which are internal to a particular university (via what are sometimes known as Direct Entry Programmes). There are also English language pathways, for example, English for Academic Purpose (EAP) and academic pathways, such as Foundation Studies which specifically cater for non-English speaking backgrounds (NESB) international students. Whether native-speaking local students or second language overseas students, all participants in higher education are to varying extents required to deal with the increasingly demanding and sophisticated language which constitutes their selected academic or professional field of study.

In making efforts to comprehend the complexities of academic course content, knowledge and understanding of related lexis is a requisite and inevitable. At a fundamental level, these students must possess the lexis or vocabulary to make meaning of their studies because individual words are so salient in the communication or miscommunication of meaning, particularly in the development of academic field knowledge. Lexical knowledge may be said to form the foundation of language; and vocabulary acquisition and enrichment are requisites and determinants of success in the four language skills (Nation, 2001; Torres & Ramos, 2003). Possessing sufficient lexis consequently, assists academic success at all levels of learning, including tertiary levels.

However, at tertiary education, some students continue to face difficulties in their studies, despite meeting minimal language proficiency entry requirement. These difficulties are partly due to low English proficiency (Salamonson, Everett, Koch, Andrew & Davidson, 2008; Benzie, 2010) in general, and lack of lexical competence (Berman & Cheng, 2001; Evans & Green, 2007), in particular. Being conceived as L2 learners' greatest language problem (Green & Meara, 1995, cited in Folse, 2006, p. 273), and even their nightmare (Meara, 1980), many students regard lack of lexical competence as one of the major hindrances in L2 or foreign language learning (Nation, 2001; Folse, 2006).

Objectives of the Study

For second language speakers, much of their vocabulary learning experience prior to enrolling in English-medium tertiary study has taken place through English as a second / foreign language classes, where materials are structured in order to target carefully sequenced vocabulary and grammar, and where both fluency (acquisition) and accuracy (learning) activities are pursued.

For L1 learners, vocabulary learning has been a developmental process, beginning at home, and reinforced through formal education. The crucial issue that needs to be addressed here is to find out how university students learn vocabulary items, when they no longer follow formal English classes and are offered to become self-directed in handling language concerns; that is, there is a need to know how effective and autonomous university students are in their approaches to learning vocabulary items. The issue includes both EFL as well as L1 learners to see how they embrace the learning of vocabulary items at tertiary education. This is because good performance (which relates to the ability of learning and using words effectively in receptive and productive language skills) will depend in part upon the extent to which learners themselves want to take the central role in learning, as proven by several studies (see Reinders, 2010; Benson, 2011; Al Asmari, 2013; Naginder Kaur, 2014). In other words, to encourage vocabulary development, students need to be

autonomous in their learning. To assume this autonomy well, (1) learners need to have the attitude or willingness to take control of their own learning, (2) they need to develop a reflective awareness of their own approaches to learning, and (3) they need to have the capability or skills to do the learning (Moir & Nation, 2002).

Research Questions

With the objectives in perspective, the research questions formulated for this study are:

- What level of attitude is taken by L1 and L2 students towards vocabulary at tertiary education?

- What is the awareness level held by L1 and L2 students in vocabulary at tertiary education?

- To what extent do L1 and L2 students perceive that they have the capability to acquire vocabulary at tertiary education?

Literature Review

In autonomous learning, the learner factor underpins the problem of low lexicon because it is ultimately the goals set by the language learner that would determine the extent of success of his / her learning. As stressed by Nation (2001), "no matter what the teacher does or what the course book presents, ultimately it is the learner who does the learning" (p. 394). As the protagonist of the learning process, the learner has to be autonomous and configure informed choices masterfully as to what he / she wants to learn and how he / she can learn it best. Given the large lexicon that exists within English language, there is only so much an instructor can do as it is not possible to present and provide practice with all the vocabulary required for normal language use. As a result, acquiring adequate vocabulary size is probably the major hurdle facing EFL (English as a Foreign Language) learners (Nation, 2001; Nation & Meara, 2002) and "clearly good self-regulation would be an important asset in this major task" (Tseng, Dörnyei & Schmitt, 2006).

In the last two decades, there was a dearth of studies which examined the ways in which individual learners conceived of their own development of lexis. Among the early studies carried out were by Sanaoui (1995), Moir (1996) and Moir & Nation (2002). In an analysis of vocabulary research, Gu (2003a, p. 19) concluded that the literature fell far short in this respect, and called for "more bottom-up empirical effort on different aspects of vocabulary learning at different stages of acquisition for different learners in various cultural and educational contexts" in order to address such a gap. According to Gu (2003b), the majority of research concentrated on the "what" (the target or product) rather than the "how" (the process of vocabulary learning). In relation to the call made by Gu (2003a; 2003b), Baba (2004) too noted that autonomous vocabulary learning (that is, the "how" of learning) was rarely researched either in L1 or L2. Nevertheless, the construct of autonomy in vocabulary learning has been indirectly addressed in some studies, namely, by Sanaoui (1995), Gu (2003b), Tschirner (2004), Hamzah, Kafipour and Abdullah (2009) and Kasmani and Bengar (2013). These studies did not directly or specifically research the construct of autonomy, and were mainly studies on learner profiles in learning vocabulary. The bi-finding was that success in vocabulary learning is achieved through diligence and self-directed efforts; proof that autonomy

is a key variable. Other studies which particularly researched autonomy in vocabulary learning were by Moir & Nation (2002), Bennet (2006), Minh (2009) and Giang (2010). Different types of framework for autonomous learning were adopted, given the recent interest on autonomy in language learning (see Cotterall, 2000; Smith, 2008; Reinders, 2010; Benson, 2011).

In stressing the importance of autonomous learning in vocabulary development, Nation (2001) points out three major attributes in determining the success of vocabulary learning, that is, attitude, awareness and capability and stresses their impact on vocabulary learning, separately and collectively. However, to date, there is no study which has explicitly used this framework to examine autonomy in L1 or L2 vocabulary development. None of the abovementioned studies has researched autonomy within the specific framework of attitude, awareness and capability.

Nation's Theory of Autonomous Vocabulary Learning

According to Nation (2001), in order for learners to expand their vocabulary knowledge or lexical competence, it is imperative that they become autonomous in relation to their vocabulary growth. This can be achieved if learners have three attributes, which are, attitude, awareness and capability in vocabulary learning. Nation's framework on autonomy is explained in his book, "Learning Vocabulary in Another Language" which emerged from L2 context. However, this framework is also pertinent for L1 learners just as well, since the attributes of attitude, awareness and capability are important in any context for the attainment of autonomy, be it L1 or L2. Nation too does not suggest that L1 learners are in exclusivity of this framework; therefore making it a relevant framework for investigating both L1 and L2 learners and their learning contexts. Nation's definition of attitude, awareness and capability are discussed henceforth, and the literature on these attributes is drawn from the work of other scholars, so as to operationalise the definitions and variables in focus.

The first attribute is to have a positive attitude. Nation (2001) defines attitude as "the need for the learner to want to take control and responsibility for learning" (p. 394). The need to take control and responsibility for learning is further explored with literature on attitude which essentially defines attitude with a tri-component view. This tri-faceted model is also known as the ABC Model which incorporates the affective state, behavioural displays and cognitive dispositions. Lambert (1967, cited in Dittmar, 1976, p. 181) defines these dimensions as the cognitive, affective and conative states. Thus, attitude relates to the learners' desire and need to learn vocabulary, based on (1) beliefs and perceptions about vocabulary learning, (2) feelings and emotions towards vocabulary learning as well as (3) observable behaviours such as the degree of effort and perseverance seen in the process of learning lexical items. In this study, attitude is operationalised in the aforementioned subsets, which are: (a) cognitive - the thoughts, beliefs and perceptions learners hold about vocabulary learning, (b) affective - the feelings and emotions towards vocabulary learning and (c) conative - observable behaviours which support positive or negative attitudes, such as effort and perseverance in vocabulary learning.

Nation (2001) also says that attitude is the most crucial aspect to develop, yet the most difficult one to inculcate because a positive attitude or a desire to learn is in direct correlation with the attainment value that learners may derive from learning vocabulary items. For example, Moir

(1996) found that learners were reluctant to become autonomous in the learning process even though they were aware of their progress and of the goals of learning vocabulary. Lack of positive attitude was reflected in the informants' actions, when they failed to capitalise on the freedom given by the teacher in deciding the type and scope of unknown vocabulary to learn.

According to Nation (2001), awareness is the knowledge of knowing how to learn lexical items, and stresses the importance of metacognition and reflection in describing awareness. To unpack the concept of knowing how to learn and understand what metacognition entails, first, Paris, Lipson and Wixson (1983)'s explanation of metacognition is adopted. Paris et al. (1983) describe metacognition to include three forms of knowledge, which are declarative knowledge, procedural knowledge and conditional knowledge. Further, Anderson (2002) proposes five main components for metacognition. These components are (1) preparing and planning for learning, (2) selecting and using learning strategies, (3) monitoring strategy use, (4) orchestrating various strategies, and (5) evaluating strategy use and learning. By preparing, planning, monitoring and reflecting on learning, learners think about their goals and how they will go about accomplishing them. Essentially, awareness is the thinking process about aspects of "what" and "how" to learn before and after the process of learning lexical items. It means the stages of planning, monitoring and evaluating or reflecting on the effectiveness, suitability, and viability of approaches taken to learn vocabulary and consideration of other available alternatives. Thus, learning vocabulary involves four main facets of metacognitive awareness, which are being conscious, then transferring consciousness into stages of planning, monitoring and evaluating or being reflective of the process. Hence, this study operationalises awareness as (1) general awareness, which encompasses declarative knowledge, procedural knowledge and conditional knowledge and (2) the three stages / skills of awareness which are (a) planning, (b) monitoring and (c) evaluating or reflecting on the process of learning lexical items.

Capability is the possession of knowledge and skills to use vocabulary items (Nation, 2001). In vocabulary acquisition, capability relates to the ability in using vocabulary items effectively, that is, the ability in utilising various skills, trying to understand the semantic relationships between new and previously learned words and ensuring that learners regularly review new forms (Schmitt, 2000). This includes the ability to use the correct word forms in different contexts and being able to capitalise on the various opportunities present in the environment, both receptively (through reading and listening) and productively (speaking and writing activities). In other words, it is the learners' ability in utilising and enriching words which they have learnt. Capability is operationalised as learners' perception of their ability in (a) utilising the various vocabulary items learnt and (b) the availability of opportunities to learn and use vocabulary, both receptively and productively.

The literature shows various studies which have investigated one of the three factors, that is, attitude, awareness (metacognition) or capability in lexical learning. For example, there are many studies describing the means of learning vocabulary by using the framework of learner strategies to improve capability in learning (for example, Folse, 2006; Minh, 2009; Li, 2009; Giang, 2010). However, there is no published study which has explored all the three attributes together in a single framework.

Methodology

The sample for this study was drawn from an accessible population of undergraduates pursuing Bachelor of Finance and Bachelor of Economics courses at a metropolitan university in Sydney, New South Wales, hence creating a purposive sampling. The selection of Finance and Economics students were also because they had bigger enrolment compared to students pursuing other courses. A contention put forward is that Finance and Economics major students are less exposed to texts than numbers. This basis is challenged because regardless of the type of course pursued, students are required to deal with the jargon peculiar to the course, and understand terminologies and definitions related to their respective course. The purposive sample was made up of all the 101 full time students in the course. In comparing the sample to the target population, the respondents were below 25 years old (as is the typical age of undergraduate students) and included local and international students from diverse international identities, as they are enrolled in Australian universities. However, the percentage and ratio of local students to international students in this study cannot be said to be representative of the ratio between the two groups enrolled in various Australian universities.

The research was conducted in two sequential stages, adopting a mixed-methods approach. Quantitative and qualitative data collection procedures were undertaken to diagnose, establish and explore the variables, with an equal load of data on both quantitative and qualitative ends. At Stage One, a 45-item self-constructed questionnaire with 5-point Likert scale responses was administered. The range of the five points in the Likert scale to elicit psychometric responses ascended from "strongly disagree" "disagree", "neutral", "agree" and "strongly agree". Each scale of autonomy in vocabulary learning carried 15 questions, covering the different facets of each-subscale (refer to Table 1). The questions covered various areas related to autonomy, such as students' mental readiness and emotional dispositions towards vocabulary learning, time spent on revising vocabulary work, and the amount of opportunities available for vocabulary development. Reliability test was carried out to maintain internal consistency of the data. The Cronbach's Alpha score presented in Table 1 denoted high reliability for the three attributes of autonomy, that is, .79 for attitude, .83 for awareness and .90 for capability. The various sub scales yielded scores between .72 (for conative stance) and .89 (for metacognition in learning), showing that the instrument was a reliable measurement for the study.

Table 1. Reliability scores

Variable	Number of Items	Cronbach's Alpha
Attitude	15	**.79**
Cognitive Stance	3	.79
Affective Stance	4	.80
Conative Stance	8	.72
Awareness	15	**.83**
Metacognition in Learning	4	.89
Planning in Learning	4	.77
Monitoring in Learning	4	.80
Reflection in Learning	3	.82

Capability	15	**.90**
Word Form, Pronunciation,	8	.87
Spelling	7	.83
Opportunities in Learning		

Following quantitative data collection, at Stage Two, a focus group discussion was carried out with six participants drawn from the sample. The participants were selected based on expression of interest which they had earlier put in through writing. Through email communication, a meeting was scheduled. The focus group comprised equal number of international and local students, representing the genders equally. The interview data served to complement the quantitative data, and solicited further insights into ways students cope with tertiary education, in particular, how they deal with lexis in their coursework, and how autonomous they are in terms of their attitude, awareness and capability. The semi-structured interview was conducted with a pre-prepared interview guide, which probed the three attributes of autonomy. The interview session was led by the researcher and was audio-taped. An interview was also held with the course lecturer, following the discussion with the participants for this course, to obtain his input on how students learn as well as to triangulate and differentiate perceptions of the two stakeholders of autonomous learning.

Scope of Study

This study focuses upon students enrolled in university degree courses. The target group represents a crucial stage in self-directed and lifelong learning. Most of such students are moving from the relatively structured and guided school environment into the freer university environment. In this sense, such students are at a crucial stage in the development of their capacity for self-directed learning. The extent to which they develop the three facets of autonomy is therefore of special interest in the field of L1 and L2 vocabulary learning. The present study does not impose or contrive the learning context in any way but investigates autonomous learning behaviours and practices in students' naturally occurring academic settings, as they proceed through their daily studies.

The respondents for this study were 101 undergraduates enrolled in their second year of a Sydney metropolitan university, pursuing a Finance and Economics major. The 55 males (55.56%) 44 female students (44.44%) were between 21 and 23 years old, with more or less equal distribution between local students (46.3%) and international students (52.8%). The international students were from China (24), South East Asia (16), Russia (5), India (3), South Korea (2), West Asia (1), Asia Pacific (1) and Europe (1). Among the international students, 35.2% had been studying in Australia between one and three years and 11.1% between four and six years, that is, almost half had been in Australia for less than six years.

Analysis of Data

Questionnaire data was analysed through the statistical package of SPSS; the responses given by the students were calculated using descriptive statistics. For some items in the questionnaire, response rate was not full - therefore the *n* value in the reported data varies from 91 to 101 respondents in the tables presented. The data was also checked for normality of distribution and skewness using one-sample Kolmogorov-Smirnov test and was found to be in normal distribution for all the variables, as indicated by the Kolmogorov-Smirnov Z scores exceeding .05, in Table 2. The score for attitude

was .54, for awareness, .94, for capability, .71 and .70 for overall autonomy. Hence, it was ascertained that the data derived were in normal distribution.

Table 2. One-Sample Kolmogorov-Smirnov Test

		Attitude	Awareness	Capability	Autonomy
N		101	96	99	91
Normal Parameters(a,b)	Mean	3.37	2.96	3.58	3.33
	Std. Deviation	.46	.55	.59	.36
Most Extreme Differences	Absolute	.05	.09	.07	.07
	Positive	.05	.08	.07	.07
	Negative	-.05	-.09	-.06	-.04
Kolmogorov-Smirnov Z		.54	.94	.71	.70
Asymp. Sig. (2-tailed)		.92	.33	.68	.70

Quantitative data was confirmed and triangulated with qualitative data from the focus group discussion and lecturer interview. The focus group discussion and interview with the lecturer were transcribed and analysed through a search for ideas that were in keeping with the definition of autonomy, based on the three attributes being studied. The transcripts were carefully coded and categorised into significant themes through content analysis method so as to obtain a coherent set of findings. The differences in approaches to dealing with lexis between the groups (local students and international students) as well as the attributes of autonomy were tested with independent t-test. The sum of three attributes (attitude, awareness, capability) which are of equal weightage and importance was averaged out statistically to derive the overall autonomy level. Similarly, for each of the three scales of autonomy, there were further sub scales which added up to 15 points for each scale, making up the 45-item questionnaire.

Students' Autonomy in Vocabulary Learning Results

The overall score of autonomy in vocabulary learning was obtained by statistically adding up and averaging out the *mean* scores of the three attributes, that is, attitude, awareness and capability. The overall extent of autonomy in vocabulary learning presented in Table 3 shows a somewhat positive level among the students enrolled in this programme, with a *mean* score of 3.33.

Table 3. Students' autonomy level in lexical learning

	N	Minimum	Maximum	Mean	Std Dev	Mode	Skew-ness
Total	91	2.38	4.58	3.33	.366	3.31	.236
Valid N (listwise)	91						

There seems to be a tendency to agree with the items presented in the questionnaire, without major problems reported in coping with course content. The respondent's demonstrated mid-range level of autonomy in their tertiary studies as seen from the *mean* scores on the scales of attitude (3.37), awareness (2.96) and capability (3.58), the latter with the highest *mean* score (Table 4).

Table 4. Students' attitudes, awareness and capability in lexical learning

	N	Minimum	Maximum	Mean	Std. Deviation	Mode	Skewness
Attitude	101	2.0	4.47	3.37	.467	3.40	-.054
Awareness	96	1.6	4.6	2.96	.550	3.00	-.009
Capability	99	2.2	5.0	3.58	.591	3.00	.306
Valid N (listwise)	96						

The use of *mean* score alone to establish students' level of autonomy is inadequate and open to challenge. Hence, the *mean* for each attribute of autonomy is corroborated with report on skewness and *mode*, to show the distribution of data, and to ascertain whether the data are more positive or negative. For the overall level of autonomy, *mode* is 3.31, while skewness is .236. This means the responses are overall positive. Similarly, for capability, the responses are also positive with *mode* value of 3.00, and data showing right skewness of .306. For attitude and awareness, although the skewness is negative (-.054 and -.009), the levels are almost 0, showing the data to be of almost symmetrical distribution. Hence, by looking at the skewness of data, it makes the *mean* a more reliable means to establish students' autonomy levels.

The generally positive result on students' autonomy level is also confirmed by the course lecturer who stated that on the whole, students can "get by the course and language aspects" quite easily and demonstrate positive inclinations to learning. The lecturer's opinion is comparable to the results by Bennet's (2006) study who found factors of an enquiring personality and an introspective attitude towards vocabulary learning to be the most important factors perceived by the teaching staff in developing autonomous vocabulary learning habits. This finding is also very similar to the finding obtained by Naginder (2012) on Malaysian tertiary learners, who showed moderate degree of autonomous learning behaviours. Conversely, these findings are in contrast to the qualitative findings by Moir (1996) and Moir and Nation (2002) who found their research subjects to be evidently lacking in autonomous learning behaviours. Further discussion on students' autonomy level is presented in order of the research questions of this study.

What level of attitude is taken by L1 and L2 students towards vocabulary at tertiary education?

The scale of attitude was analysed with further sub-scales of the cognitive, affective and conative stance. Students ranked quite highly on all the three sub-scales of attitude, indicating a positive stance towards their thoughts, affective states and behaviours, which supported autonomous learning. Based on Table 5, the *mean* score was highest for affective state, 3.46 (SD=.802), followed by the cognitive dimension, 3.37 (SD=.807), and conative stance, 3.28 (SD=.512).

Table 5. Sub-scales of attitude

	N	Minimum	Maximum	Mean	Std. Deviation
Cognitive	101	2.0	5.0	3.37	.807
Affective	101	1.75	5.0	3.49	.802
Conative	101	1.88	5.0	3.28	.512
Valid N (listwise)	101				

These results are similar to Giang's (2010) study on Vietnamese learners who showed positive attitudes towards vocabulary but are in contradiction to the results obtained by Moir (1996), Moir and Nation (2002) and Tschirner (2004), who found their research participants to be lacking in the desired attitude and reluctant to make the required changes in learning vocabulary items.

The qualitative data also supported this finding, as all the participants from the focus group concurred to having interest in learning vocabulary. When probed further on why and how, one of the international participants related how his homestay family experience contributed to his positive affective attitude towards English language on the whole. This student, who was from China explained that the experience of conducting conversations in English with the host family made him realise that it wasn't all that difficult for him to communicate in English. As a result, he derived positive feelings and perceptions towards the language. As for conative means to improving lexical ability, the local and international participants cited reading the newspaper (for example, *Sydney Morning Herald*, *Financial Review,* or *Yahoo Finance*), which not only helped in the understanding of the course but also in knowing the important course-related concepts. Other means were watching English movies with subtitles as well as reading books. For the local participants too, similar efforts were reported in improving lexical knowledge, namely, watching English movies and reading English dailies.

An interesting finding was that all the participants from the focus group attributed their positive attitudes to an extent, to the positive role played by their course lecturer. They said that the lecturer "teaches really well … there's no doubt." They were full of praises for him as he teaches "at the best level". With nearly 20 years of teaching experience, the course lecturer is admittedly one of the most popular lecturers on campus, with one of the highest class attendance among students. In return, he has high expectations because "as an examiner, he's strict." They lamented that he would give them low scores in assignments if their work did not mark up to his expected requirements. This was confirmed by the course lecturer himself, who insisted on the importance of quality in students' work. Therefore, students were compelled to be more conscientious and diligent in their studies, and demonstrated more positive conative stance, in terms of their effort and revision in learning the subject matter, as well as related terms and concepts.

The lecturer is also well liked by the students. He is found to be motivating owing to his teaching trait of introducing and explaining concepts thoroughly, repetitively and spirally. These concepts include words of definitions, terms and jargon related to the course pursued. According to all the participants, this is not prevalent among many of their lecturers for other courses, who do not pay much attention to going through concepts repetitively, but rather, prefer to teach sequentially in order that they can complete the syllabi and cover the topics that they need to for the semester. The lecturer also welcomes queries and allocates specific class time for questions and answer session, with "helpful advice and ideas". Thus, this lecturer's approach of repeating concepts is much appreciated by students, who learn better when they "have to repeat things", consequently demonstrating positive attitudes in their comprehension of abstract concepts and academic language in tertiary education.

What is the awareness level held by L1 and L2 students in vocabulary at tertiary education?

In comparison to the sub-scales of attitude, Table 6 shows that the students did not rank highly on the four sub-scales of awareness, except in the scope of metacognitive awareness, where their responses suggested that they possessed awareness of declarative and procedural knowledge (*mean*=3.60; SD=.753), that is, they know the "what" and the "how" of learning to optimise learning experiences. However, the students did not fare as well in terms of planning (*mean*=2.89; SD=.812), monitoring (*mean*=2.36; SD=.833), and reflecting upon their learning experiences (*mean*=3.00; SD=.861).

Table 6. Sub-scales of awareness

	N	Minimum	Maximum	Mean	Std. Deviation
Metacognitive	96	1.0	5.0	3.60	.753
Planning	96	1.0	4.5	2.89	.812
Monitoring	96	1.0	4.5	2.36	.833
Reflecting	96	1.0	5.0	3.00	.861
Valid N (listwise)	96				

Upon probing, one respondent (from China) said that he took a personal interest in the course in view of the current global developments, which led to the need for effective planning in learning. An evidence of planning was the pre-defining of what to seek in reading materials, for example, he would pre-define what he wanted to seek out in the newspaper and other reading materials.

This contradicts with Moir and Nation's (2002) and Giang's (2010) interview results with Vietnamese learners who were rarely triggered by such motivation in spite of their earlier claims of selecting and focusing on words that were vital for communication or when they found "something special about the word" (p.63) when reporting quantitative data.

When faced with difficult concepts, some said that they would "google" these concepts on the Net to aid learning, as textbooks alone were insufficient source of reference. The focus group

respondents also relied heavily on dictionaries, mainly the monolingual English-English dictionaries when planning the learning of vocabulary. This is frequently the case in L2 context, as noted by Schmitt (2010, p. 4) that "learners carry around dictionaries and not grammar books", hence denoting moreemphasis on lexical building than grammar. For example, the Chinese students take proactive measures by ensuring the bilingual *King Soft Dictionary* software is installed on their computers, providing English-Chinese translations to assist them in learning. This is congruent with many other studies (for example, Hamzah et al., 2009; Minh, 2009) that showed dictionary to be the main source to assist learning. In monitoring learning, one of the respondents also said that he kept a systematic record of his learning of lexical items with a Word document file on his computer desktop which he updated and reviewed weekly. A conscious effort was made to look up meaning of unknown words, or to use contextual clues to derive meaning and then to note the meaning in Chinese.

As for the *mean* score obtained for the facet of reflection, it can be explained because many students hold part-time jobs (as reported by the participants themselves), which make them often rush from class to work and back, and possibly making them do little reflection on their learning processes. International students said they have to double up their efforts in making ends meet to sustain themselves here, consequently spending less time on reflection in learning. Reflection is done if and when there is opportunity and time, as most students maintain part-time employment. Although local students work part-time too, the toll is greater on the international students as most are in constant need of money and must ensure that they are able to earn enough to pay for lodging, utilities, food, as well as tuition fees.

To what extent do L1 and L2 students perceive that they have the capability to acquire vocabulary at tertiary education?

The results obtained show that the students claimed to be in possession of skills of spelling, word forms, and pronunciation (*mean*=3.63; SD=.663) and have enough avenues (for example, listening, speaking, reading and writing opportunities) to use words in the target language in their daily interactions (*mean*=3.52; SD=.663). However, these results differ from Naginder's (2012) study on Malaysian tertiary learners which yielded higher *mean* scores in opportunities in learning compared to capability in spelling and word forms. This is understandable given that the respondents for this study were made up of L1 and L2 learners, compared to the Malaysian L2 learners.

Table 7. Sub-scales of capability

	N	Minimum	Maximum	Mean	Std. Deviation
Spelling & Word Forms	99	2.25	5.0	3.63	.663
Opportunity	99	1.86	5.0	3.52	.663
Valid N (listwise)	99				

In this respect, the participants commended the university management, which accordingly, plays a role in seeing that the students have adequate opportunities to improve their lexical competence. For instance, the *Macquarie University Dictionary* software is uploaded on all the computers on campus for students' reference and use. There are also plenty of resources, namely journals, books, free newspapers and even *YouTube*, as remarked by the respondents, to assist them in   improving their language skills and lexical competence. Opportunities are aplenty; if any drawback, it is the students, who, by their own admissions "do not grab these opportunities" optimally, especially in seeking consultation with the course lecturer beyond class hours. The participants said they hardly see the lecturer outside class hours, as most of the time, they are either doing their assignments, resting or at work, beyond class hours.

Comparison between Local and International Students

It was found that the local students scored higher *mean* scores in attitude (3.46) and capability (3.84) while the international students gained higher *mean* scores in awareness (3.02) than local students (2.96).

Table 8. Mean scores of local and international students

Origin		Autonomy	Attitude	Awareness	Capability
International	Mean	3.24	3.27	3.02	3.36
	N	48	54	50	53
	Std. Deviation	.28	.37	.45	.42
Local	Mean	3.43	3.46	2.91	3.84
	N	43	47	46	46
	Std. Deviation	.42	.54	.64	.66
Total	Mean	3.33	3.37	2.96	3.58
	N	91	101	96	99
	Std. Deviation	.36	.46	.55	.59

In comparing the differences in autonomy levels among local and international students, it was found that there was significant difference between the two groups (.014, $p<0.05$). Also, on the scale of attitude (.041, $p<0.05$) and capability (.000, $p<0.05$), significant differences were reported. However, no significant difference was seen between the two groups on the scale of awareness (.333, $p<0.05$). Hence, it appears that local students do not significantly differ from international students in their awareness in learning.

Table 9. Comparison between local and international students

	Levene's Test for Equality of Variances	T	df	Mean Difference	F	Sig (2-tailed)
Attitude	Equal Variances Assumed	-2.074	99	-.19049	5.683	**.041**
	Equal Variances not assumed	-2.023	80.169	-.19049		.046
Awareness	Equal Variances Assumed	.972	94	.10986	4.133	.333
	Equal Variances not assumed	.959	79.995	.10986		.341
Capability	Equal Variances Assumed	-4.356	97	-4.7996	9.332	**.000**
	Equal Variances not assumed	-4.227	74.280	-4.7996		.000
Autonomy	Equal Variances Assumed	-2.519	89	-.18925	4.224	**.014**
	Equal Variances not assumed	-2.466	72.348	-.18925		.016

The majority of local students have pursued their primary, secondary and now tertiary education in English all the way, while for some international students, English language has been learnt as a second or foreign language in their home countries. This would thus, indicate differences in proficiency levels among the local and overseas students. The significant difference in attitude and capability seems to be opposed to the findings of Moir and Nation (2002) who found no differences among their good, average and low proficiency language research participants. In contrast, Sanaoui (1995) reported differences in awareness levels among high ability language learners, while Li (2009) also saw a difference in the strategies adopted by learners of varying language proficiency.

From the interview data, it was discerned that the international students, nevertheless are diligent in pursuing their coursework as much as local students as "life is really hard" for them. They see local students to "have got everything … every opportunity." It is also relatively difficult for foreign students to seek jobs related to their course. They must be able to demonstrate language proficiency of an acceptable level to their employers. Hence, positive attitude in their learning is crucial, with a high willingness to learn English, in this case to grasp the lexis related to their coursework as well as to learn adequate vocabulary to improve overall language proficiency.

In terms of their self-perception of capability, there also seems to be a significant difference between the two groups (.000, p<0.05). Local students' perceptions (*mean*=3.84) are significantly greater than that of international students (*mean*=3.36). This is understandable given that English is the L1 of most local students. Other local students also have had more years of exposure to the language, communicating with native speakers and having had all or most of their schooling in

English. Thus, they have more receptive and productive opportunities to experience the language, as compared to their international peers.

The overseas students advised that their social circle is confined to people of similar ethnic backgrounds, hence, their communication takes place mainly in vernacular language. It is also difficult for them to befriend local students due to differences in values and opinions. One international student from India claimed that the ability to penetrate the local students' social network "depends on your accent", that is, a student with more native-like English accent will have more local friends than others. As such, social strategies in learning, such as conferring with more proficient peers is not fully utilised, due to the social and communicative gap that exist between the two groups. Similarly, studies done in other cultural contexts such as in Vietnam by Minh (2009), in Iran (Hamzah et al., 2009; Kasmani & Bengar, 2013) and among Chinese learners in Malaysia (Tuluhong, 2006) also show traits of low preference for social strategies, namely, reliance on peers and instructors as mode for learning. Kasmani and Bengar (2013) in concluding their findings of low preference for social strategies, attribute this in part, to the university culture which is inclined to individualism. The same is witnessed in higher education in Australia, where students are much on their own in making progress in learning. For overseas students, the main opportunities available in using the language are at work, since the majority hold part-time jobs. All the students who were interviewed also held part-time jobs, namely at bakeries, fast-food restaurants, retail outlets, bookshops and convenience stores.

Conclusions

The conclusions of the study are drawn from the research questions on the extent of autonomy and self-directed learning initiatives prevalent among L1 and L2 students in dealing with vocabulary at this tertiary institution in Australia. The study shows that students at this institution demonstrate reasonable levels of autonomy. High levels of self-perceived capability denote high confidence, self-esteem and self-belief, especially among local students.

The results also show that international students at tertiary institutions in Australia do make commendable effort in reaching the standards of language proficiency expected of the local students. Although of lower L2 capability, their disposition to learning vocabulary can be said to be equally positive. They are motivated in their efforts in dealing with lexis for meaningful learning, proving that lexical competence is of critical salience in students' learning.

Hence, what does this imply for classroom teaching of lecturers in tertiary education who need to develop students' academic language and ability in relating to abstract concepts? The study draws implications on learners and teachers in fostering learner autonomy in vocabulary learning for future academic purposes, such as tertiary education. The findings suggest a favourable context to nurture self-directed learners in the Australian tertiary education milieu, with commendable standard of teaching and learning. Given students' admissions of being autonomous enough in dealing with various academic challenges, namely lexis, we see a healthy and desired trait to nurture self-directed learners in Australian tertiary education.

The study shows that attitude, awareness and capability do impinge students' learning efforts and initiatives. In forming the nexus between theory and classroom practices, the study calls for

instructors to consciously focus and allocate adequate time to develop the lexical ability of L2 students, as these students need to go the extra mile to work on their language ability. Though their efforts are praiseworthy, they need to plod through their courses, since there is a disparity of perceived capability between L1and L2 international students, where local students seem to possess significantly higher levels of lexical capability than their foreign peers. Academic jargon and definitions related to coursework need to be explained thoroughly to alleviate students' anxiety and help them cope with lexis at the tertiary stage.

Given the lack of interaction and barriers to communication between local and international students, it is proposed that English language acculturation programmes be introduced by the universities to foster better interactions between local and foreign students. Although such programmes do exist to varying levels and effectiveness, each institution, nevertheless, needs to ensure availability of adequate opportunities in activities of sorts that promote interaction and communication among tertiary students to close the social and communicative gap between groups.

At the classroom level, instructors ought to ensure better communication exists between these groups, so the international students gain more opportunities to communicate and work with their local peers. This can be achieved through group projects, classroom discussion and if need be, instructor-assigned members for group projects. Leaving students on their own will not make it any easier for the international students who face immense challenges in penetrating the social network of their local friends of L1. Instructor intervention is deemed both necessary and obligatory in seeing fruitful and harmonious interaction between these two groups for meaningful learning and improvement, as well as shift from the individualistic learning culture.

The lecturer or instructor's role is pivotal, alongside the role played by the institution. Implementation of various programmes and policies is instrumental in ensuring students are able to cope with their coursework successfully. The lecturer in this study is able to bring about the desired results in his students by establishing a strong rapport with them. As the instructor, he takes adequate responsibility in seeing his students through their academic course. With vast teaching experience, he has a repertoire of teaching skills which the students find to be well used in steering them to be self-directed and motivated in learning. Thus, the complementary role of a competent instructor, who possesses a wide repertoire of teaching skills is instrumental in encouraging positive behaviours and bringing out the best in students in improving lexical ability. Other classroom initiatives and endeavours could include teaching dictionary skills to all L2 students, so they can cope with their academic courses.

Finally, autonomy could be implemented through five levels, as proposed by Benson and Voller (1997), that is, beginning from awareness (of the pedagogical goals and content) through involvement, intervention, creation to transcendence (making links between the content of the classroom to the world beyond). Perhaps, is the time ripe for Australian universities to impose greater and more formidable challenges on their self-directed students?

Acknowledgements

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THE READABILITY OF SECONDARY SCHOOL GEOGRAPHY TEXTBOOKS IN JORDAN

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Abstract

This study aimed to determine the readability of secondary school geography textbooks (level 1+level 2) using The Cloze-Test method. To achieve the study purpose, four tests were conducted prepared by this method by eliminating every 6th word from the text. The study texts were selected randomly from the 4 units of the textbook. Test was conducted to random sample consisted of (160) first secondary grade male and female students from Mafraq Directorate of Education. Study findings revealed that the readability of the text book was within the frustration level; and that the textbook were not sequenced according to appropriate readability level. Also, the result indicated that there were no significant differences(α= 0.05) in the readability between males and females. The study ended by offering a number of practical and theoretical recommendations for further study.

Keywords: Readability, geography textbooks

Introduction

The 21st century has witnessed a tremendous progress within all life fields, and probably the most affecting and accelerating domain is the field of communication of all types whether the visual, auditory or written. Through these, the world is communicating dramatically regardless of distances. Thus, printing factories are operating continuously, and the communication means transmit every moment what is new in science and knowledge. To cope with that, the individual should be a reader; therefore, reading is the foundation stone which enables individuals to be aware of what is going on, and know what is being published either through books, newspapers, magazines, or via the World Wide Web (Al-Soukhni, 2007).

Altogether with the plentiful output of modern communication means, it has become necessary for the reader to discuss what is being read to distinguish what is good from what is bad, to weigh evidences and reveal their validity in accordance to his thoughts and beliefs. Doing so, he could be away from the cognitive and cultural attack, and would not become a toy in the hands of the writer, or a slave for the written text or word. Hence, there has emerged an urgent need for reading which is based on understanding and comprehension, particularly during our generation; the age of cultural attack and minds' proscribing (Abd Al-Hameed, 2001).

The reading we mentioned here is not the superficial reading that doesn't exceed decoding symbols and transferring them into speech sounds, but it is the reading for comprehension and understanding in which the reader needs to go beyond just reading the lines towards reading what is between the lines and what is behind them so that the reader could distinguish good from bad, discover the writer's attitudes, interests and hidden goals, as well as benefiting from this in his practical life and in confronting any obstacles or troubles (Al-Soukhni, 2007).

Such a reading is the one which enables the reader to understand the written text through the interaction between the reader's thoughts and the writer's thoughts, ensure the resources' validity, extract and acquire knowledge, mix it with his previous knowledge, realize the text's implications, discover the hidden knowledge, create new knowledge that would help in understanding reality, direct his behavior towards better values, and be able to meet the problems of this age (Ali, 2009).

Several studies asserted that understanding a text is an intellectual process that doesn't go straight starting from the read letter to the word and sentence then to the paragraph. Thus, text explanation is an intellectual process where the reader understands the text he is reading through his interaction with it, and that requires realizing the meaning. When the reader reads a text, he thinks about what he has read, and during that he recalls his previous similar experiences related to the topic he is reading by using all thinking processes. Hence, reading becomes an interactive process for rebuilding and regulating the text as well as realizing its words (Farris, 1997).

Therefore, understanding the readable text is considered a significant goal for all schools and cognitive trends to be acquired by learners. That was translated into an interest in the school curriculum in general, and in the school textbook in particular, as well as the extent of achieving that by the school textbook. Through this, learners can read the school textbook, understand its texts, merge that new knowledge with the previous one, and benefit from that in building their integrated characters (Nagle, 2003).

The readable school textbook text has gained the interest of many specialists for its important role in the educational process and in polishing the learner's character. It is the fundamental part upon which the school textbook depends, and it is the teaching material through which educational goals could be accomplished. Each curriculum has its specific outcomes that are achieved through what is read in the school textbooks which guides both teachers and learners within the curriculum general framework, and helps them move regularly and logically from one topic to the other or from one idea to the other. Sometimes, it is the main source of knowledge, either it was for the teacher or the learner, because the learner spends most of his studying time with the school textbook, and the teacher teaches the content of this textbook like texts, and

benefits from its educational theories that guide his educational and instructional style (Bednaraz, 2004).

In order for the school textbook texts to achieve these aims, they should be related to the curriculum goals, their content should be compatible with new science and knowledge, and theyshould also be varied to suit the learners' individual differences and should take into consideration both the vertical and horizontal integration among different knowledge as well as being suitable for the learners' mental levels and cognitive abilities (Talafhah, 2010).

Accomplishing these ends by the school textbook means offering learners a big chance for being incorporated with these texts, being able to split them into knowledge, facts and ideas, for the purpose of extracting meanings, distinguishing opinions from points of view, identifying introductions from results, as well as linking reasons to causes. Consequently, the text aim and its direct and indirect meanings could be realized, and not stopping after decoding what is readable only (Abu Zeina, 1998).

Selecting the school textbook that could achieve what has been mentioned before has been considered a challenge for the educators and curriculum designers. Thus, a lot of global and local standards around school textbooks have appeared for the purpose of helping those designers in taking important decisions related to school textbooks, and these interests have focused on a number of standards like: pedagogical criteria and what the material covers, the display method, the availability of graphs and charts and their compatibility with goals, as well as clarity of fonts and writing (Plucinski,Olsavsky& Hall, 2009).

One of the important criteria asserted by specialists in this field is "the text's readability", which refers to the text's clarity, its attraction, and its suitability to the learner's level in a way that guarantees learner's interaction with it easily, and that for the purpose of understanding and comprehending this text easily and smoothly, being able to extract knowledge and information from it either they were direct or implicit, and eventually assessing it through regulations regarding the text or its writer (Fuller, Horlen, Cisneros&Merz, 2002).

The textbook's readability is important for judging the school textbook quality because it investigates the following important question: for whom was this textbook prepared? Also, the text's value is identified through its readability by the targeted group or not, and if the textbook loses this criteria, it will become unable to achieve the goals and it will lose its educational value (Das& Roychoudhury, 2006).

The need for the text's readability is not restricted only for the school textbooks, but it goes beyond that, reaching different institutions in the society. Thus, the media institutions are widely interested in what they transmit so as to suit the audience capacities of understanding and comprehension. Also, advertising institutions assert the readability of advertisements because the advertisement which is not understandable by customers is meaningless. That is the same for the other institutions like the organizations of taxes and statistics and civil defense which desire to issue what is understandable and clear for citizens (Meqdadi, 1997).

Readability is usually influenced by many factors, and some of them are related to the reader: regarding his cognitive and mental level, his motivating degree, his interest and engagement in the text, his ability to achieve, concentrate and invest the time. Other factors are related to the written text: regarding the difficulty degree of its vocabulary items, the structure of its sentences and fragments, the text's content, and its practical value for the reader. It is important to say that these factors work collaboratively not separately, and they affect each other as well as being affected by each other as well (Abu Zeina, 1998).

Due to the importance of identifying the degree of the text's readability, several methods were used to achieve that aim like: experts' evaluation where the text is reviewed by experts and specialists to assess its readability degree in accordance to their practical experience. But this method entails several negatives because of the large difference in the evaluations of readability from one expert to the other, and its non subjectivity since it is influenced by the evaluator to a large extent. The second method is the readability formula which depends on 3 variables; the popularity of using the word since common words are usually easier than others, the sentence length since long sentences are usually more difficult than others and the sentence structure where understanding compound sentences is more difficult than understanding simple ones. It was possible to record more than 200 variables affecting readability, and it is difficult to control such a number of variables for using this method (Meqdadi, 1997).

Because these methods were not trusted on one hand, and they were difficult on the other hand, the search for finding more controlled and precise methods for measuring readability continued till researches and studies came up with a new way called the (Cloze-Test) which is considered one of the most trusted and effective scales, and it is easily constructed, prepared and used, giving correct results to a large extent (Keshavarz&Salimi, 2007).

This method was developed by Taylor in 1953 for measuring the readability of daily newspapers, supposing that reading is an interactive process between the reader and the text. The word Cloze refers back to the Gestalt theory and it depends upon the learner's ability and reflection for completing patterns of infinite models by providing the missing word depending on his entire understanding of the model (Connolly, 1999).

This test has got several images that depend on the test's goal, material nature, and the learner's level. Some of these images:

- Introducing the text after deleting keywords (the basic scientific concepts) without presenting any specific hints that may help the learner predict the deleted word

- Deleting the text's keywords (the basic scientific concepts) and providing learners with hints that help them predict the deleted word such as giving them the initial letter of the deleted word, or providing them with a list of deleted words suitable for filling in the blanks. These images are suitable for scientific texts more than others

- Deleting words in a specific order, like deleting the 6th word each time, and words are usually counted to identify the deleted word location. This image is suitable more for literary texts (Ambo Sa'eidi & Al-Erimi, 2004)

- This test can be used by choosing one of the previously mentioned images, then choosing the text whose readability is to be measured. After that, the word is deleted in accordance to the selected image, leaving equal spaces in the place of the missing words so that the space length doesn't give a hint for learners to help them predict the word. The learner is then asked to write the deleted words. The text's readability is estimated through calculating the percentage average for the learners' marks in this test (Bothel, 1998)

The text's readability is judged by comparing this test's results with the readability levels accredited for this purpose. Thus, the learners' averages that are less than 40% indicate that the text belongs to the Frustration Level, the level in which the learner can't read or comprehend the text even with the teacher's help. The averages that range from 40 to 60% indicate that the text belongs to the Instructional Level, and that means the learner's ability to read and comprehend the text along with the teacher's help. The averages that exceed 60% refer to the Independent Level which means that the learner is able to comprehend the written material depending on himself (Al-Tall, 1992).

Educational literature presented a large number of studies and researches which addressed the readability of most studying curricula, and only the studies which addressed the geography textbooks will be reviewed, as well as the social studies related to the topic of this study. Al-Qa'oud (1995) conducted a study that aimed at analyzing and assessing the 10th grade geography textbook in Jordan, and identifying its readability. The study came up with the result that the textbook's readability was lower than the learners' level.

Jitendr, Nolet, Xin,& Daccccost (2001) conducted a study that aimed at assessing geography textbooks for middle schools, regarding their readability. The results revealed that these textbooks don't consider learners' level.

Al-Rifa'ei (2004) conducted a study that aimed at identifying the readability level of 1st secondary social studies textbooks, and its impact on students' achievement. The findings revealed that the readability level of "Contemporary History" textbook was within the Frustration level, and the level of "Economical Geography" textbook was within the Instructional level.

Ulusoy (2008) did a study that aimed at identifying the readability of basic stage social studies and science textbooks using this test, and the results showed that more than half of the students need the teachers' help to read and comprehend texts.

Jawarneh (2008) did a study that aimed at identifying the readability of 4th grade national education textbook using the Cloze test, and the results showed that the school textbook was within the Frustration level.

Hassan (2009) also did a study that aimed at identifying the readability level of secondary stage general education textbook, and the findings showed that the textbook's readability level was within the Frustration level.
Whereas Mustafa's study (Ulusoy, 2009) which aimed at identifying the impact of different models of Cloze test on measuring the readability of some Turkish language texts indicated the

effectiveness of this test for assessing texts' readability, and that readability differs from one model to the other.

After reviewing the theoretical literature and the related studies, we can conclude the following:

1. It is important to measure the school textbook's readability before application so as to identify its suitability for the learners' level, and to make the proper decision regarding its modification, development or cancelling

2. Scarcity in studies that addressed geography textbooks' readability, and that there are no studies that addressed the readability of secondary stage geography textbooks (1st & 2nd level) which motivates researchers to conduct such a study

The suitability of Cloze test as a tool for measuring the school textbooks' readability as well as other texts, which in turn motivates researchers to use it as a tool for measuring the readability of geography textbook targeted in this study, and based on these implications, the problem of this study appeared.

The problem of the study

Geography textbooks play a significant role in school curriculum since they seek to let learners acquire many skills, attitudes and values related to this subject (Bednaraza, 2004.,& Negel, 2003).

Since the school textbook is at the heart of the educational process, specialists were concerned with introducing this textbook in a form that accomplishes these aims, particularly in what is related to the school textbook texts like their readability, the learners' ability to read and comprehend them and extract information from them to achieve the books' aims (Fuller, at al, 2007) since it is nonsense to provide learners with textbooks they could not understand or comprehend.

In light of that, the researchers see the importance of considering the readability of secondary stage geography textbook, and consequently the probe of this study is restricted in the following questions:

- What is the readability level of the first secondary geography textbook?

- Is there a statistically significant difference at the level (α =0.05) between the performance average of 1st secondary students in the readability tests ascribed to gender (male/female)?

- What is the graduation extent of first secondary geography textbook texts according to their location in the book, in light of their readability?

The aim & importance of the study

This study aimed at revealing the readability level of geography textbook and identifying the graduation extent of its texts according to their location depending on their readability level. This study is important for the following:

1. It throws light on this book's readability level to as to improve and modify this book in accordance to the students' level
2. It informs designers of geography textbooks and curriculum with the graduation extent of the book's texts according ot their location, depending on their readability level so as to re-introduce or delay some topics or units in a away that suits the readability level
3. It draws geography teachers' attention to the readability level of this book so as to use the proper strategies for presenting its texts for learners, as well as informing them with information processing methods and choosing the suitable instructional methods
4. It responds to the recommendations of some studies and researchers which asserted the importance of identifying the readability of school textbooks before application
5. It contributes to the attempt of revealing the role of the school textbook in the students' weak achievement in geography

Procedural definitions

This study was based upon the following terms:

Readability

It is the learner's ability to fill in the blank with the suitable word to replace the deleted word in the text and that could help in judging his understanding and comprehension of the text (Torres& Roig, 2005). This ability refers to the learner's capability of understanding the text, realizing its goals, and extracting knowledge from it. For the purposes of this study, that is measured through the total of his right answers on the texts presented to him, and it has 3 levels:

- Independent level: it is the level in which learners can read the text and understand it, extract information from it, and benefit from it in their practical life and problem solving. That is defined when the learner gets 60% and above in the readability test prepared for this purpose
- Instructional level: in which the learner can understand and comprehend what he reads with the help of the teacher, realize the implicit meanings, and conclude from that. That is defined when the learner gets 40-60% in the readability test prepared for this purpose
- Frustration level: in which the learner can't understand or comprehend what he reads, and he can't also distinguish between main or sub ideas even with his teacher's help. He can't also relate the ideas he is reading with each other. That is defined when the learner gets

40% and less in the readability test prepared for this purpose (Smith & Rubin) mentioned in (Abu-Al-Haija' & Al-Sa'di, 2003)

Geography textbook

It is the book required by the secondary stage students in Jordan (1st level & 2nd level) during the year 2009-2010, consisting of 4 units.

The study methodology & Procedures

The Community of the study

It was composed of the 1st secondary class students in the schools of Mafraq Directorate (Branch) during the year 2009-2010, and their total was 619 male and female students. Table (1) shows the distribution of study community according to gender, number of schools, number of sections and number of students.

Table 1 - Distribution of study community according to gender, number of schools, number of sections and number of students

Gender	No. of schools	No. of sections	No. of students
Males	15	19	350
Females	17	17	269
Total	32	36	619

The Sample of the study

It was composed of 157 male and female 1st secondary class students, 78 males and 79 females, distributed into 7 sections, and they were selected using the simple random method. Table (2) shows the distribution of study sample according to gender, number of schools, number of sections and number of students.

Table 2 - Distribution of study sample according to gender, number of schools, number of sections and number of students

Gender	No. of schools	No. of sections	No. of students
Males	4	4	78
Females	3	3	79
Total	7	7	157

The Tool of the study

It consisted of 4 texts prepared using the (Cloze-Test) method to reveal the readability of geography textbook which is targeted in this study, and this tool was prepared in the following way:

- o Selecting a text randomly from each of the four units in the book. Rewriting those randomly-selected texts after deleting the sixth word in each text, regardless of their nature or type, while keeping their general shape and structure as mentioned in the book
- o Selecting a text randomly from each of the four units in the book avoiding deletion of words in the first idea of the text, as well as in the last idea so as to help learners understand the main idea in the text and its topic.
- o Leaving equal blank spaces to replace the missing or deleted words regardless of their length to avoid helping learners predict the word depending on the blank length
- o Providing learners with the test instructions and answer sheet, with a clarification example at the beginning of the test
- o The learner's mark is usually the number of right answers divided by the number of blank spaces and then it is changed into a percentage, then the average is calculated for all testers' grades to be compared with the readability level so as to judge the book's readability

Test stability

To ensure stability of these tests, the researchers applied them on a pilot sample consisting of 31 male and female 1st secondary students from the same area but outside the study sample. The test's stability was calculated using Cronbach Alpha method and Interior Consistency method (Half-division), corrected with Pearson Formula, and table (3) shows these results.

Table 3 - Interior consistency coefficients for the test using Cronbach Alpha & Half-Division

Text	Repetition stability	Interior consistency stability
1	0.88	0.78
2	0.85	0.71
3	0.79	0.79
4	0.85	0.76
Entire	0.81	0.88

It is noted in table (3) that the interior consistency coefficients were calculated using Cronbach method, ranging from (0.88) to (0.79), and using Pearson Formula with a range of (0.71) to

(0.78). So, it was comfortable to use these texts as a scale for the readability of 1st secondary class geography textbook.

Test validity

To ensure the test's suitability for measuring the readability of 1st secondary class geography textbook in an acceptable degree, the test content's validity was examined by referring it back to 6 referees, 3 of them are specialized in social studies curricula and teaching methodologies, and 2 of them are specialized in measurement and assessment, an addition to one teacher of geography for the secondary stage. They were asked to express their opinions regarding the texts' clarity, their shape suitability, their language accuracy, and the time needed for application in addition to the extent of compatibility with the Cloze-tests. The referees' opinions and notes were considered in general, and some modifications were done. Taking these notes into consideration was considered an evidence for the test's validity.

Study procedures

The study was applied according to the following procedures:
- Choosing the texts randomly and converting them to suit the Cloze tests
- Randomly choosing the schools in which the study is to be applied
- Getting the permission of schools' principals where the study is applied
- Conducting the test on the study groups
- The fourth researcher follows the test's application in the mentioned schools
- Correcting the test according to the following procedures:
  - The test was corrected according to a specific model for this purpose by the 1st, 2nd and 3rd researcher, and their agreement compatibility reached 94%
  - A meeting was held by the 3 correctors to discuss the words they didn't agree on until their agreement percentage reached 98%
  - One mark was given for each right answer; so the student's mark equals the sum of words he answered correctly
  - The spelling and grammatical mistakes were ignored
  - The total mark was transferred into a percentage then the mean was calculated for these percentages on the texts, so the final marks for each of the four tests was 100%
  - These means were compared with the standard used so as to judge the textbook's readability and conclude the study results

Statistical processing

After implementing the study procedures, and for the purpose of concluding results, means and standard deviations for the earners' performance were calculated, and also the t-test was used to compare between the means of males and females.

Results of the study & Discussion

The study results can be reported according to its results in the following way:

The first question results

The question: What is the readability level of the 1st secondary geography textbook? To answer this question, means and standard deviations were calculated for the students' marks on the Cloze-tests as seen in table (4).

Table 4 - Means &SDs of students' performance in the Cloze-tests

Rank	Student performance	Lowest mark	Highest mark	Percentage Mean	SD
1	2nd	0.000	100.000	33.974	22.98
2	3rd	0.000	100.000	32.479	24.52
3	1st	0.000	73.684	28.947	17.76
4	4th	0.000	77.778	26.547	18.41
for entire tests		0.000	93.450	30.594	19.86

Results displayed in table (4) indicate that the percentage means for students' marks in the Cloze-tests ranged from 26.54 to 33.97, and the standard deviations for students' performance ranged from 17.76 to 24.52. These findings indicate that the readability of the 1st secondary geography textbook was very low, within the Frustration level of readability (less than 40%). That means the learner can't read this textbook's texts and extract information from them or understand them even with the teacher's help. These results agreed with the results of Al-Qa'oud's study (1995), the study of (Jitendra at al, 2001), Al-Jawarneh's study (2008), Hassan's study (2009), and partially with the study of Al-Rifa'ei (2004), and Ulusoy (2008).

These results are ascribed to many factors as follows:

Reading is considered an important factor for increasing the learner's ability to understand and comprehend texts completely. As much as the learner is a reader, his ability to understand different texts increases. Since reading among learners gets a low rank and many of them avoid it (Ali, 2009), that was reflected negatively on the students' performance in the Cloze-tests of geography. That agrees in some way or another with Mukhtar's study (1999) which indicated that learners rarely read the school textbook, and that reading is only done by the teacher. Also, learners are not aware of the strategies for using the school textbook, and that negatively affects their ability to benefit from it.

The results of this study are asserted by what Al-Sha'wan (1999) referred to in that there is a big weakness among learners in acquiring the geographical concepts related to the previous stages. That would lead to forming a conceptual gap that hinders learners' comprehension of geographical texts in the coming stages, which would consequently affect their ability to find the suitable word for the blank space in the Cloze-test. That was asserted by (Jitendra et al, 2001) in

that good performance in the Cloze-tests is directly linked to the learner's previous knowledge of the basic concepts that represent this subject.

Also, the lack in the learners' knowledge of information processing strategies and its regulation techniques hinder their understanding of the text and realizing its main idea, so their prediction ability of the missing word weakens (Jawarneh, 2008). That was asserted by Ulusoy (2008) in that good reading which results in understanding the text and realizing its entire idea requires multi reading strategies and knowledge of language items and information processing systems.

The second question results

The question: Is there a statistically significant difference at the level (α =0.05) between the performance average of 1st secondary students in the readability tests ascribed to gender (male/female)? To answer this question, means were calculated for the male and female students' marks on the 4 readability tests, and it was noted that there were explicit differences between the males and females averages for all 4 tests. That indicates the variance in the males and females performance, and to identify whether these differences were statistically significant, t-test was used for 2 independent samples. Table (5) shows the results of this test.

Table 5 - T-test results for students' performance means in the readability tests by gender

Students' performance	Gender	Number	Mean	SD	t-value	Freedom degrees	Statistical sig.
First	Male	77	28.640	17.61	-0.213	154	0.832
	Female	79	29.247	18.01			
Second	Male	77	30.649	22.01	-1.797	154	0.074
	Female	79	37.215	23.57			
Third	Male	77	29.610	22.70	-1.433	154	0.154
	Female	79	35.190	25.80			
Fourth	Male	77	29.245	17.07	1.584	154	0.124
	Female	79	24.594	20.26			
Entire	Male	77	29.536	18.78	-0.656	154	0.513
	Female	79	31.625	20.93			

Results displayed in table (5) indicate the existence of statistically significant differences at the level (α=0.05) between the means of 1st secondary students' performance in the readability tests ascribed to the difference in gender, and that means that the geography textbook was within the Frustration level for both genders as well. This result asserts the result of the 1st question in that

the level of the book's readability was within the Frustration level, whereas the reason for having no differences between males and females is ascribed to the similarity between the males and females levels in their geographical knowledge and their reading and other linguistic skills as a result of the compatibility in the learning chances for both genders in Jordan and their exposure to the same teaching chances because the Jordanian society lives now in a state of openness as well as equality in training and learning chances for both genders. That is similar in some way or another with the study of Watfa & Al-Ansari (2004) which asserted the change and improvement in many social conditions that would reinforce the role of females in society and their integration with the males in social life as well. But this study differed with Al-Jawarneh's study (2008) in this respect which revealed a variance in the males and females performance for the benefit of females, and that could be ascribed to the difference in the sample since the sample in Al-Jawarneh's study included basic stage students, whereas the sample of this study included secondary stage students.

The third question results

The question: What is the graduation extent of 1st secondary geography textbook texts according to their location in the book, in light of their readability?

Results displayed in table (4) indicate that the geographical texts were not somehow ordered in light of their readability since the 3rd text came in the first rank, and the 2nd text came first, and the 3rd text came second whereas the 4th text came in the fourth place. Those results agreed with Al-Jawarneh's study (2008), and Hassan's study (2009) in this respect.

It also indicates that the texts' readability was not taken into consideration when designing the subject of geography and consequently the units were ordered randomly by the books' and curricula designers without considering their readability or their suitability for learners regarding the mental and linguistic aspects. That was referred to by Jawarneh (2008) in that the books' and curricula designers lack the concept of readability, and they are not aware of its measurement tools to judge the texts' suitability for the learners' level both linguistically and culturally, as well as not considering the learners' mental and linguistic level. That is similar in some way or another to what Ulusoy's study (2009) mentioned in that it is important to consider the learner's linguistic level to enable him understand and comprehend the text. It is also similar to Ambo Sa'edi & Al-Erimi's study (2004) in that the learners of good linguistic abilities can use them for understanding vocabulary items and linguistic structures, and consequently leads to the general understanding of the text and increasing their ability to bring multi-word alternatives.

Recommendations

Based upon the results of this study and because the readability of the secondary stage geography textbook (1st & 2nd levels) was within the Frustration level, this study recommends the following:

- o The necessity for trying school textbooks before real application in schools so as to determine their readability level and make the proper decision, either modifying themor developing or cancelling them, as well as getting the feedback from students and teachers during the implementation process

- o Arranging the scientific texts in the geography textbooks according to their readability level to suit the learners' levels
- o Using other methods and styles for measuring the school textbooks' readability since this study utilized the method of Cloze test
- o Advising teachers to develop their learners' reading strategies and information processing as well as using the school textbook correctly.

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STUDENTS' PERCEPTIONS OF THE BS BIOLOGY CURRICULAR PROGRAM QUALITY AT CAVITE STATE UNIVERSITY, PHILIPPINES

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Abstract

This study was conducted to assess the perception of BS Biology students on the quality of Cavite State University'sBS Biology curricular program in terms of vision and mission, faculty, curriculum, facilities, research, and extension; determine the teaching performance of Department of Biological Sciences (DBS)faculty based on Student Evaluation o Teachers (SET); assess the relationship of teaching competencies of DBS faculty members to other factors like vision and mission, curriculum, facilities, research and extension as perceived by BS Biology students; and assess the influence of DBS faculty members on the quality of BS Biology curricular program as perceived by the students. Questionnaires were given to the BS Biology students in the third and fourth year levels. Attainment of vision, mission, adequacy of facilities and curriculum were rated as *Good* while faculty, research and extension performances were rated as *Excellent.*.The curriculum, facilities and extension components ofBS Biology curricular program were significantly related to teaching competencies of DBS faculty and the quality of the curricular program was significantly influenced by the teaching performances of the DBS Faculty members.

Key Words: vision and mission, curriculum, facilities, research, extension, faculty performance

Background of the Study

In the Philippines the Commission on Higher Education (CHED) monitors and evaluates performance of programs and institutions of higher learning through various processes including

90

the accreditation policy which assesses and upgrades educational quality through self-evaluation and peer judgment (CHED Memorandum Order No.01 series of 2005).Quality Assurance is a process that takes time and continuous efforts not only of CHED, but of the concerned academic institution as well. Institutional-based studies should also be performedto determinet h e quality of BS Biology program of Cavite State University; hence, this study was conducted. The quality of the programwas determined based on the perception of. Since students are its primary clientele andthey do demand for quality education which should be met by the department, their perception is, thus, important in determining the program's quality.

To attain the university's mission and vision, the university needs to provide an excellent learning background on general educational and professional objectives for BSBiology student learners (Diamond &Gardiner, 2000). Quality assurance, is therefore always considered and is an essential piece of institutional administration for the advancement of an appropriate and effective scholastic program (Diamond &Gardiner, 2000). Since tertiary instruction is continually changing, strategies for quality affirmation change with it, or else, it will get to be insignificant (Ruiz &Iunio-Sabio, 2012).

The Cavite State University's vision states: 'The Premier university in historicC a v i t e recognized for excellence in the development of globally competitive and morally upright individuals (Cavite State University website 2010[b]). It's mission states provision of excellent, equitable, and relevant educational opportunities in hearts, sciences and technology through quality instruction and responsive research and development activities to produce professional, skilled and morally upright individuals for global competitiveness' (Cavite S t ate University website, 2010[a]). The university's tenets include: Truth, Excellence and Service. Truth is demonstrated by the student's objectivity and during examinations, class activities, and in the development of projects. Excellence is exhibited by the student's self-confidence, punctuality, diligence and commitment in the assigned tasks, class performance and other course requirements. Service is manifested by the student's respect, rapport,fairness andcooperation in dealing with their peers and members of the community.

The Commission on Higher Education (CHED) Memorandum Order (CMO) No.24, Series of2005, otherwise called the "Minimum Policies and Standards for Bachelor of Science in Biology Program", provides policies and guidelines to strengthen the biology discipline as a breeder science. CMO 24, Seriesof2005 that basically tries to enhance and upgrade biology instruction in higher education institutions (HEIs) and establishes the research culture of the program.

In the Philippine setting, CHED monitors and evaluates performance of programs and institutions of higher learning through various processes including the accreditation policy. CHED Memorandum OrderNo.01seriesof200S- Revised Policies and Guidelines on Voluntary Accreditation inAidof Quality and Excellence in Higher Education-defined "accreditation" as 'process for assessing and upgrading the educational quality of higher education institutions and programs through self-evaluation andpeer judgment'. It leads to an accreditation status by an accrediting agency and gives public recognition and data on instructive quality. It is a CHED approach to support and aid HEIs which want to achieve standards of quality well beyond the minimum required. Accreditation is still the best way in guaranteeing quality programs and

institution(Ngohayon, 2011).

The Bachelor ofScience in Biology program of Cavite State University started during the first semester of AY 1994-1995 and for almost two decades. It envisions producing professional, skilled and morally upright individuals for global competitiveness in the field of biological sciences. Specifically, it is designed to (1)equip students with basic foundation in biological sciences and which will enable them to fully understand allied sciences; (2) train students on scientific methods of acquiring knowledge essential in the society; (3)arm the students with the skills necessary to provide extension services to various clientele; and(4) prepare them in conducting basic and applied researches relevant to college thrust(Cavite State University website, 2010[b];Cavite State University website,2010[c]). The Biological Science Program for BS Biology students under the Department of Biological Sciences of Cavite State University-Main, Indang, offers BS Biology program with (1) General Biology, (2) Microbiology, (3) Genetics, and(4) Biotechnology as the fields of specialization.

After enjoyinga Level II Re-accredited status for five years, the BS Biology program of CvSU was submitted for accreditation to a higher level standard of quality-Level III.FromDecember16, 2012 to December 15, 2013,the program was granted 'Qualified for Level III' status. To get the Level III status, it must then be evaluated and must excel in four areas, namely: (1) instruction and (2) extension, which are mandatory; and two more are to be chosen from among research, performance in licensure examination, faculty development, and linkages (AACCUP website, 2014).

To attain this level, the BS Biology curriculum addresses the need of students, community and work place. Since a dynamic and relevant curriculum is a measure of good quality education, it is considered that curriculum is overloaded and should be occasionally be reviewed and reformed. Mismatching between what students learn at school and what the community or world of work demands is also an issue to address. Because the irrelevant curriculum and teaching learning process contribute to the widening gap between education institutions and world of work, it finally contributes to increasing unemployment rate. This aspect manifests a review of the components of BS Biology curriculum program to assess the quality of education grant to its students.

In the study conducted by Gamboa, Reyes, and Rint (2014) it was revealed that the employers of the CvSU BS Biology graduates were satisfied in terms salary and neutrally satisfied in terms of the nature of job. The level of the graduates' job satisfaction in terms of salary is significantly related to age, with low significant relation to gender and civil status, and no significant relationship to educational attainment. Conversely, it was revealed that the age has a high significant relation to the graduates' nature of job, has low significant relationship to gender, while civil status and educational attainment have no significant relationship. The developed values and skills of BS Biology graduates were significantly related to all components of BS Biology curriculum which implies that the graduates were able to attain the CvSU's mission and vision of producing highly competitive and morally upright individuals. It was also revealed that the university mission and vision has a significant influence on the level of job satisfaction as perceived by BS Biology graduates.

In line with this, the current perception and level of satisfaction of the students on the teaching performance and the skills they learned from the institution are important aspects in assessing the quality of a curricular program and its pursuit for the Level III accreditation status, hence this study.

Objectives of the Study

This study aimed to:

1. Assess the perception of BS Biology students on the quality of Cavite State University'sBS Biology curricular program in terms of vision and mission, faculty, curriculum, facilities, research, and extension;

2. Determine the teaching performance of Department of Biological Sciences (DBS)faculty basedon Student Evaluation of Teachers (SET);

3. Assess the relationship of teaching competencies of DBS faculty members to other factors like vision and mission, curriculum, facilities, research and extension as perceived by BS Biology students; and

4. Assess the influence of DBS faculty members on the quality of BS Biology curricular program as perceived by students.

Significance of the Study

With the fast advances in bio-technology there is a need to assess the existing curricular program whether it is still currently at par with the needs of the society and /or industry and this can effectively be answered through the assistance of current BS Biology students. The curricular program can better be enhanced by finding out the skills and training needs of the graduates which may later be incorporated either as an additional course or as inclusion in existing course.

The results of the present study will provide the policy makers with research-based data on the perception of BS Biology students on the quality of the BS in Biology programs at the Cavite State University, which may be used as basis in formulating policies in the future. This can also be used as a frame of reference in developing the curriculum that will support the implementation of the BS Biology curricular offering in the University. The school administrators will be given an insight on the status of faculty's teaching performances, adequacy of laboratory facilities, richness of the curricular program, research and extension capabilities as basis in enhancing the program for future implementation. This will also update the parents on the strengths, weaknesses of the BS Biology program as basis in finding future job opportunities of their children

Methods

The department's BS biology students in the 3rd and 4th level only comprised 17 students; hence the collected data came from these students. The distributed questionnaires comprised of two

93

sections: (1)the demographic profile that included age ,civil status and gender-of the students and(2)a checklist of indicators to measure the quality of BS Biology curricular program in terms of the University's vision and mission and to the Department's faculty, facilities, curriculum, research, and extension. A five-point scale was used in the assessment as follows:

Numerical Rating   Ranges Descriptive Equivalent   Verbal Interpretation

5	4.20-5.00	Strongly agree	Excellent
4	3.40.4.19	Verymuch agree	Good
3	2.60-3.39	Agree	Satisfactory
2	1.80-2.59	Slightlyagree	Fair
1	1.00-1.79	Strongly disagree	Poor

Competency and qualification of faculty members were also measured using the following scale

1.0 -l.75	=	Qualified/Competent
1.76-2.75	=	Neutral
2.76-3.0	=	Not Qualified/Incompetent

Results of Student Evaluation of Teachers (SET), asof1stsemester of AY 2013- 2014, were likewise gathered to determine the teaching performance of DBS faculty. SET includes questions concerningcommitment, knowledge of the subject, teaching for independent learning and management   of learning of the faculty to be assessed; Gathered data were sorted, tallied, tabulated, and were then subjected to statistical analyses

Discussion of Results

The overall view of the BS Biology major students on the quality of their curricular program is shown in table 1.

Table 1 - The quality of the CvSU's BS Biology curricular program components as viewed by the BS Biology major students

BS Biology Program Components	Mean	Std. Deviation	Interpretation
Developed Values and Skills	4.11	.501	Good
Faculty members' performance	4.39	.403	Excellent
• Qualification	1.06	.246	Qualified
• Competence	1.059	.243	Competent
Status of Biology courses	4.054	.606	Good
Adequacy of facilities	3.856	.744	Good
Research competence and relevance	4.59	.507	Excellent
Delivery of extension services	4.353	.412	Excellent

This was measured through mean weights and standard deviation. The data reveals that the teaching performances of CvSU faculty members, the delivery of extension services and research competence and relevance of the conducted studies were rated as **excellent** while the biology courses offered by the department and adequacy of facilities were rated as **good**.

The developed values and skills of students were measured by asking questions on their level of positive attitude, relationship with colleagues, capability to communicate, exercise of truth, excellence and service to people and generated skills to write technical articles, which were rated as good. They claimed that they have **excellent** skills in writing research proposal, in practicing laboratory techniques and in maintaining upright moral values. This result uncovers that BS Biology students of Cavite State University could develop their qualities and abilities while enrolled in the program. This exhibits the attainment of the University's mission of forming students to moral uprightness.

The DBS faculty members were rated by students as qualified and competent in teaching biology courses. This result suggests that DBS faculty were ready as today's college faculty who were working in the constantly changing society and situating themselves to fit modern educational environment. It additionally implies that they were appreciating the multifaceted work that goes into effective teaching and making good curricular pathways through which students gain and pick up the competencies andaptitudes they need. Further, this result is owed to the fact that DBS faculty of AY 2013-2014 were all vertically articulated with the program offered by the department. Faculty members w e r e PhD, MS or MA degree holders or with PhD or MS units. Additionally, new faculty members w e r e graduates w i t h honors and/or graduates from refutable universities in the country.

Moreover, students claimed that the teachers **excellent**ly use various techniques in teaching; use updated instructional materials; respond to student questions and utilize class participation; relate the course concepts in a systematic manner; utilize audiovisual software and computer-aided instruction; prepare instructional materials for use of students, and; show and discuss evaluation results to students. Faculty SUC's staff practices are governed by CHED and the Civil Service Commission (CSC), therefore, quality of instruction relies upon the nature of faculty being recruited who should conform to the minimum qualification standards set forth by the aforementioned institutions (Ruiz&Junio-Sabio,2012).

The curricular program was rated by students as **good** based on the following criteria: revises and updates the curricular program; offers elective subjects from allied field of students; appropriately places major subject within the program; provides adequate balance of theoretical and practical assessment for each course; provides adequate learning resources such as books, audio-visual materials and books; includes all necessary competencies that can be applied in a work environment, and; includes learning objective within the individual learning course. The provision of relevant learning objectives to the course listing of sufficient course requirement for successful completion of the program were viewed by students as **excellent**.

The level of adequacy, accessibility and functionality of CvSU facilities were rated as **good** by providing the basic needs of students like properly maintained working / demonstration area; instructional materials; laboratory rooms with the required equipment and materials; adequate

book titles in biology and allied sciences; classroom environment and atmosphere conducive to the teaching-learning process; well established water irrigation and drainage facilities, reading room and staff room in the library. However, the computer facilities with installed internet connection are still personally owned by the faculty members. Adequate provision of laboratory rooms to students was viewed by students as excellent move of the department. The result suggests that the facilities of the University, especially of the Department were conducive to developing student's learning skills. It could also be attributed to the acquisition of additional equipment for research and instructional purposes and proper maintenance of existing equipment and other facilities.

Another important component of academic program is research.. CHED Memorandum Order (CMO) 24, Series of 2005 seeks to establish the research culture of the program. It was claimed that the requirements of the department for students to conduct quality researches that are periodically reviewed by the department faculty members, who are highly qualified to advise and to technically support thesis student writers, ensures a systematic and effective method of conducting research. These activities were rated by students as excellent. Pairwise, adequacy of facilities/laboratories for students to conduct researches that are within the national /regional research priorities was only viewed as **good**.

TheExtension Services inthe delivery ofCvSU'sresearch-based knowledge inauseable formtogroups, families, andindividuals inlocalcommunities. Itprovides an extension bridge between university researchers and community knowledge users. The Extension Services ascribes to values which helpdefineits character andserveasa foundationfor establishinggoals and making strategic decisions (Cavite State University website, 2010[d]).The department has an organized unit that served functionally approved extension program, which considers the needs, problems and resources of the service area. Its extension services are conducted in collaboration with the biology student organization, The Mitochondrion Society, which include participation in the implementation of plans for extension activities, immersion in the community and resource speaker, trainer and facilitator in the conduct of seminars in the community. The faculty assigned in the unit, on the other hand, monitors, evaluates and documents the department's extension activities. All these activities gained a rating of **excellent** among the student respondents.

Teaching Performances

The performance of biology teachers were also rated by the students using a standard Student Evaluation Test, Table 2.

Table 2 - The level of the Faculty members' teaching performance and its influence to the quality of the CvSU BS Biology curricular program

Indicators of Teaching Competence	Mean	Std. Deviation	Verbal Interpretation	Chi Square	Sig.	Interpretation
Commitment	4.3146	.5622	Excellent	3.454	.000	Significant
Knowledge of the Subject	4.3142	.6067	Excellent	4.392	.000	Significant
Teaching for	4.1895	.6262	Good	2.916	.000	Significant

Indicators of Teaching Competence	Mean	Std. Deviation	Verbal Interpretation	Chi Square	Sig.	Interpretation
Independent Learning						
Management of Learning	4.2526	.5867	Excellent	2.788	.000	Significant

They strongly agreed that the faculty members showed **excellent** commitment level in teaching based on the following criteria: demonstrate sensitivity to students' ability to attend and absorb content information; make themselves available to students beyond official time; regularly attend class on time, well-groomed and well- prepared to complete assigned responsibilities, and; keep accurate records of students' performance.

The biology teachers have **excellent** knowledge of the subject, which included explaining the subject matter without relying solely on the prescribed textbook; drawing and sharing information on the state on the art theory and practice in their discipline; integrate subject to practical circumstances and learning intents/purposes of students; explain the relevance of present topics to the previous lessons andrelate the subject matter to relevant current issues and/or daily life activities; demonstrate up-to-date knowledge and/or awareness on current trends and issues of the subject

Teaching for independent learning included utilization of teaching strategies that allowed students to practice the concepts through interactive discussions; enhancement of student self-esteem and/or giving due recognition to students' performance/potentials; allowing students to create their own course with objectives and realistically defined student-professor rules, to think independently and making them accountable for their performance based largely on their success in executing decisions; encouraging students to learn beyond what was required and guiding the students to apply the concepts learned.Since the beginning, students were spoon-fed with ideas and it was very seldom that they were given works for them to do freely .It was more of DBS teachers giving the ideas and this could have led to an overall rating of *"Good'.*

To assess the level of managing the learning process of students, the teachers were rated **good increating** opportunities for intensive and/or extensive contribution of students in the class activities, and; in designing and implementing learning conditions and experience that promote healthy exchange and confrontations. Likewise, they were rated as **excellent** in assuming roles as facilitator, resource person, coach, inquisitor, integrator, and referee in drawing students to contribute to knowledge and understanding of the concepts at hand; structuring learning and teaching-learning context to enhance attainment of collective learning objectives; and using instructional materials to reinforce learning processes

Pearson correlation analysis showed that the teaching competencies were significantly related to curriculum (r=.658; p = .004) at 0.01 level of significance, facilities (r=.472; p = .014) and extension(r = .650; p=.005) at 0.05 level of significance, Table 3.

Table 3. The relation between competency of faculty membersand components of   BS Biology curricular program

Other Curriculum Components in Relation to Faculty	Pearson Correlation	Significance	Interpretation
Vision mission	.468	.058	Not Significant
Curriculum	.658**	.004	Significant
Facilities	.582*	.014	Significant
Research	.472	.056	Not Significant
Extension	.650*	.005	Significant

**.Correlation issignificantatthe0.01level(2-tailed)
*.Correlation issignificantatthe0.05level(2-tailed)

This implies that as the teaching competency level of the faculty members increases the quality of curricular components in terms of curriculum, facilities and extension also increases.

Conversely, the conduct of research and the development of values and skills as indicators of mission and vision of the university do not significantly influence the quality of the BS Biology curricular program .As cited by Prince et al.(2007), It was pointed out by Rugarcia(1991) and Felder (1994) that faculty research does not support undergraduate instruction. Research and teaching are two different areas having differentgoals and requiring different skills and personal attributes. Each is an effectively full-time job, so that time spent on one activity is generally time taken away from the other. This consequently   supports those studies which reveal no significant relationship between faculty research and effective teachings. Moreover, being aware of what the mission and vision statements are is not enough to stimulate desired behaviors or attitudes conveyed by these statements.

Conclusion

Respondents, on the average, perceived that the quality of BS Biology curricular program based on the following indicators: University's Vision and Mission, Faculty, Curriculum, Facilities, Research and Extension were Good*, Excellent, Good, Good, Excellent and Excellent*, respectively. Moreover, DBS faculty were perceived to be *Qualified* and *Competent* enough in teaching biological sciences.

Using the SET results of the 1st semester, AY 2013-2014, teaching performance of DBS faculty in terms of their commitment, knowledge of the subject, teaching for independent learning and management of learning were generally *Excellent, Excellent, Good* and *Excellent*, respectively. Only Curriculum, Facilities and Extension components of BS Biology curricular program were significantly related to teaching competencies of DBS faculty while Vision and Mission, as well as Research were not.

Lastly, the quality of BS Biology curricular program was influenced by teaching competencies of DSBS faculty.

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FOUR TECHNIQUES TO DEALWITH MISSING DATA IN EDUCATIONAL AND PSYCHOLOGICAL RESEARCH

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Abstract

This study aimed at presenting the problems of using four techniques of dealing with missing data in psychological and educational research such as: listwise deletion, pairwise deletion, mean imputation, and regression imputation. Each technique is discussed in terms of its procedures or its related problems. The research also consisted of hypothetical data by which the procedure was conducted and analyzed to test the effects of each on the descriptive statistics (means and standard deviations), correlation coefficients, and the weights of predicting variables in the regression analysis. The results showed that the researchers in psychology and education should have the awareness of these techniques and their problems, and it is preferred to test the best of them to deal with the missing data, instead of using the popular embedded techniques in some statistical program such as SPSS or SAS which deal with the missing data spontaneously.

Keywords: Missing data, listwise deletion, pairwise deletion, mean imputation, regression imputation, problems, correlation coefficients, weights of predictors, statistical packages

Introduction

Missing data can be considered as one of the problems that are characterized the research (survey or experimental studies) in the fields of education, psychology, or human sciences in general. There are different reasons for missing data. Respondents did not provide complete data, participants did not participate during the period of data collection of the study, some copies might lost, data was not properly coded, and may be there are some psychological and social reasons related to the culture of respondents (Little & Rubin, 1987) or simply Data may be

incomplete due to item non response (Mado, Nisselson & Olkin, 1983). In this regard Cohen and Cohen (1983) stated that "If there are any ways in which data can be missed, they will be" (p.275). However, Anderson, Basilevsky & Hum (1983) have designed the inferential statistical procedures to analyze data sets with no missing data. As a result the researcher has two alternatives. Either to delete those cases which have missing data or to fill in the missing values with estimated values.

There are different statistical techniques such as listwise deletion, pairwise deletion, mean imputation, adjustment-cell mean imputation, and regression imputation as well as others.

First of all the characteristics of the missing data should be examined, to establish whether the missing data exist on the dependent variable or on the independent variable. Cohen and Cohen (1983) suggested that when the missing data is on the dependent variable, the subject may be dropped from the analysis. On the other hand, if the missing data is among the independent variables, it might be useful to check what proportion of the data is missing. If a large portion of the data is missing and thus affecting the validity of the study, the researcher in this case may need to redesign the study (Orme & Reis, 1991).On the other hand, if the proportion of the missing data for one or several independent variables is small or moderate, the different techniques of dealing with missing data may lead to different results. In addition, it is important to examine whether the missing data are distributed randomly or not whether in the dependent variable or in the independent variable (Little and Rubin, 1987).

The purpose of the present study is to discuss and illustrate four commonly used methods namely Listwise deletion, pairwise deletion, variable mean substitution, and regression imputation for dealing with missing data particularly focusing on the associated problems with each procedure. Furthermore, this study will include hypothetical data set to explain the previous procedures and to see how they affect the results of the analysis. And finally, this study aimed at providing a practical suggestion regarding the mentioned procedures for dealing with missing data.

Research Questions

The present study attempts to answer the following questions:

1- What does the literature say about disadvantages associated with Listwise deletion, Pairwise deletion, Mean imputation, and regression imputation as procedures to deal with missing data in educational and psychological research?

2- Do the mentioned procedures have an effect on the descriptive statistics of the variables?

3- Do the mentioned procedures have an effect on the correlation coefficient matrix of the variables?

4- Do the mentioned procedures have an effect on the regression coefficient of predictor variables?

Research methodology

The problems associated with listwise deletion, pairwise deletion, mean imputation, and regression imputation as techniques to deal with missing data in educational and psychological research will be discussed. Each procedure will be discussed in terms of its application or the specific problems associated with it. Also hypothetical data set will be presented to demonstrate the methodology of each procedure. Furthermore, this study will discuss the effects of these procedures on the descriptive statistical results (means and standard deviations), correlation coefficients, and weights of predictor variables on the context of regression analysis. The study ends by focusing on the importance of increasing educational and psychological researchers' awareness of the different techniques of handling missing data and the problems associated with each. In conclusion some recommendations will be made particularly in respect of the use of available software such as SPSS and SAS where missing data have been observed or identified.

A Review of the Literature

The missing data literature contains studies that utilized either real or simulated data to compare missing data techniques. In this context Raymond and Roberts (1987) used computer-generated data matrices to investigate the effectiveness of four missing data techniques (listwise deletion, variable mean substitution, simple regression imputation, and iterative multiple regression imputation) on three different sample sizes (50,100, and200) and three different cases of missing data (2%, 6%, and 10%)

The data matrices were subjected to multiple regression analyses. The regression equations were compared to equations obtained from the complete data matrices. These authors found that the regression procedures provided the most accurate regression equations .The listwise deletion was the least accurate method .However, the differences among procedures were small. Raymond and Roberts (1987) concluded that when missing data values are less than five percent of the values the technique is of little importance. They suggested that when one variable has more than five percent missing data the researcher should compare results of at least two of the techniques.

In another study   Kaiser and Tracy (1988) used simulated data to investigate four different regression techniques and the mean substitution techniques on three sample sizes (30, 60and 120) with one predictor, two predictors and three predictors modified by a correction factor to adjust for missing data in the predictors .The authors found no systematic trend in one technique over the others across levels of sample size or percent of missing data. The corrected regression method was consistently the least accurate followed by mean substitution.

Witta and Kisser (1991) selected their samples from a social survey-1984 and examined the effectiveness of four missing data techniques (Listwise deletion. pairwise deletion mean substitution and regression imputation) on sample sizes of 25 and 50.The selected sample (n=829) was randomly divided into 414 and 415.One of the sub samples (n=414) was reduced to complete cases (n=283) The mean of the variable in this sample was compared with the means

from treated samples. Using the other sub sample (n=415) five random samples of 25 cases and five random samples of 50 cases were selected. Each sample was treated with the four missing data technique .Using Dunnetts test for contrasts Witta and Kiser found that the mean substitution technique was the least appropriate method . The mean substitution technique significantly from the comparison mean in eight of the ten samples.

In addition to the mentioned studies Ward and Clark (1991) compared the influence of four missing data techniques (listwise, mean substitution, simple regression, and iterative regression) on three published analyses of a High school and beyond data set. Ward and Clark investigated if the missing data techniques would affect the result given in the published analyses. All three published studies compared achievement of public and private school students; however, different statistical methods were employed. Brief descriptions of these studies follow.

When Ward and Clark (1991) reanalyzed the data in these studies, they found differences between the analysis of the original data and the analyses of replaced data. In addition, some of the analyses changed the effects of private / public schooling on an achievement. In particular, most of the initially no difference findings changed to favoring one type of schooling.

Kaiser (1994) also conducted a Monte Carlo study to compare the efficiency of Listwise deletion, pairwise deletion, Allvalue, and Samemean methods in estimating the correlation matrix from data that had randomly occurring missing data. The four methods were compared in 3×3×4 factorial design representing sample size, proportion of incomplete records in the sample, and the number of the missing data per record. Each sample represented an N × 8 data matrix. The Pairwise method was found best in estimating the correlation matrix under all experimental conditions except when the incomplete records had 50% of missing data. In this condition, Listwise deletion was considered a better choice. Allvalue and Samemean methods performed exactly the same way under all experimental conditions, but were found to be less efficient than Pairwise method.

As reported in Velotta (1995) Coleman, Hoffer, and Kilgore (1981) used 11.990 cases in their analysis and found a positive effect for private schooling. Page and keith (1981) used 18,058 cases and found no difference in achievement for public and private school student .Walberg and Shanahan (1983) also found no difference when using 24,159 cases .These studies were carried out with missing data values for 57.54%, 36.05%, and 14.45% of the original cases in the data set. Walberg and Shanahan utilized mean substitution to replace missing data while the others did not employ a missing data technique.

As another example of using real data in missing data research, Witta (2000) was conducted a study aimed at examining the efficacy of four methods of handling missing data, those methods were applied to missing values for variables selected from the National Education Longitudinal study of 1988. Variables used for a study related to high Scholl students' academic achievement and work. Samples selected consisted of 100 cases, 300 cases, and 500 cases. The proportion of incomplete cases was manipulated to represent 30 %, 50 %, and 70 % for each sample. In addition, composite variables were created and regression procedures provide accurate estimates

under all conditions. Listwise and Pairwise deletion procedures were effective with small proportions of missing data and when composites were created.

Additionally, in another study Min and Frank (2002) mentioned that various statistical methods have been available to deal with missing data problems, but the problem is that they are based on a specific which is that missing patterns are known or can be modeled with secondary information. Min and Frank designed their study through treating the presence of missing cases from the viewpoint that generalization as a sample does not fully represent the target population. An index is developed to detect the impact of missing data inference of regression coefficients in terms of statistical test / significance. The researchers considered that the population consists of two separable subpopulations, one in which a linear relationship among variables of interest differs and one in which a sample from the populations under represents or over represents one of subpopulations. In order to derive the index of the impact of the missing data, the researchers used four hypothetical situations of simple regression, and the expansion of the multivariate situation was considered.

Listwise Deletion

Listwise deletion drops any case on which any variable is missing any data. In doing so, any subsequent calculations/computations (i.e. correlation matrix. regression beta weights) are performed using a sample size somewhat smaller than one intended. For example, after randomly deleting six entries form Table1, the correlation matrix and regression beta weights are computed using a sample size of n=14 instead of the original n=20, In other words, there is a 4.5% loss of data, see Table2. Thus, listwise deletion sacrifices a large amount of data (Malhorta, 1987; Stumpf, 1978).The large loss of data will reduce the statistical power (Cohen & Cohen, 1983; Gilley &leone, 1991) and may reduce the accuracy of the parameters being estimated (Cohen & Cohen, 1983; Donner, 1982; Little & Rubin, 1987). Additionally, when the data are missing at random, "type 2 error rates may be artificially inflated"(Raymond, 1986, p.399).Thus, listwise deletion is not a generally adequate method for handling the missing data problem (Cohen & Cohen, 1983). However, unless specifically instructed by the researcher, SPSS and SAS will use listwise deletion method for handling missing data which is their default option.

Table 1 Original Data Set

Y	X1	X2	X3	X4	X5	X6	X7
9.00	5.00	4.00	4.00	5.00	4.00	5.00	3.00
4.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00
5.00	3.00	2.00	1.00	5.00	3.00	3.00	1.00
8.00	5.00	5.00	4.00	4.00	4.00	4.00	5.00
8.00	4.00	4.00	5.00	3.00	3.00	3.00	4.00
6.00	3.00	1.00	2.00	2.00	2.00	2.00	1.00
9.00	5.00	5.00	4.00	1.00	5.00	4.00	3.00
7.00	4.00	4.00	4.00	5.00	5.00	4.00	2.00
3.00	2.00	2.00	1.00	2.00	1.00	1.00	1.00

Y	X1	X2	X3	X4	X5	X6	X7
1.00	1.00	3.00	2.00	3.00	4.00	2.00	1.00
2.00	3.00	2.00	2.00	2.00	2.00	1.00	2.00
8.00	5.00	4.00	5.00	5.00	4.00	4.00	5.00
9.00	5.00	4.00	4.00	3.00	3.00	4.00	4.00
3.00	2.00	1.00	3.00	2.00	1.00	1.00	2.00
7.00	3.00	4.00	4.00	5.00	4.00	5.00	5.00
8.00	4.00	2.00	5.00	5.00	5.00	4.00	3.00
8.00	5.00	4.00	4.00	4.00	4.00	5.00	3.00
7.00	5.00	3.00	4.00	4.00	4.00	5.00	4.00
1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00
7.00	5.00	2.00	5.00	4.00	4.00	3.00	4.00

Table 2 Data Sets With Missing Values

Y	X1	X2	X3	X4	X5	X6	X7
9.00	5.00	4.00	4.00	.	4.00	5.00	3.00
4.00	2.00	3.00	.	2.00	2.00	1.00	3.00
5.00	3.00	2.00	1.00	5.00	.	3.00	1.00
8.00	5.00	5.00	4.00	4.00	4.00	4.00	.
8.00	4.00	.	5.00	3.00	3.00	3.00	4.00
6.00	3.00	1.00	2.00	2.00	2.00	.	1.00
9.00	5.00	5.00	4.00	1.00	5.00	4.00	3.00
7.00	4.00	4.00	4.00	5.00	5.00	4.00	2.00
3.00	2.00	2.00	1.00	2.00	1.00	1.00	1.00
1.00	1.00	3.00	2.00	3.00	4.00	2.00	1.00
2.00	3.00	2.00	2.00	2.00	2.00	1.00	2.00
8.00	5.00	4.00	5.00	5.00	4.00	4.00	5.00
9.00	5.00	4.00	4.00	3.00	3.00	4.00	4.00
3.00	2.00	1.00	3.00	2.00	1.00	1.00	2.00
7.00	3.00	4.00	4.00	5.00	4.00	5.00	5.00
8.00	4.00	2.00	5.00	5.00	5.00	4.00	3.00
8.00	5.00	4.00	4.00	4.00	4.00	5.00	3.00
7.00	5.00	3.00	4.00	4.00	4.00	5.00	4.00
1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00
7.00	5.00	2.00	5.00	4.00	4.00	3.00	4.00

The means and standard deviations for the original data set and those computed after using the listwise deletion method are presented in Table 3. Notice that, since XL had no missing values (see Table2), its mean and standard deviation are constant. However, all other variables had different means and standard deviations as a result of deleting some cases.

Table 3 Means and Standard Deviations for Various Data Sets

Variable	Original data set		Listwise Deletion		Pairwise Deletion		Mean Substitution		Regression Substitution	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
X1	3.65	1.35	3.65	1.35	3.65	1.35	3.65	1.35	3.65	1.35
X2	3.00	1.30	2.94	1.31	2.94	1.31	2.94	1.28	2.9	1.30
X3	3.30	1.42	3.42	1.35	3.42	1.35	3.42	1.31	3.37	1.33
X4	3.35	1.42	3.27	1.40	3.27	1.40	3.26	1.37	3.3	1.38
X5	3.30	1.26	3.31	1.29	3.31	1.29	3.31	1.26	3.24	1.30
X6	3.10	1.52	3.16	1.54	3.16	1.54	3.16	1.50	3.05	1.57
X7	2.90	1.37	2.80	1.32	2.79	1.32	2.8	1.28	2.83	1.29

Just as the means and standard deviations of the predictor variables changed after deleting some case values ,so did the unstandardized regression coefficients. See Table 4. For example The unstandardized regression coefficient for X2 when using the original data set is 0.407, however, after deleting some cases and using the listwise procedure to deal with missing data the unstandardized regression coefficient for X2 is now 0.712. Thus, using listwise deletion to predict some outcome variable when some of the predictors contain missing data does affect the unstandardized regression coefficients.

Table 4 Unstandardized Regression Coefficients for Various Data Sets

	Constant	X1	X2	X3	X4	X5	X6	X7
Original	-.377	1.004	.407	.448	.037	-.460	.676	-.237
Listwise	-1.660	.545	.712	1.619	-.167	-.780	-.790	-.554
Pairwise	-.150	.607	.530	1.600	.152	-1.325	1.173	-1.042
Mean Substitution	-.519	.757	.293	.966	-.004	-.647	1.011	-.520
Regression Substitution	-.356	.914	.396	1.098	-.003	-.709	.661	-.541

Pairwise Deletion

Pairwise deletion computes means, variances and standard deviations of available cases. The correlation coefficients are computed from all cases with values on the (two) variables involved. As shown in Tables 5, 6, 7, 8, 9, 10 and 11 the correlation coefficients obtained for the original data set differ from those obtained by applying the pairwise deletion method to the set with missing data. Another interesting point from Tables 5 to 11 is that the sample size on which the different pairwise correlations are computed vary. Thus, making it unclear as to what sample size

to use for the computation of standard errors and tests of statistical significance (Orem & Reis, 1991).

In addition, the different sample sizes on which the pairwise correlations are computed make the population to which one can generalize somewhat unclear. Other problems associated with the use of pairwise deletion are that the R may be less than zero or larger than one (Cohen & Cohen, 1983; Raymond, 1987; little & Rubin 1987). Additionally, as pointed out by Kim and Curry (1977), "the matrix generated by pairwise deletion may not be consistent (not positive definite), especially when the missing data pattern is not random or when the total sample size is small "(p.222). Positive definite is a mathematical condition required to invert the correlation matrix. If the correlation matrix cannot be inverted .this can have serious negative effects on maximum likelihood-based such AMOS.LISREL and PROC CALIS in SAS (Roth.1994).

Table 5 Correlation Coefficients for the Variable X1 with the Other Variables

Variable		X1	X2	X3	X4	X5	X6	X7
X1	Original	1	.601	.773	.451	.622	.789	.663
	Listwise	1	.572	.806	.408	.576	.750	.706
	Pairwise	1	.601	.750	.413	.621	.786	.637
	n	20	19	19	19	19	19	19
	Mean Substitution	1	.600	.718	.402	.617	.855	.630
	Regression Substitution	1	.580	.759	.427	.626	.780	.647

Table 6 Correlation Coefficients for the Variable X2 with the Other Variables

Variable		X1	X2	X3	X4	X5	X6	X7
X2	Original	.601	1	.515	.342	.643	.694	.620
	Listwise	.572	1	.448	.337	.669	.758	.453
	Pairwise	.601	1	.536	.324	.667	.704	.541
	n	19	19	18	18	18	18	18
	Mean Substitution	.600	1	.514	.317	.656	.657	.493
	Regression Substitution	.580	1	444.	342.	.676	.724	.496

Table 7 Correlation Coefficients for the Variable X3 with the Other Variables

Variable		X1	X2	X3	X4	X5	X6	X7
X3	Original	773.	.515	1	493.	683.	.694	.620
	Listwise	806.	.448	1	683.	727.	780.	788.
	Pairwise	750.	.536	1	443.	699.	664.	838.

Variable		X1	X2	X3	X4	X5	X6	X7
	n	19	18	19	18	18	18	18
	Mean Substitution	.718	.514	1	.429	.615	.609	.833
	Regression Substitution	.759	.444	1	472.	734.	703.	.818

Table 8 Correlation Coefficients for the Variable X4 with the Other Variables

Variable		X1	X2	X3	X4	X5	X6	X7
X4	Original	451.	.342	.493	1	613.	713.	396.
	Listwise	408.	.337	.683	1	601.	687.	555.
	Pairwise	413.	.324	.443	1	650.	678.	390.
	n	19	18	18	19	18	18	18
	Mean Substitution	.402	.317	.429	1	.617	.630	.387
	Regression Substitution	.427	.342	.472	1	536.	696.	402.

Table 9 Correlation Coefficients for the Variable X5 with the Other Variables

Variable		X1	X2	X3	X4	X5	X6	X7
X5	Original	.622	.643	.683	.613	1	808.	444.
	Listwise	576.	.669	.727	.601	1	790.	432.
	Pairwise	621.	.667	.699	.650	1	.803	.438
	n	19	18	18	18	18	18	18
	Mean Substitution	.617	.656	.615	.617	1	.778	.408
	Regression Substitution	.626	.676	.734	.536	1	793.	491.

Table 10 Correlation Coefficients for the Variable X6 with the Other Variables

Variable		X1	X2	X3	X4	X5	X6	X7
X6	Original	.789	.694	.719	.713	.808	1	611.
	Listwise	750.	.758	.780	.687	.790	1	724.
	Pairwise	786.	.704	.664	678.	.803	1	594.
	n	19	18	18	18	18	19	18
	Mean Substitution	.781	.657	.609	.630	.778	1	.553
	Regression Substitution	.780	.724	.703	.696	.793	1	.640

Table 11 Correlation Coefficients for the Variable X7 with the Other Variables

Variable		X1	X2	X3	X4	X5	X6	X7
X7	Original	663.	.620	.746	.396	.444	611.	1
	Listwise	.706	.453	.788	.555	.432	724.	1
	Pairwise	.637	.541	.838	390.	.438	594.	1
	n	19	18	18	18	18	18	19
	Mean Substitution	.619	.493	.833	.387	.408	.553	1
	Regression Substitution	.647	.496	.818	.402	.491	.640	1

Imputation Methods

The previous two methods of handing missing data make use of the data that are available only. However in some instances it might be practical to fill-in (impute) the missing cases. By imputing the missing values .the researcher is then able to use standard statistical techniques that require complete data sets .Additionally the recovery of sample size and power is a motivational factor in imputing values (Raymond, 1987) although a variety of methods for estimating (imputing) missing values have been only proposed. Only two techniques will be presented in the following sections.

Although Imputation of missing values by reasonable estimates is widely used, it has some pitfalls (Little& Rubin .1987). According to Dempster and Rubin (1983):

"The idea of imputation is both seductive and dangerous. It is seductive because it can lull the user into pleasure state of believing that the data are complete after all, and it is dangerous because it lumps together situations where the problem is sufficiently minor that it can be legitimately handled in this way and situations where standard estimators applied to the real imputed data have substantial biases" (p.7).

Mean Imputation

According to Raymond (1986) "the most widely used estimation technique is probably the mean substation method"(p.403). By filling–in the missing cases the researcher restores the sample to its original size. However because the means are replacing the missing values, variances and co-variances will be biased (Little& Rubin, 1987)

Recall that a formula for computing the variance for a sample is $S^2 = \Sigma(X-Mx)^2 \setminus n-1$ thus when some of the X' s (raw scores) have been replaced by the mean ($\overline{X}$) of the distribution ,the sum of squares does not change. In other words only zeros are being added to the sum of squares obtained when there were missing values .nevertheless the sample size (n) has increased .Consequently the variance will be decreased. For example the variance for variable X4 after

mean imputation is 1.876. However, the variance for the same variable using the original data set is 2.016. Again this is because the numerator of the variance formula did not change but the denominator did increase. Another problem with mean imputation is that the correlation coefficients are attenuated, a formula for computing the correlation coefficient between two variables is $r_{xy} = \frac{\sum zx\, zy}{n-1}$ but given that $z_x = \frac{x-\bar{x}}{S_x}$ it follows that when $x_i = \bar{x}$, z_x is not contributing to the summation .Therefore, when the imputation has been done by the means, it follows that the numerator of the formula for computing the correlation coefficients does not change yet the sample size does increase .Thus the correlation coefficient under mean imputation will be downwardly biased (Raymond .1986).for example, the correlation coefficient between X3 and X4 under the mean imputation is 0.429. On the other hand, the correlation coefficient between X3 and X4 computed form the original data set is 0.493.

Just as variances and co-variances are attenuated when imputing using the means, the precision of the confidence intervals may also get affected negatively when using this procedure. As Little and Rubin (1990) have pointed out, 95% confidence intervals for parameters computed form the filled–in data may in fact cover the true parameter value only 80%to 90% of the time, and tests with nominal significance level of 5% may have a true significance level of 10% or 20 %.(p.294).

Regression Imputation

The second imputation technique to be discussed in this regard is the regression imputation. Although different regression imputation techniques exist (e.g.; stepwise or iterative regression), only the simplest case (single iteration)will be illustrated here .The imputed data will preserve deviations from the mean as well as the shape of the distribution (Little,1988).Thus, according to Roth (1994), the imputed data "will not attenuate correlations as much as mean substitution "(p.542).

Regression imputation is done in several steps. To better illustrate the procedure, the data set in Table 2 will be used .Notice that Table 2 has some empty cells. These are the cells to be imputed by regression. For example, to compute the missing value for variable X2; all others variable (i.e. X1, X3, X4, X5, X6, and X7) are regressed on the variable of interest (X2).

Next, the regression weight(s) are applied to the scores for X2 to calculate value for the empty cell. Symbolically, $X2 = \hat{y} = a + b_1 x_1 + b_3 x_3 + b_4 x_4 + b_5 x_5 + b_6 x_6 + b_7 x_7$

Table 12 presents the different regression weights used to impute the missing values for example, in imputing the missing value for X2, the following compute statement would be used: $X2 = 1.161 + {}_{.238} x_1 + {}_{-.720} x_3 + {}_{-.147} x_4 + {}_{.474} x_5 + {}_{.526} x_6 + {}_{.213} x_7$

Table 12 Regression Weights Used to Compute Missing Values

Predict X2							
	a	X1	X3	X4	X5	X6	X7
Unstandardized B coefficients	1.161	.238	-.720	-.147	.474	.526	213.
Predict X3							
	a	X1	X2	X4	X5	X6	X7
Unstandardized B coefficients	.075	376.	-.256	.155	.442	-.107	.381
Predict X4							
	a	X1	X2	X3	X5	X6	X7
Unstandardized B coefficients	1.376	-.572	-.251	.750	-.041	.764	-.053
Predict X5							
	a	X1	X2	X3	X4	X6	X7
Unstandardized B coefficients	.453	-.282	.368	.964	-.019	.410	-.571
Predict X6							
	a	X1	X2	X3	X4	X5	X7
Unstandardized B coefficients	-1.290	274.	.346	-.199	.293	.347	329.
Predict X7							
	a	X1	X2	X3	X4	X5	X6
Unstandardized B coefficients	.432	-.110	.186	.934	-.027	-.641	.436

Thus, X2=1.92.The rest of the replace \ imputed are presented in Table 13.

Table 13 Data Set with Missing Data Replaced Via Regression Imputation Procedure

Y	X1	X2	X3	X4	X5	X6	X7
9.00	5.00	4.00	4.00	4.00	4.00	5.00	3.00
4.00	2.00	3.00	2.29	2.00	2.00	1.00	3.00
5.00	3.00	2.00	1.00	5.00	1.87.	3.00	1.00
8.00	5.00	5.00	4.00	4.00	4.00	4.00	3.62
8.00	4.00	1.92	5.00	3.00	3.00	3.00	4.00
6.00	3.00	1.00	2.00	2.00	2.00	1.09.	1.00
9.00	5.00	5.00	4.00	1.00	5.00	4.00	3.00
7.00	4.00	4.00	4.00	5.00	5.00	4.00	2.00
3.00	2.00	2.00	1.00	2.00	1.00	1.00	1.00
1.00	1.00	3.00	2.00	3.00	4.00	2.00	1.00
2.00	3.00	2.00	2.00	2.00	2.00	1.00	2.00
8.00	5.00	4.00	5.00	5.00	4.00	4.00	5.00

Y	X1	X2	X3	X4	X5	X6	X7
9.00	5.00	4.00	4.00	3.00	3.00	4.00	4.00
3.00	2.00	1.00	3.00	2.00	1.00	1.00	2.00
7.00	3.00	4.00	4.00	5.00	4.00	5.00	5.00
8.00	4.00	2.00	5.00	5.00	5.00	4.00	3.00
8.00	5.00	4.00	4.00	4.00	4.00	5.00	3.00
7.00	5.00	3.00	4.00	4.00	4.00	5.00	4.00
1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00
7.00	5.00	2.00	5.00	4.00	4.00	3.00	4.00

When regression imputation is used to fill – in missing values on the dependent variable, those will missing values on the dependent variables will be perfectly predicted.

On the other hand, inflating the predictive power of the model, if regression imputation is used to fill-in missing values on the independent variables, will produce imputed values perfectly correlated with the other variables in the modal. Consequently, that will increase the probability of multicolincarity among the independent variables.

Conclusion

Missing data are a common problem in most research studies. up till now no commonly agreed upon solution exists. Therefore, many techniques for handling missing data have been developed. However, no single technique is without problems or limitations.

Thus, researchers facing a missing data problem should systematically examine the sources of missing data as will as the appropriate alternatives for dealing with missing data.

When using listwise deletion, the researcher should take into account that a large amount of data could be lost because a lot of subjects did not responded to all of the items of the instrument. And that might inflate the Type 2 error rates and that will reduce the statistical power and might reduce the precision of estimating the parameters of populations of the study .Thu, list wise deletion is not a generally adequate method for handling the missing data problem (Cohen & Cohen, 1986). However, since this is the default in most statistical packages (e.g., SPSS and SAS), listwise deletion will probably continue to be used, also by default.

Using pairwise would save some of data that would be lost if listwise deletion would be used. However, because the sample sizes on which the different pairwise correlations are computed vary, it is unclear what sample size to use in the computation of standard errors and test of statistical significance (Orme & Reis, 1991).

Thus, posing a potential threat to statistical conclusion validity .Additionally, the matrix generated by pairwise deletion may not positive definite. Mean imputation will restore the sample size. However, because the means are replacing the missing values, variances and co-

variances will be downwardly biased (Little & Rubin, 1987). Additionally, the confidence intervals may not be as precise as expected (Little & Rubin, 1990).

Although regression imputation "will not attenuate correlations as much as mean substitution" (Roth, 1994, p 542), the method is not without pitfalls. Imputing missing values on dependent variables by regression will inflate the predictive power of the model. Imputing missing values on the independent variables will increase multicolinearity.

The goal of this article has been to make the applied researchers more aware about what effects do the different techniques for dealing with missing data have on parameters, variances, correlations or inferential statistical results in general. By working through the examples, the applied researcher might recognize that perhaps it is best not to use the defaults on some of the statistical packages (e.g.; SPSS and SAS). Instead, the researcher should thoroughly examine the available options before selecting the suitable procedure for dealing with missing data.

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MEASUREMENT AND EVALUATION PATTERNS PRACTICED BY PHYSICAL EDUCATION TEACHERS IN NORTH BADIA, JORDAN

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Abstract

This study aimed to identify the patterns of measurement and evaluation practiced by physical education in the schools of North Badia in Jordan, as well as identifying the statistical differences according to gender, educational qualification, and the experience. The sample consisted of (118) physical education teachers (58 males and 60 females) chosen randomly from the schools in North Badia, Jordan. They completed a questionnaire which was developed by the researchers and whose validity and reliability had been established. The results indicated a clear weakness in the practice of measurement and evaluation patterns by physical education teachers. No significant differences in results were found between male and female teachers, however, significant differences were found between those with bachelor degrees and lower and those with higher degrees. Also significant differences were observed between those with eight years experience or less and those with more than 8 years experience. The researchers recommended the preparing the P.E teachers with knowledge of measurement and evaluation in the sport field as one of the essentials in improving and developing physical education at schools.

Keywords: Evaluation, Measurement, Physical education teacher, Jordan.

Introduction

The general goal of the evaluation process resulting from tests and measurements is to improve and develop the teaching process within the sport field. There is no doubt that modification, improvement and development cannot be achieved in a hasty decision or in a fixed stable style. Instead, it requires many procedures and steps depending on the goal or the problem type, and by using tools, measurements and tests related to the targeted goal (Khaza'leh, 2007).

Thus, the physical education instructor who graduates from a university should have sufficient amount of basic skills and concepts of measurements and tests as necessary tools he has to possess when joining the job field. That depends on the capacity of the Sport colleges and departments in providing courses related to measurement and evaluation, which contain the terms and concepts that could provide students with these concepts, knowledge and applications. Oudeh (2002) said that the desired features of the measurement tool are its ability to provide students with accurate information related to the decision that should be made.

Studying measurement and evaluation enables us to recognize the tools and methods that could be used to get information about individuals. It also provides us with the criteria for assessing the information we get throughout these tools so as to perform things or to present information that control decisions (Thorndike & Hagen, 1989).

The instructional process proceeds according to regular steps starting with identification of goals which refers to the learning outcomes of training or instruction as well as what is expected from the learner at the end of the learning process. They guide teacher's work, and they are the base upon which the evaluation process depends so as to end up with decisions that would start a new phase (Oudeh, 2010). All decisions made by the sport instructor within the sport program take different patterns or forms that could be classified according to the time period (pre, while and post), or according to the data collection method (subjective or objective), or according to the results' explanation that is based on the criterion-referenced or norm-referenced comparisons (Ministry of education, 2005).

The pattern of making decisions according to the time period in the pre evaluation and measurement phase resulting from tests and standards which is also called the preparatory/preliminary is considered a very essential step because it may lead to making decisions after reconsidering the outcomes which students were unable to accomplish their prerequisites, and they may reveal the goals students master before applying the program (Verducci, 1980). That means that the result of the pre evaluation and measurement may help in reconsidering the plan of teaching within the processes of instruction and training in a way that suits students' abilities and needs. Consequently, the sporting program starts from those students' preparations which are achieved through the pre evaluation.

On the other hand, the ongoing formative evaluation and measurement, which is also called the ongoing constructive, refers to one of the patterns of decision-making that is conducted inside the school through the collaboration between the teacher and the student. It aims at regularly observing students' performance during performance. That means it is a consecutive and accumulative evaluation for the sake of learning and raising students' performance level as well as informing students about their progress continuously during the process of learning and what improvement they need to accomplish the learning outcomes. That could be achieved through diagnosing the weaknesses and strengths of their performance, activities and duties, and through introducing a feedback that could guide them, control their directions and help them recognize their abilities that require more investment (Allam, 2011).

The closing/concluding evaluation and measurement refers to the pattern of decision-making at the end of the sporting program, aiming at measuring the program outcomes or presenting certificates or offering students estimations for the sake of distinguishing them, or announcing the end of a stage (Oudeh, 2002).

Whereas the second pattern of evaluation and measurement is the one which depends on the data-collection method (subjective or objective). The subjective method means that the

individuals' judgments are linked to his self, so they are subjective measures. Those judgments could be in a form of fast decisions that are not preceded by sufficient examination for the entire targeted phenomenon aspects, so they are described as opinions or attitudes (Al Batsh & Abu Zeina, 2006). Whereas the objective method is the evaluation which depends in its judgments and decisions on the levels and standards after conducting measurements using tools that accomplished the scientific conditions of validity, stability and objectivity (Oudeh, 2002).

The third pattern that depends on the criterion-referenced or norm-referenced comparisons can be distinguished basically through the measure to which performance is attributed. Thus, the referenced-measuring comparisons, as referred to by Morrow, Jackson, Disk and Mood (2002) are linked to the individuals' performance compared to others who were tested. Consequently, they refer to the quality of the individual's performance as compared to others of the same age, gender, educational level or other levels. Croker and Eljina (2009) assure that the results of the criterion-referenced tests and measures are considered a comparison of the performance of those being tested with the normal performance of the colleagues group.

On the other hand, the pattern that depends on the   comparisons considers the degree resulting from tests and measures a figure that indicates the player's ability of performing and achieving the measured goals as well as his good accomplishment of the skills. This type of evaluation and measurement notices that the sporting educator doesn't basically aim at comparing between the students or players, or identifying their individual differences, instead he basically aim at identifying the level students achieve, and whether it is acceptable or not. That means it describes the quality or mastery of the students' performance of the desired behavior, and for explaining the evaluation results, this type depends upon a specific measure (scale) that could be local, national or any other scale (Khaza'leh, 2007., Farahat, 2001., Safrit, 1995., Welk, Corbin, & Dale, 2000).

Many studies have been conducted referring to various topics related to evaluation and measurement. Al-Basheer and Barham (2012) revealed that the entire usage degree of evaluation strategies and tools was medium, and that there were no differences for the specialty influence, whereas there were differences for the variables of experience and training courses. Afanna (2011) in his study found that degree of the teachers' usage of new evaluation tools was good, and that there were statistical differences for the participants' responses according to the variable of gender. Also, Ambosa'eedi and Al-Rashidi (2009) indicated the existence of several difficulties when applying the ongoing formative evaluation, and the most of them were the number of students in the class and the performance reports. Also, they indicated that there were no significant differences in the difficulties according to the variables of gender, experience and the institution from which the teacher graduated. Tayyeb (1998) study showed that the teachers' evaluation methods were traditional, limited to measuring the cognitive aspects only, and that there is a clear weakness in the basic evaluation concepts like validity, stability, and the good test characteristics, as well as the students' dissatisfaction with their teachers' evaluation tools. Omari (1997) reported that teachers' weakness in their knowledge, applications, and practices of good test characteristics as well as how to prepare it throughout the four stages was obvious.

What has been mentioned indicate the importance of evaluation and measurement processes for the sake of making good decisions so as to improve and modify the teaching process of physical education which includes the 2 processes of training and instruction of physical education activities, classes and programs in order to develop and cope with the advancement that has affected all physical education aspects. The findings of the previously mentioned studies

indicate the existence of a clear weakness in the application of evaluation and measurement skills in spite of the scarcity of Arabic studies which tackled the topics of evaluation and measurement within the sporting domain, especially within the schools of North Badia which suffer from an obvious weakness in physical education, and that motivated the researchers to conduct this study whose importance resides in the following:

- It introduces a new scientific study for the P.E teachers to identify the most important patterns of evaluation and measurement processes currently available in their instructional and training work.

- It provides the Ministry of Education, represented by the P.E supervisors, and the evaluation and curricula departments, with the points of strength and weakness of the evaluation and measurement patterns followed in the schools of North Badia through a real scientific study that would allow for modification and improvement for the plans and programs of school physical education.

- It introduces a new studying tool (a questionnaire) for revealing the patterns of evaluation and measurement followed by the P.E teacher since it has standardized scientific conditions from which scholars, researchers and Ministry workers who have relations with physical education will benefit.

- It will present facts about the reality of evaluation and measurement patterns within the pattern of time period as well as the standardized comparison in explanation, which was not tackled before in previous studies.

The statement of the problem

In spite of the consensus of many scientists and scholars within the educational field in general, and the sporting field in particular, on the necessity of depending on evaluation and measurement results for the processes of progress and development, modification and improvement (Allam, 2011), we notice that the P.E teacher as well as the sportive-educational field specialists are not serious in using the processes of evaluation and measurement for the sake of achieving these goals. Still, many decisions are made without referring to the results of evaluation and measurement applied in the Jordanian schools –if there was really a satisfactory application or actual procedures for the P.E measures and tests. Al-Mujahed (2013) assured that the system of evaluation and measurement in the schools suffers from weaknesses and shortage as well as a clear weakness in preparing the patterns of measurements and tests. Alwan (2007) added that it is not possible to identify the extent of teaching goals achievement without the effective assessing and measuring processes. Also, the reality of the Jordanian Badia societies, as referred to by Obeidi, Dwlaymih and Abou Al Ruz (2008), which suffer from the teaching gap when compared to the rest of the kingdom schools. It also suffers from lack in schools and teachers, illiteracy, un concern in teaching girls, accompanied by the disorder in the teaching process, including the physical education, as well as the P.E teacher's weakness in practicing the patterns of evaluation and measurement correctly which would lead to low outcomes of P.E goals. In spite of that resentment and that incorrect reality seen by the researchers and their feeling of its importance and necessity, it was not the result of surveys or organized investigations, instead it was the result of impressions and personal experiences or both, and that motivated the researchers to conduct this evaluative study for the reality of the P.E teacher's practice of evaluation and

measurement patterns in the physical education programs, classes and activities in the schools of Jordanian North Badia.

The research questions

1. What is the practice and extent of evaluation and measurement in sports fields among the PE teachers in North Badia schools?
2. Are there statistically significant differences ($p \leq 0.05$) by gender (male vs. female), by educational qualifications (B.A and less vs. postgraduate qualifications),and instructional experiences (8 years and less vs. more)?

Methodology

Design of the Study

This is a descriptive study utilizing survey methodology.

Population and Sample

The target population of this study consisted of all PE teachers working in North Badia, Jordan (N=142). The sample includes (118) male and female PE teachers representing 88% of the population. Table (1) shows the characteristics of the sample.

Table 1 - Distribution of study sample according to variables

Variables	Variables' levels	Number	Percentage %
Gender	Male	58	49.15
	Female	60	50.85
	Total	118	100
Educational qualification	B.A & less	92	77.97
	Postgraduate studies	26	22.03
	Total	118	100
Years of experience	Less than 8 years	82	69.49
	8 years & more	36	30.51
	Total	118	100

Instrumentation

The researchers designed a 39 – item questionnaire to identify the patterns of evaluation and measurement used by physical education teachers. The questionnaire was divided into three domains:

The first domain: the pattern of evaluation-measurement according to the time period, including (18) items, and is divided into:

First aspect: pre evaluation-measurement (5) items.

Second aspect: formative evaluation-measurement (8) items.

Third aspect: Summative evaluation-measurement (5) items.

The second domain: the pattern of evaluation-measurement according to the data-collection method, including (11) items, and is divided into:

First aspect: subjective evaluation-measurement (6) items.

Second aspect: objective evaluation-measurement (5) items.

The third domain: the pattern of evaluation-measurement according to the result explanation method, including (10) items, and is divided into:

First aspect: criterion-referenced data-explanation (5) items.

Second aspect: norm-referenced data-explanation (5) items.

These three domains were chosen based on extensive review of literature and earlier studies in this area (e.g., Al Mujahed, 2013., Allam, 2011., Alwan, 2007., Khaza'leh, 2007., Obeidi, Al Dwlaymih, & Abou Al Ruz, 2006).

Responses were evaluated using 5-scale Likert ranging from 5 (very high) to 1 (very little). The researchers presented the following classification to identify the rank of each of the study's aspects within the following levels: (Einaeh, 2000., Al Batsh & Abu Zeina, 2006)

1. Less than 1.5 – very low.
2. 1.5 – 2.49 – low.
3. 2.5 – 3.49 – moderate.
4. 3.5 – 4.49 – high.
5. 4.5 – 5 – very high.

Scientific indices of the instrument

Validity

Content validity was performed through a panel of experts in PE. They were asked to review the questionnaire and provide feedback on the items and domains. The researches modified the questionnaire according to the expert's comments.

Reliability

The reliability coefficient was calculated using Cronbach Alpha, and the following table shows the coefficients of reliability and self-validity:

Table 2 - Reliability coefficients of the domains and whole scale

Aspects & Domains of evaluation-measurement patterns	Cronbach Alpha	Self-validity
Pre evaluation-measurement pattern	0.71	0.84
Formative evaluation-measurement pattern	0.81	0.90
Summative evaluation-measurement pattern	0.71	0.84
According to the entire time period	0.84	0.92
Subjective evaluation-measurement pattern	0.73	0.85
Objective evaluation-measurement pattern	0.86	0.93
According to the entire data-collection method	0.88	0.94
Criterion-referenced evaluation-measurement pattern	0.76	0.87
Norm-referenced evaluation-measurement pattern	0.78	0.88
According to the entire results explanation	0.81	0.90
The tool as a whole	0.86	0.93

Procedures

The researchers distributed the questionnaires by mail to the PE teachers between the 2nd and the 20th of July 2013 with a cover letter explaining the purpose of study and assuring confidentiality of responses.

Data Analysis

Statistical analysis was performed using SPSS. Means, and standard deviations were used for the first research question, while Analysis of Multivariate test (MANOVA) was used to for the second research question.

Results and Discussion

Table 3 shows the results of data reduction for the first research question.

Table 3 - Means, standard deviations, degree of evaluation of the domains of measurement and evaluation patterns

Aspects & Domains of evaluation-measurement patterns	Mean	Std. Deviation	Degree of evaluation
Pre evaluation-measurement pattern	2.6339	1.18979	moderate
Formative evaluation-measurement pattern	2.7564	1.16791	moderate
Summative evaluation-measurement pattern	2.9695	1.00107	moderate
Subjective evaluation-measurement pattern	2.8672	.88502	moderate
Objective evaluation-measurement pattern	3.1254	.96849	moderate
Criterion-referenced evaluation-measurement pattern	2.7627	1.15439	moderate
Norm-referenced evaluation-measurement pattern	2.6678	.97673	moderate
According to the entire time period	2.7866	1.05317	moderate
According to the entire data-collection method	2.9963	.82221	moderate
According to the entire results explanation	2.7153	1.02579	moderate
The tool as a whole	2.8327	.87123	Moderate

The Table also shows that all of the extent of evaluation-measurement patterns of physical education were medium with a mean of (2.82) and a standard deviation of (0.89). The domain of evaluation-measurement according to the data-collection method came first with a mean of (2.98) and a standard deviation of (0.82), whereas the domain according to the time period ranked second with a mean of (2.78) and a standard deviation of (1.07), and last came the domain of results' explanation method with a mean of (2.72) and a standard deviation of (1.03).

The medium degree that was achieved for all of the domains may be ascribed to the weakness of knowledge that teachers received during their study at university, or to the fact that physical education teachers were not supervised by the school administration or the educational supervisors. This result is compatible with the result of Omari's (1997) in that the applications and practices of school tests evaluation were entirely weak and is similar to the result of Al-Basheer and Barham's (2012) in the dissatisfaction with the practicing degree of evaluation-measurement patterns by the physical education teacher.

Al-Basheer and Barham (2012) revealed that the degree of using evaluation strategies and tools as a whole was medium. On the other hand, this result differs from Afanna (2011) in the reality of using alternative evaluation whose degree was high.

Table 3 also shows that the assessing degrees of evaluation-measurement patterns by time period, where the pre-evaluation and measurement dimension was medium having a mean of (2.63) and a standard deviation of (1.19), the dimension of formative evaluation with a mean of (2.76) and a standard deviation of (1.17), and the dimension of summative evaluation and measurement with a mean of (2.97) and a standard deviation of (1.00).

The reduction in the evaluation-measurement patterns (according to time period) used by the physical education teachers within the domain of pre evaluation and measurement as a whole

could be ascribed to many reasons, for example the teacher of physical education is not stable or settled in one school, he moves from the Badia schools to more civilized schools or ones that are nearer cities and towns, and that means he will be late at the beginning of the year till he settles in one school, and consequently he will neglect the processes of pre-evaluation and measurement. In addition, the pattern of ongoing formative evaluation-measurement whose procedures are usually done during the scholastic year revealed its weakness which could be ascribed to the fact that the physical education class is not usually conducted according to the normal and model technical rules. During their visits to the schools and through their experience in this domain, the researchers noticed that the student usually plays football as a competitive game between two teams only, and the teacher is always not available during the class. That means that there is no concern for teaching the skills and plans, and that would reflect upon not conducting any measurements or tests during the lesson throughout the year. On the other hand, the closing or concluding evaluation-measurement which is usually conducted at the end of the semester or year also shows reduction in application. The researchers see that this is a natural result since it is related to the previous patterns which were also weak, and that the scientific methodology was not used in teaching the physical education within the schools of Jordanian Badia.

Table 3 also shows that the assessing degrees of evaluation-measurement patterns according to the data-collection method were medium within the dimension of subjective evaluation-measurement with a mean of (2.87) and a standard deviation of (0.89). Also, the dimension of objective evaluation-measurement was medium with a mean of (3.13) and a standard deviation of (0.97). It is noticed that the pattern of objective evaluation-measurement was medium and higher than the subjective pattern which revealed a low degree of practice by physical education teacher. The researchers see that these medium degrees were not acceptable levels especially at the time of educational development and its accompanying advancement in the use of instructional strategies and evaluation tools. That means the inefficiency of this development within the domain of physical education which could be ascribed to the status of this subject that is always considered unimportant in education as compared to the other topics. This result is compatible with the result of Al-Basheer and Barham (2012) in the use of evaluation tools based on observation, performance and communication. The features of subjective evaluation appeared in medium degrees and the dimension of self-observation also appeared in a low degree. Moreover, it is similar to Afanna study (2011) in that the evaluation based on observation and subjective evaluation was less than medium.

Table 3 also revealed that the assessing degrees of evaluation-measurement patterns according to results' explanation method, and in the dimension of criterion-referenced evaluation and measurement, the degree was medium with a mean of (2.77) and a standard deviation of (1.16), whereas the degree of the norm-referenced evaluation dimension was medium with a mean of (2.67) and a standard deviation of (0.98). The researchers notice a clear decrease and weakness in the evaluation-measurement pattern regarding the results' change that are related to the criterion comparison in which the teacher compares the students' results with each other, or the norm comparison in which the teacher compares the students' results with pre-identified degrees. The researchers' point of view indicate that the teacher of physical education doesn't realize or recognize these patterns used in estimating results and their importance, or that would be ascribed to the amount of multi and routine job pressures that usually exhaust teachers and are done instead of the technical work of evaluation and instruction.

The second research question for this study was to determine the impact of gender, educational qualification and years of experience upon practicing the patterns of evaluation and measurements among P.E teachers. Analysis of Multivariate test (MANOVA) was used to answer the research question.

Table 4.MANOVAfor the impacts of gender, qualification and experience on practicing the patterns of evaluation and measurements of P.E teachers

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	Pre pattern	.541	1	.541	.714	.400
	Formative pattern	.006	1	.006	.008	.927
	Summative pattern	.195	1	.195	.295	.588
	Subjective pattern	.741	1	.741	1.146	.287
	Objective pattern	.577	1	.577	.844	.360
	Norm-referenced pattern	1.741	1	1.741	2.360	.127
	Criterion-referenced pattern	1.158	1	1.158	2.310	.131
	According to the entire time period	.015	1	.015	.025	.874
	According to the entire data-collection method	.656	1	.656	1.340	.250
	According to the entire results explanation	1.435	1	1.435	2.640	.107
	The tool as a whole	.029	1	.029	.075	.784
Educational Qualification	Pre pattern	5.739	1	5.739	7.572	.007
	Formative pattern	2.731	1	2.731	3.633	.059
	Summative pattern	.991	1	.991	1.499	.223
	Subjective pattern	1.462	1	1.462	2.261	.136
	Objective pattern	.155	1	.155	.226	.635
	Norm-referenced pattern	.880	1	.880	1.193	.277
	Criterion-referenced pattern	.367	1	.367	.733	.394
	According to the entire time period	1.035	1	1.035	1.697	.195
	According to the entire data-collection method	.642	1	.642	1.310	.255
	According to the entire results explanation	.028	1	.028	.051	.822
	The tool as a whole	.438	1	.438	1.131	.290
Experience	Pre pattern	.078	1	.078	.102	.750
	Formative pattern	.009	1	.009	.012	.915

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
	Summative pattern	7.501	1	7.501	11.344	.001
	Subjective pattern	.549	1	.549	.849	.359
	Objective pattern	.176	1	.176	.257	.613
	Norm-referenced pattern	6.424	1	6.424	8.709	.004
	Criterion-referenced pattern	3.092	1	3.092	6.168	.015
	According to the entire time period	.724	1	.724	1.187	.278
	According to the entire data-collection method	.337	1	.337	.687	.409
	According to the entire results explanation	4.608	1	4.608	8.479	.004
	The tool as a whole	1.422	1	1.422	3.674	.058

Table 4 shows that there are no statistically significant differences at the level ($p \leq 0.05$) in the assessing degrees of evaluation-measurement patterns by gender.

By educational qualifications, the results show no statistically significant differences at the level ($p \leq 0.05$)

In respect of instructional experience, the results show no statistically significant differences at the level ($p \leq 0.05$) for most of the study dimensions in the evaluation-measurement patterns of PE teachers, except for the summative evaluation pattern, criterion-referenced pattern, Norm-referenced pattern, and according to the entire results explanation pattern.

To identify the trends of the patterns' differences of the variables, the Sheffe test was used for post comparisons so as to locate the sources of these differences. The results are presented in table 5.

__Table 5.Sheffe test results for post comparisons of the patterns which have differences according to qualification, experience__

Variables	Patterns	Levels	Mean	Std. Error	Mean Difference	Sig.
Qualification	Pre pattern	B.A & less	2.84	0.115	0.667*	0.007
		Higher than B.A	2.172	0.195		
Experience	Summative pattern	Less than 8 years	3.315	0.134	0.660*	0.001
		8 years & more	2.655	0.143		
	Norm-referenced pattern	Less than 8 years	2.89	0.141	0.611*	0.004
		8 years & more	2.28	0.151		
	Criterion-referenced pattern	Less than 8 years	2.859	0.117	0.424*	0.015
		8 years & more	2.435	0.124		

126

According to the entire results explanation	Less than 8 years	2.874	0.121	0.517*	0.004
	8 years & more	2.357	0.129		

With regards to qualification, it is clear that there were no statistically significant differences at the level ($p \leq 0.05$) for all of the study dimensions in the evaluation-measurement patterns of PE teachers, except for the pre evaluation pattern which appears to benefit B.A holders and less. The absence of significant differences here may be due to the observation that teacher's qualifications are not applicable where roles are similar, and evaluation-measurement patterns are also the same.

With regards to instructional experiences, there were no statistically significant differences at ($p \leq 0.05$) for most of the study dimensions which precludes discrimination to those with less than 8 years' experience. It is noted also that the sample size of those with more than 8 years' experience is small and this may have some bearing on the results obtained. There could also be some psychological pressure on the former group that pushed it to be serious in this activity *vis a vis* those with more experience who may be over-confident and thus performed somewhat less effectively. This result is similar to the Al-Basheer and Barham's (2012) which showed differences in the use of evaluation strategies based on the years of experience.

Conclusions

The patterns of evaluation and measurement followed by North Badia physical education teachers were not as expected because there was a weakness in the practice of these patterns in the schools revealed through:

- Assessing the practice of evaluation-measurement patterns of physical education teachers in the North Badia schools, Jordan is shown as of medium degree. The highest was for the pattern of data-collection method, then the time period pattern, and the lowest being for the results' explanation pattern.

- The objective evaluation-measurement pattern for the dimension of data-collection method was medium, and it was the highest practicing degree of evaluation and measurement.

- The assessing degrees of practicing the evaluation-measurement patterns vary by qualification which benefits those with B.A degree and lower, and by instructional experience which benefits those with 8 years or less experience.

- The assessing degrees of practicing the evaluation-measurement patterns were not dependent on the gender of the PE teachers.

Implications & Recommendations

Although the results of this study showed a weakness in practicing the patterns of evaluation, research indicates that the quality and effectiveness of evaluation affect the achievement of students and identify the teacher as the most important factor that impact students' learning.

Given the weakness discussed earlier, it is therefore recommended for physical education teachers of schools in North Badia to gain knowledge on improving the quality of PE lessons and students' performance through the use of evaluation-measurements and be trained on the evaluation-measurement patterns.

P E supervisors should emphasize the necessity of using evaluation-measurement tools, and encourage the teacher to use it inside their classrooms. And it is necessary to activate the course of evaluation-measurement within the sport field in the P.E colleges at Jordanian universities, and applying them.

Finally, as part of a further work in the subject, to conduct other scientific studies to address the weak application of evaluation-measurement patterns by those PE teachers.

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Appendix A

Dear P.E teacher:

The researchers are conducting a study entitled"An Evaluative Study of the Practicing Degree of "Measurement & Evaluation" Patterns among the P.E. Teachers in the Schools of North Badia/Jordan", so they are presenting this questionnaire for you to read carefully and respond to its items seriously without writing your name. Let us try together, and with your help, to contribute to solving some problems and challenges that are facing the physical education, particularly in the field of tests, measures and evaluation, so that we can improve the school sport field, knowing that your responses will be confidential, and will not be used except for the purposes of scientific research.

Thanks for your good cooperation

The researchers

The variables:
Directorate name:
Gender: O male   O female
Educational qualification: O B.A and less   O graduate studies
Instructional experience: O less than 8 years   O 8 years and more

Kindly answer the following fields and dimensions:

The First domain: evaluation-measurement pattern according to time period:
1. **Pre evaluation and measurement**: I conduct measures and tests **before** starting the sporting program (training, instruction, and administration for the class and team) and that is for:

Domain	No.	Item	I practiced it in a degree which is ………				
			Very little	**Little**	**Medium**	**High**	**Very high**
Pre evaluation & measurement	1	To identify the cognitive background of the course or the pre period.					
	2	To classify students into groups.					
	3	To identify the real current status for students.					

Domain	No.	Item					
	4	To modify the current plan or to put a new one.					
	5	To form a basic data base.					

2. **formative evaluation-measurement**: : I conduct measures and tests **during** the sporting program (training, instruction, and administration for the class and team) and that is for:

Domain	No.	Item	I practiced it in a degree which is ………				
			v. little	**Little**	**Medium**	**High**	**V. high**
Ongoing formative evaluation & measurement	1	To guarantee the normal procedure for the operation.					
	2	To identify the satisfaction degree for the students participating in the program.					
	3	To identify weaknesses & strengths.					
	4	To provide feedback.					
	5	To modify plan during execution or keeping it.					
	6	To identify challenges & problems.					
	7	To reveal the individual differences between students.					
	8	To discover any disorder in the program.					

3. **Summative evaluation-measurement**: I conduct measures and tests **after** the execution of the sporting program (training, instruction, and administration for the class and team) and that is for:

Domain	No.	Item	I practiced it in a degree which is ………				
			v. little	**Little**	**Medium**	**High**	**V. high**
Closing evaluation & measurement	1	To identify the final outcomes.					
	2	To record students' marks.					
	3	As an indicator for achieving the general outcomes.					
	4	As a mean for offering participation & appreciation certificates.					

Domain		5	As a mean for ending a stage and staring a new one.					

The Second domain: evaluation-measurement pattern according to data-collecting method:

1. **Subjective evaluation-measurement**, in this regard I do the following:

Domain	No.	Item	I practiced it in a degree which is ………				
			v. little	Little	Medium	High	V. high
Subjective evaluation & measurement	1	I judge students immediately.					
	2	I use my experience to assess students' performance.					
	3	I can judge without tests or measures.					
	4	I depend upon my self-experience to discover weaknesses & strengths.					
	5	I classify students depending on observation.					
	6	I depend on the patterns of observation & interview in all sport program issues.					

2. **Objective evaluation-measurement**, in this regard I do the following:

Domain	No.	Item	I practiced it in a degree which is ………				
			v. little	Little	Medium	High	V. high
Objective evaluation & measurement	1	I judge students after conducting scientific tests & measures.					
	2	I make decisions after collecting evidence and sufficient investigation.					
	3	I depend upon scientific tests and measures to classify students.					
	4	I discover weaknesses and strengths after conducting scientific tests and measures.					

Domain	No.	Item.	I practiced it in a degree which is ………				
	5	I make orders during the program after conducting scientific tests and measures.					

The **Third domain**: evaluation-measurement pattern according to results' explanation:

1. **Criterion-referenced explanation**: which is following the :

Domain	No.	Item.	I practiced it in a degree which is ………				
			v. little	Little	Medium	High	V. high
Criterion-referenced evaluation & measurement	1	I consider students' levels when putting grades.					
	2	I compare students' results with colleagues in the program.					
	3	The student's mark is decided in regard to his place within the average of students' performance.					
	4	The decision of weakness or strength depends on the students' performance in the program.					
	5	The average of the students' performance is the base for comparison.					

2. **Norm referenced explanation**: which is following the :

Domain	No.	Item.	I practiced it in a degree which is ………				
			v. little	Little	Medium	High	V. high
Norm -referenced evaluation & measurement	1	I compare students' results with a pre general level.					
	2	Marks are put based on achieving missions and goals that were previously assigned.					
	3	The mark which students seek to get in the program is like 50% as the success degree.					
	4	Deciding weakness or strength is based on the students'					

Domain	No.	Item.	I practiced it in a degree which is ………				
			v. little	Little	Medium	High	V. high
		performance outside the program environment.					
	5	They must achieve the degree decided by the sporting educator as a base for comparison.					

INSTITUTIONAL RESEARCH CAPABILITIES OF A MARITIME UNIVERSITY IN ASIA: PATHWAY TOWARDS GLOBAL EXCELLENCE IN MARITIME EDUCATION

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Abstract

The study examined the institutional research capabilities of a maritime university, specifically, John B. Lacson Foundation Maritime University, as a higher education institution and the only maritime university in the South East Asia. This study used descriptive research design by utilizing survey, interview, and documentary analysis. The instrument was submitted to the experts for validity and the reliability by the researcher. The study showcased the different research practices, achievements, developments, and collaborations of the University with other research agencies in the Asia as pathways towards global excellence in maritime education. Results revealed the research outputs of the faculty members and staff at maritime university. The study also highlighted the research outputs presented at the national and international conventions and conferences. Comments and suggestions to further strengthen and sustain the research capabilities were captured, specifically the support of the administration, research incentives, and publication. In terms of networking and collaboration, the maritime university showed a very strong connection with the different agencies that demonstrate better research capabilities in this part of Asia. The interactions and responses with neighboring higher learning institutions had contributed to the aim of building strong and dynamic research capabilities of JBLFMU-Molo, Iloilo City as a maritime university in Asia.

Introduction

Research is the defining character that differentiates a higher education institution from basic education institution. Knowledge creation is the is the primary mandate of higher education in order to propel national development through a cadre of professionals imbued with new knowledge, skills, and attitudes that will make them global Filipinos (Alcala, 200 in Japos, Tumapon, & Lozano, 2010)

Using research as a tool towards excellence is one of the aims of every higher education institutions. The research leads to the attainment of global competitiveness in education. Research objectives are the same with education; these are aimed to develop the knowledge, skills, and character—to lead a man in the condition of continually asking questions. Education and research have purposes and functions. The purposes are the fundamental goals of the processes – an end to be achieved, while functions are the outcomes that may occur as a natural result of the process – products or consequences. To achieve the goal of a university, education plays an important role.

The challenge of globalization demands critical attention to research in order to generate knowledge and discover new strategies for improving the quality of human life. Colleges and universities are look up to for research that generates new knowledge and technologies (Fetalver, 2010)

Another comment stressed by Puno (2003) on academic excellence in relation to research is summarized in the statements below:

> *Academic excellence must be viewed in terms of excellence in practical or applied learning. Learning theories and concepts is not enough. Application and practical use of these theories and concepts will make the learner a productive member of society. It is not the quantity of knowledge but more important it is how much knowledge can be put to good use. We need graduates whose lives will be full of action and not with heads of facts. The degree of the utilization of new knowledge is quite low and new knowledge is not transmitted and disseminated effectively. A mechanism that will facilitate the dissemination of new knowledge should be put in place and more research on the utilization of new knowledge urged.*

Moreover, Tom Peters reminds the educators and researchers of the passage that "What gets measured, gets done." This means that content of assessment drives education. Research, in this regard implies a way of assessing the quality of education an institution has. It is also a gauge in which an institution boosts its strength. Thus, this led the researcher to present the capabilities needed by the university to address global issues and formulate alliances with different research entities. Research is also considered as the lifeblood of every university as one of the major functions of higher education institutions aside from instruction, extension services, and production (Reyes, 2003). Peters further states the importance of research by stating that:

> *Research serves as the backbone of university in uplifting the education of its students as its students form for global competitiveness. It enhances the usefulness of education in its function as a producer of individuals in its holistic dimension. It should be pragmatic in*

its approach by stressing the controlling dominance of practical over theoretical reasons produced in classroom instructions. Research should not be taken as a means of fact finding or gathering of facts and writing them down in documented paper. It is simply a systematic quest for undiscovered truth, a search for an answer to unresolved and perplexing question.

Tan (2003) in her study entitled, "Toward a High Impact Research Undertaking: A Synergy of Utilization and Evaluation," emphasized that research in universities has been given more attention and support by both the administrators and faculty members. This attention to engage in more researches is brought about by the desire of most universities to gain higher level of recognition in society and by their desire to respond to the changing needs of the students and the society. She added that "innovations and changes in higher education can therefore be attributed to the quality and impact of research undertakings, validity, and reliability of research tools and data, and institutional research capability; when the quality outputs are utilized appropriately, innovations and changes shall be beneficial to the discipline, institutions, and people concerned."

Santos (2003) has of the same opinion when he stressed that "research and development is a must in this time of rapid information and technology expansion. Therefore, a university must do its role of being the partner for the sustained development of the country. Through research, knowledge is created. It is through research that experts and authorities in specialized fields of study are developed."

More specifically, the present study elucidated the research capabilities of a maritime university in the Philippines. To further understand the focal point of this investigation, the researcher analyzed the research capability of the university by studying its "research culture." The institution's research culture plays an important role in the realization of research objective as discussed in the study entitled "Research Culture of Private Higher Education Institution" conducted by Quilang (2010). The study stressed that:

> *Research Culture exerts an important influence on academic institutions and the people who work in them. Indicators of research culture are research infrastructure, research capability, research budget, research linkages, and research productivity in the academe. In line with this, research training to enhance research capability is needed. Research seminar-workshop aimed to build research-related knowledge and competence. Forum as an avenue for disseminating research findings and project outputs and publication are highly recommended. Research officers' general knowledge, qualification, and experience also are important factors to consider in proving and leading the delivery of outstanding discharge of research function.*

In another study entitled, "The Central Bicol Sate university (CBSU) Research Division 1985-2009: An Assessment" authored by Lirag (2010), the researcher explained the necessary elements needed in attaining research capability. The elements mentioned are the following: (a) sponsoring research capability development training and workshops, (b) in-house review and proposal presentations, (c) establishing linkages with national and international institutions that gave funding support, (d) development of training modules, assessment, and monitoring, (e) encouraging faculty and students to participate in the excellence awards and competitions.

The dramatic involvement of faculty in Research and Development were crafted well from incentive, credits, grants, de-loading, support, and equivalency (Baluscary & Guitierrez, 2010; Gonzales, 2010; Hortillano & Lirag, 2010). In many universities in the Philippines, incentives in conducting research are already institutionalized.

Research capability is also considered as essential element in the function of attaining the university's goals and objectives. How about in a maritime university? Are research capabilities, practices, and collaborations needed to respond to global demand in maritime industry in Asia and in the whole world at large? In line with these assumptions, this study was conceived.

The Problem

The present study examined the research capabilities of a maritime university, specifically, John B. Lacson Foundation Maritime University-Molo, Iloilo City, Philippines. To understand the study better, the following specific questions were advanced:

(1) What are the different research activities and practices of JBLFMU for the last three (3) school years (SY 2008-2009, SY 2009-2010, & SY 2010-2011)?

(2) What are the research achievements and developments through international presentations for the last three (3) school years (SY 2008-2009, SY 2009-2010, & SY 2010-2011) as the only maritime university in the Asia?

(3) What are the developments of research outputs of this maritime university?

(4) What are the collaborative studies/research activities of the maritime university with other research agencies, colleges, and universities?

(5) What are the different collaborations of JBLFMU-Molo in the following levels: (a) regional level, (b) national level, and (c) international level?

(6) What are the implications of JBLFMU's research activities towards research capability in response to Global Excellence in Maritime Education in Asia?

Conceptual Framework of the Study

Institutional Research Capabilities → Research Collaboration in ASia → Global Excellence in Maritime Education

Figure 1 - Global Excellence in maritime education as influenced by institutional research capability and collaboration in Asia

The conceptual framework illustrated in Figure 1 of this study showed the institutional research capabilities and priorities of JBLFMU and research collaboration in order to address the global excellence in maritime education in Asia. Any institution for that matter had to determine the certain priorities to be competitive in this part of Asia. The research capabilities and collaborative activities/relationships with different research institutions, agencies, and associations were conceptualized in this study to address global excellence in maritime education.

Theoretical Framework of the Study

The present study was anchored on the theory advocated by Reyes (2003) in his study entitled "Establishing and Maintaining Research Unit-Research Perspectives, Framework, Goals and Policies." Relative to the research advocacy, this theory focused on the role of research in the developmental progress of certain institutions. This theory adhered to the "reason that the university/academe as being the seedbed of excellence must put more premium on research to keep abreast of current trends and developments and to have proper connections to future and global situations." Moreover, this theory was grounded on "developmental" – it means that research aims for the development of the potential of an individual as a contributing member of the society. Development means equipping man with proper knowledge and full potential to become highly competitive.

It was in this premise that this study was conducted. This investigation led to showcase the different research activities, developments, and collaborations towards global excellence in maritime education in Asia. This served as theoretical framework of how the research capabilities addressed the perplexing issues of educators, students, and stakeholders towards global excellence in maritime education in Asia and to supply the demand in international shipping companies of competent and qualified officers and seafarers. This theoretical framework served as compass to draw research capabilities of maritime university (JBLFMU-Molo) in Asia.

Method

The method employed in this study was quantitative-qualitative to address the questions mentioned in the present study. The quantitative data were captured through documentary analysis taken from the reports of the Research Department of JBLFMU-Molo, Iloilo City, Philippines.

The research practices, achievements, and collaboration with different research agencies and entities were introduced in the study. Inputs were derived from the reports, journals, and documents submitted by the department heads, researchers, chairpersons of research activities, and heads of various accreditation committees.

The qualitative data and information were captured by using the utilized texts – both written and oral. The respondents were chosen by the researcher because of the reason that their condition of engaging in research capability was a very challenging and unique case. Interviews with the faculty members were employed as part of the oral document.

Results and Discussion

This particular section deals with the results and discussion as the researcher attempted to achieve the objectives of the present investigation. With this, the researcher presented the research capabilities, research practices, collaborations, and connections of the maritime university with other agencies in order to draw strategic alliances in Asia.

A. Research Activities and Practices of Maritime University

The Research Department of JBLFMU-Molo had the following activities and practices: (1) research utilization, (2) research colloquium, and (3) textbook development program. The data and discussion are presented in the next section of this paper.

Research Utilization of Maritime University

Some research outputs were presented in the research utilization at JBLFMU-Molo, Iloilo City, Philippines. During SY 2008-2009 only one (1) study was utilized, SY 2009-2010 had three (3) studies being utilized, and SY 2010-2011 has three (3) studies being utilized.

Table 1

Table 1
Research Utilization and Dissemination

Research Utilization & Dissemination Workshop
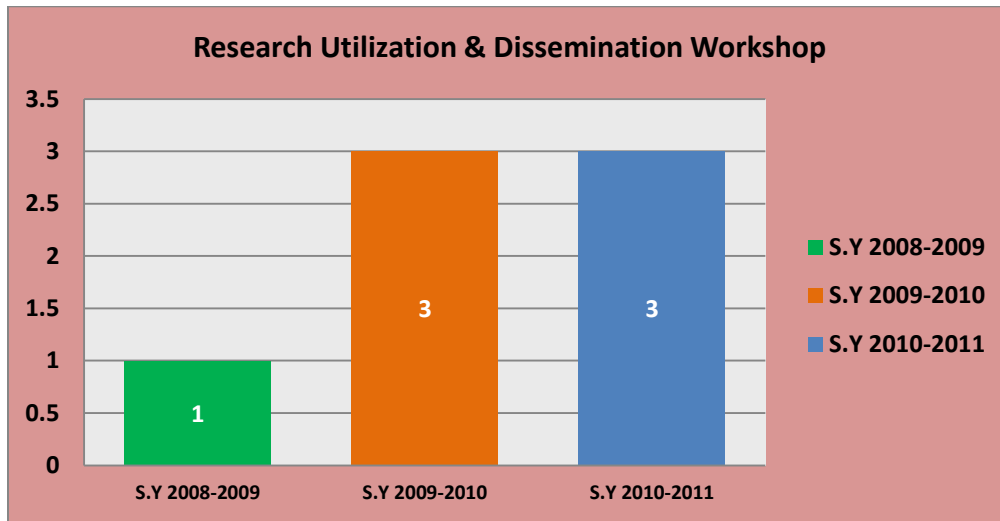
Research Colloquium

In the Research Colloquium, faculty members and students had presented 10 studies during SY 2008-2009, last SY 2009-2010 the research colloquium generated 10 research presentation, and SY 2010-2011 has 18 research presentations.

Table 2
Research Colloquium

Research Colloquium
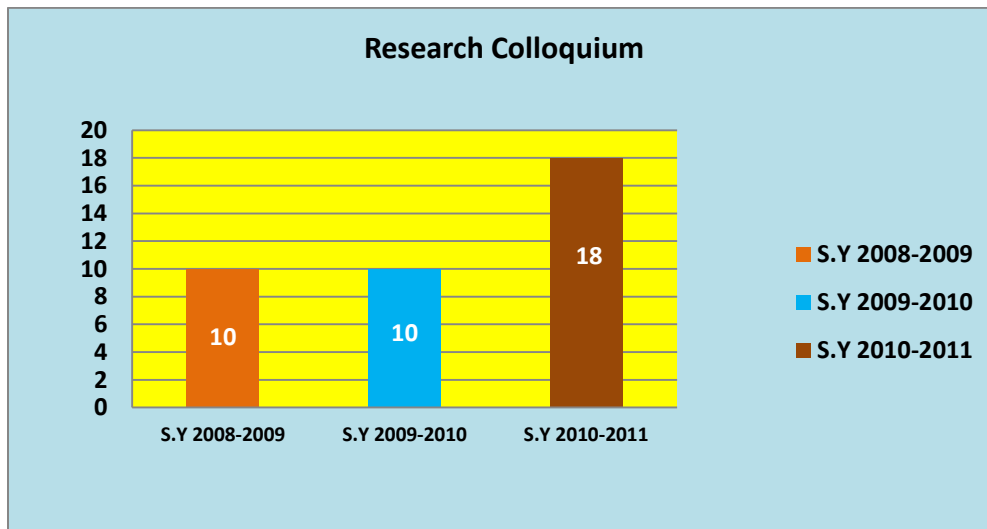
Textbook Development Program

The faculty members of JBLFMU-Molo had written five (5) instructional materials for SY 2008-2009. Last SY 2009-2010, there were seven (7) instructional materials, and for this year SY 2011-2012, the faculty members submitted eight (8) instructional materials.

Table 3
Textbook Development Program
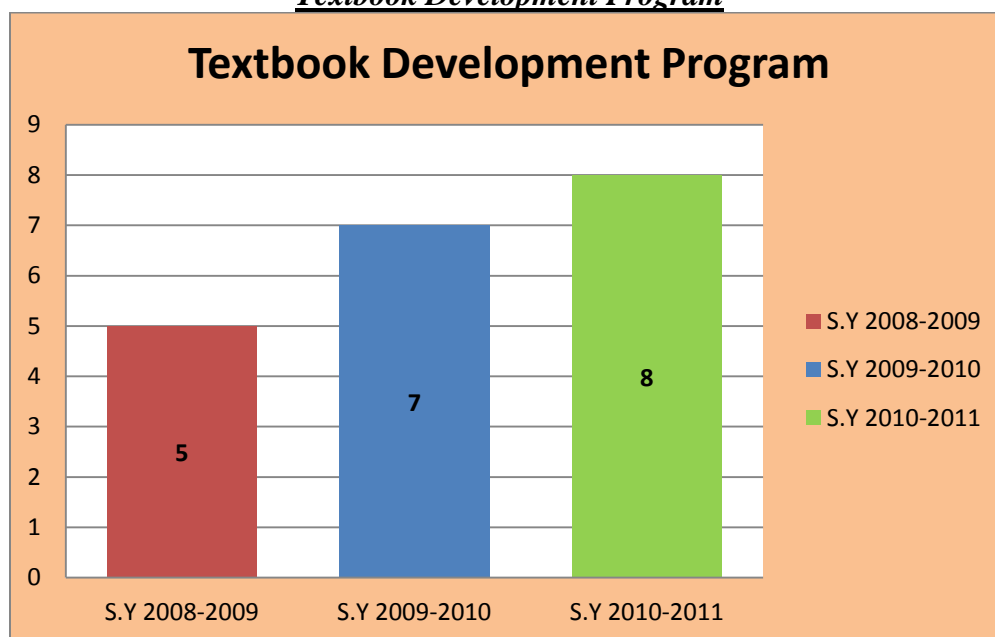
Research Publication

Table 4 Research Publications of Maritime University in Asia

Research Activity/Publication	Frequency	Focus
Refereed Review Journal (System Journal)	Twice (2) per semester	Research Dissemination
Refereed Journal of faculty members	Twice (2) per semester	Research Dissemination
Research Journal of Students	Once (1) per year	Research Dissemination
Research Newsletter	Twice (2) a year	Research Dissemination

B. Research Achievements/Awards

Last SY 2008-2009, not any of the faculty members received an award in research, Two (2) awards for SY 2009-2010 were given to the faculty members of JBLFMU-Molo such as; (1) "Third Place Best Oral Research Presentation" received by Engr. Gene Lee Navarra, and (2) "One of the Ten Outstanding Filipino Researchers" received by Dr. Rolando A. Alimen given by Philippine Association of Institutions for Research (PAIR) at Boracay Island last December 2009.

This SY 2010-2011, five (5) awards are received by the faculty members of JBLFMU-Molo in Research. These awards are the following: (1) Global On-Line Journal Award received by Dr. Rolando A. Alimen, (2) Platinum Award in Oral Research Presentation received by Dr. Victor B. Jaleco, (3) Silver Award in Oral Research Presentation received by Dr. Rolando A. Alimen, (4) National Research Leadership Award 2010 given to Dr. Rolando A. Alimen, (5) Third Best Paper Award in Disaster Preparedness given to Dr. Ralph L. Pador, Engr. Cicero D. Ortizo, and Dr. Rolando A. Alimen. The awards were given by Philippine Association of Institutions for Research (PAIR) at Cagayan de Oro last August 2010 and Environmental Educators Network in the Philippines (EENP) last February 2011.

C. Development of Research Outputs

The 'Number of Research Outputs' of JBLFMU-Molo for the last three (3) years are the following: (a) the previous SY 2008-2009 had 37 studies, (b) SY 2009-2010 had 47 studies, and (c) the present SY 2010-2011 has 49 studies. Data are shown in Table 5.

Table 5 Development of Research Outputs

143
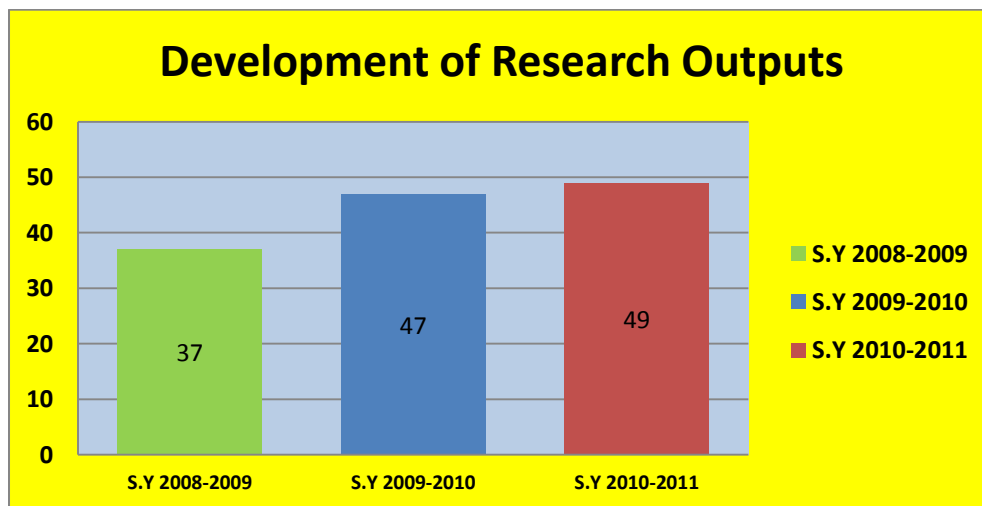
For SY 2008- 2009, ten (10) faculty members presented studies in the International Conferences. For SY 2009-2010, thirteen (13) faculty members presented at International Conferences. For SY 2010-2011, twenty four (24) faculty members presented their studies at International Conferences. Data are shown in Table 6.

Table 6 Development of International Conferences

Table 7 showed the research outputs of the faculty members in terms of the different research agencies. Seventeen (49 percent) of the papers were presented at the Philippine Association of Institutions for Research (PAIR); Four (11 percent) of the research papers were presented in the Asian Congress for Media and Communication (ACMC); six (17 percent) of the papers were presented in the Environmental Educators Network in the Philippines (EENP); three (9 percent) at the Association of Teacher Educators at Texas USA; three (9 percent) were presented in the Transportation and Navigation at Poland; and two (5 percent) were in the International Conference in Finland.

Obviously, JBLFMU's collaborations are international and national in nature as shown in the evidences of the research outputs.

Table 7 The Research Presentations of Studies Sponsored by Different Agencies

Name of Association	Type of Conference	Number of Studies Presented	Frequency
ACMC (Asian Congress for Media & Communication)	International Conference at Ateneo de Davao, Davao City	1	3
ACMC (Asian Congress for Media & Communication)	International Conference at Sarabia Manor Hotel, Iloilo City	3	9
Philippine Association of Institutions for Research (PAIR)	International Conference at Vigan, Ilocos Norte	10	29
Philippine Association of Institutions for Research (PAIR)	National Conferences at Cebu & Boracay Island	7	20
Environmental Educators Network in the Philippines (EENP)	International Conference at Ateneo de Davao, Davao City	2	5
Environmental Educators Network in the Philippines (EENP)	International Conference at Silliman University, Dumaguete	4	11
Association of Teacher Educators, International Conference at Texas, USA	Hyatt Hotel, Dallas, Texas, USA	3	9
International Seminar in Transportation & Navigation TRANS-NAV 2009 at Poland	Gdynia Maritime University, Poland	3	9
International Conference at Finland	Finland, Europe	2	5
TOTAL		35	100

D. Collaborative Studies

The Research Department of JBLFMU has established 'Collaborative Research' with the different colleges and universities here in the Philippines and abroad. The following are the collaborative finished studies:

(a) For SY 2008-2009, one (1) collaborative study was conducted. This study was "Performance in Physics, Attitudes, and Study Habits among Engineering Students as Influenced by Certain Related Factors" by Dr. Rolando A. Alimen, JBLFMU-Molo & Edith S. Peñaranda, University of San Agustin,

(b) For SY 2009-2010, one (1) collaborative study was conducted. This study entitled "Seagrass Diversity in the Western and Eastern Sites of Igang Bay, Guimaras, Philippines" by Dr. Rolando Alimen, Homervergel Ong, Engr. Renie Batuigas, Engr. Vicente Corpes, Mary Mar Esmaña, Engr. Cicero Ortizo, JBLFMU-Molo & Cornelio Selorio, Jr., University of the Philippines,

(c) For SY 2010-2011, three (3) collaborative studies are conducted. The titles of the studies are the following: (1) Sexting as Socio-Cultural Practice and its Influence among Filipino Youth: A Journey to Explore by Dr. Rolando Alimen, JBLFMU-Molo & Marietta Agustin-Teaño, Weslayan University-Philippines, (2) Facebook as Social Capital and Its Role in Transforming Filipino Teenagers: A Reflective Analysis by Dr. Rolando Alimen, JBLFMU-Molo, & Dr. Leah V. Cadiao, Occidental Mindoro State University, and (3) Status of Fish Catch among Fisher folks at the Municipality of Oton leading to Coastal Zone Management by Dr. Rolando Alimen, Engr. Vicente Corpes, Alex Soqueña, JBLFMU-Molo, & Katherine Rundquist, Nancy Jones, Fisheries and Marine Institute Memorial University of Newfoundland, Canada.

E. Different Collaborations of JBLFMU-Molo

The JBLFMU-Molo as maritime university and the Members of Research Committee are active members of different organizations. These organizations, associations, and societies are made up of the following:

(1) Philippines Society for Educational Research and Evaluation (PSERE),

(2) Philippine Association of Institutions for Research (PAIR), (

3) Asian Congress for Media and Communication (ACMC),

(4) Environmental Education Network of the Philippines, Inc. (EENP),

(5) Western Visayas Association of Physics Instructors (WVAPI),

(6) Philippine Association for Graduate Education (PAGE),

(7) Association of Teacher Educators (ATE) International,

8) Commission on Higher Education- Regional Research Center (CHED),

(9) Commission on Higher Education- Zonal Regional Center (CHED),

(10) Philippine Association of Maritime Researchers (PAMR),

(11) International Association of Maritime Universities (IAMU),

(12) Philippine Society of Mechanical Engineers (PSME),

(13) Society of St. Vincent de Paul (SSVP) International,

(14) Philippine Society of Physics (PSP),

(15) Provincial Environment of National Resources Office (PENRO), (

16) City Environment National Resources Office (CENRO),

(17)Regional Environment Educators Network (REEN Region 6),

(18) Sea grass Network International (SEAGRASS Net)

Table 8 Different Collaborations obtained by JBLFMU as maritime university in Asia

	Accreditation & Certification of the University (JBLFMU-Molo)	Type of Accreditation
1	Philippine Quality Award –Quest for Excellence	Philippine-Based Certification
2	Bureau Veritas Certification ISO 9001	International Certification
3	CHED University Status ETEEAP Provider (former Autonomous)	Philippine-Based Certification
4	TESDA Accredited Assessment Center	Philippine-Based Certification
5	PACU-COA Accredited Level 4	Philippine-Based Certification
6	Microsoft Certified Academy	International Certification
7	Maritime Training Center (MTC) Accredited	Philippine-Based Certification
8	International Association of Maritime Universities (IAMU) Member	International Certification
9	Environmental Educators Network In the Philippines (EENP) Member	Philippine-Based Certification
10	Philippine Society of Educational Research and Evaluation (PSERE) Member	Philippine-Based Certification
11	Philippine Association of Institutions for Research (PAIR) Member	Philippine & International Certification
12	Asian Congress for Media and Communication (ACMC) Member	ASEAN-Based Certification

To attain different collaborations/accreditations/certifications of JBLFMU-Molo returned good development to the faculty members, students, and staff. Through these organizations and agencies, many activities in research were drawn just to satisfy the level of accreditation and certification. Thus, ushered building research capability and forming strategic alliances not only in research but also in other functions of university in Asia as clearly stated in Table 7 below.

F. Implications of JBLFMU's Research Capabilities Global Excellence in Maritime Education in Asia

Global competence/excellence is the product of both education and experience. In this initiative, it is characterized by a graduate's proficiency in his/er course; knowledge about comparative international relations, the world economy, and the socio-political systems and culture of at least one other country or world region; and ability to practice his or her discipline within an international context.

William I. Brustein (2010) has clearly stressed that global competence, as defined in the recently-published National Association of State Universities and Land Grant Colleges (NASULGC) report, A Call to Leadership: The Presidential Role in Internationalizing the University, is the ability "… not only to contribute to knowledge, but also to comprehend, analyze, and evaluate its meaning in the context of an increasingly globalized world." The skills that form the foundation of global competence include the ability to work effectively in international settings; awareness of and adaptability to diverse cultures, perceptions and approaches; familiarity with the major currents of global change and the issues they raise; and the capacity for effective communication across cultural and linguistic boundaries.

Reimers (2008) in, 'Educating for Global Competency' has concluded that networking among teachers is one of the ways to develop global competency. Through this network teachers are linked with peers in other parts of the world to collaborate either joining structured projects or designing their own. It is because of this linkage that teachers are able to share their practices and learn from others.

Neil Ellisof the Seafarers International Research Centre sheds some light on the role of maritime researchers at SIRC's website: www.sirc.cf.ac.uk . He emphasized that seafarers are encouraged to formally take part in research studies that take place in their sector, no matter who conducts them. It is only by actually taking part in research that their voices can be heard, and that they have some very valuable contributions to make to the range of debates in which maritime sector members engage. Based on the data generated for this purpose, the researcher decided to tackle the transformation of the marine officers into educational researchers with implications to global educational competence.

Conclusions

In conclusion, the research capabilities of maritime university in terms of research activities, practices, developments, outputs, and collaborations/accreditations have exhibited in this study.

The faculty members and staff who have been strengthened by the research capabilities of this maritime university were captured also in the results of the study through their research presentations and publication.

The research capabilities as illustrated in this study were connected to research practices, achievements, development, networking, collaboration, and presentation. The inter-connectivity of these priorities in maritime university was utilized to achieve the aims of the study towards global excellence in maritime education in Asia. The research capabilities of this maritime university in the Philippines were with the same vein with the results of the studies of Baluscary & Gutierrez (2010); Hortillano & Liarag (2010). Tan (2003) adheres to the fact that incentives, credits, de-loading, and support are parts of building research capabilities of maritime university. Support of the administration, research development, research presentations, and utilizations are evidences of highly visible research culture and play an important role in achieving the objectives of research capabilities (Santos, 2003; Reyes, 2003; Quilang, 2010; and Lirag, 2010).

In terms of collaboration, accreditation, certification, the maritime university showed a very strong connection with the different agencies that demonstrate better research capabilities in this part of Asia. The interactions and responses of the maritime university with neighboring higher learning institutions had contributed to the aim of building strong and dynamic faculty and staff who shared their studies to the stakeholders and constituents of different communities.

The percentages of national and international research presentations of the faculty and staff of this institution showed that indeed the human resources, technical expertise, and financial status were contributing factors in research capabilities. The inter-relationships of these three (3) elements were utilized in this study as strong evidences towards building "niche" in maritime education through research capabilities, strategic planning, and alliances in this particular part of the world.

The theoretical theory was utilized to capture the focal point of the study and arrive at the objectives of demonstrating the research capabilities of the maritime university and forming strategic alliances among different research agencies in Asia.

Recommendations

Based on the findings of the present study, the following recommendations are advanced by the researcher:

- The administration of JBLFMU-Molo should sustain the skills, enthusiasm, and drive of the instructors towards sustaining the research capabilities to achieve the global competence in maritime education. This can be done through in-house training and seminars, reviews, colloquia, research presentation in national and international conferences.
- Continuous training and exposure of these faculty members and marine engineers in research and related activities here in the country and abroad in order to prepare them to become competent contributors to the research capabilities of the University.

- Experiences and issues shared by the respondents shall be captured in the next study by the Research Department in re-channeling them to build "strong research capabilities" and to achieve the agenda of the maritime university towards global educational competence.

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THE SHARED GOVERNANCE PRACTICES IN THE JORDANIAN UNIVERSITIES: FACULTY MEMBERS PERSPECTIVE

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Abstract

This study investigated the degree of practice of faculty members of shared governance in the Jordanian universities, and analyzes the significant differences based on their "gender, years *of teaching*, *academic rank*, *classification of college*", by using the participants' practices shared governance instrument. The study was carried out among 231 faculty members who worked in Hashemite University.

The results of study reveals that the practice of faculty members of shared governance in all aspects (university board's role, the president's board's role, faculty members role, Joint Decision-Making, Organizational Environment, Climate for Governance) was in low degree. No differences were found in the degree of practice of faculty members of shared governance based on their gender, and the classification of the college. Significant differences were found in the degree of practice of faculty members based on their years of teaching in (University Board's Role, President Role, Faculty Members Role, Joint Decision Making, and Climate for Governance). And differences were found based on their academic rank.

The researchers recommended that the Jordanian universities should pay attention to the leadership structure in their universities, and developing policies that will serve to encourage faculty inclusiveness in shared.

Key words: Shared governance, Jordanian Universities, Faculty members

Introduction

Despite the rapid growth rate of universities in Jordan, very little is written about the role of faculty participation in the governance of these universities. It remains unclear what the role of faculty is in the shared governance, and to what extent they value an environment of a participatory decision–making.

Shared governance, although a corporate concept, holds major benefits in the academy, and universities could benefit tremendously from this process. Shared governance, by its very nature of inclusiveness, creates an environment where stakeholders have more vested interest in the process and are held accountable for their role in the process. However, Kezar, Lester, and Anderson (2006) suggest that shared governance has been an important part of higher education institutions over the last 75 years.

Shared governance is widely appreciated as a laudable goal, Tierney and Minor (2003) and Minor (2003) report that 82% of respondents at master's degree universities agreed that shared governance is an important part of the institution's values and identity. Shared governance can be found in all three constituent groups on campus: 96 percent of [academic VPs], 86 percent of Senate leaders, and 78 percent of faculty indicated their belief that shared governance is important."

Despite the fact that universities have functioned for more than 50 years in Jordan, all major decisions about governance of these universities are made generally without significant input and participation from the educational stakeholders, such as department chairpersons, faculty, staff, and students (Abdelkader, Al-Hussami, Al barmawi, Saleh, & Shath, 2012) . With this level of centralization of governance along with what seems to be a circuitous reporting relationship, the department chairpersons appear to be responsible only for decisions regarding the day-to-day operations of their departments. Faculty members have almost no voice in the administration or planning at their universities. Their roles appear to be limited to their classroom interaction with students. By structuring participation so that the presidency level are the parties responsible for making the most important decisions regarding universities, the faculty role in governance seems diminished and perhaps, nonexistent. This practice impacts the autonomy of universities and shapes how these universities structure their own governance at the individual college level (Gonzalez & Royer, 2004).

The concept of shared governance has been in the consciousness of American academic institutions since 1915. The governance of universities and colleges should be an inclusive process and that the faculty perspective should be given great consideration, especially in areas that are exclusively the faculty's domain (American Association of University Professors AAUP, 1966). AAUP (1966) also suggested that all stakeholders should participate in creating an environment that would allow for joint participation in the planning and running of their institutions. All persons in the institution have a stake in its governance and, therefore, should play a role in how it is governed and that faculty should play a critical role in the areas in which they have expertise (AAUP, 1966).

Tierney (2004) posits that the failures of shared governance often result from different individuals on campus having different concepts about what shared governance is supposed to mean. Del Favero (2003) recognizes administrators and faculty have different values, interests, and responsibilities. These differences lead to an unreliable foundation for decision making. Faculty are specialized. They have a passion for a certain subject and they are immersed in it. They are not as connected to broader university goals. They are not as concerned with administrative details, and so they easily overlook them or do not understand them. They frequently perceive money spent on administration as a misuse of funds. They frequently have few institutional incentives to participate in governance.

The literature on shared governance contains multiple definitions and as such, it presents a challenge to identify any one suitable definition for all situations. Lanning (2006) indicated that some institutions may define shared governance as a process that will involve the people who are affected by the decisions that are made; for example, faculty and staff are involved in the decisions that are made about them. However, other institutions may define shared governance by the culture of the institution; for example, the decision making culture of the institution will play a major role in who participates in decision-making, and at what level is the participation included. Regardless of how it is defined, there are common themes that emerge in most definitions; for example, words like collaboration, mutuality, participation, responsibility and advisory can be found as a theme in almost all of the definitions.

Bingham (2000) defined shared governance as an organizational process of collective decision making and implementation in which participants are individually and collectively held accountable and responsible to executive bodies and/or constituents being served. Maloney (2003) suggested that it is a social system of self-governance, wherein decision-making responsibility is shared among those that are most affected.

The American Federation of Teachers (AFT, 2002) described shared governance as a process where the set of practices under which college faculty and staff participate in significant decisions about the operation. According to the academic senate of the California State University (CSU, 2001), shared governance describes the relationship between the administration and the faculty in which the faculty participate in giving direction and advice to the university on important policy decisions.

Kaplan (2004) admitted that there is a lingering perception that sharing decision-making is a great source of discontent among college administrators and faculty. In a study about shared governance conducted at four year institutions (both public and private), Kaplan concluded that there was little evidence that shared governance is ineffective and was unable to confirm the perception that shared governance negatively impacts the ability to get the work done.

Kezar (2004) suggested that the call for doing away with shared governance may not be what is needed. Rather, institutions may need to pay more attention to relationships among stakeholders, creating an atmosphere of trust, and for leadership to lead. Kezar further pointed out that leadership and leadership styles play a crucial role in the types of relationships that are engendered, which is critical to the outcome of governance in academia.

Trombley (1997) rejected the notion that shared governance is more of a problem than a solution. Further, Love (2005) supported the notion that shared governance promotes open communication because it demands that all stakeholders be involved in the decision making. One key advantage is that it creates a climate for people to agree and disagree (Walker, 1979). Such open communication allows for ideas to be aired and for necessary changes to be made, requiring faculty involvement and accountability. When faculty members become involved, they feel more like a part of the process. Subsequently, they feel empowered and more inclined to participate in the process (Birnbaum, 1992).

Research shows that participation in shared governance is not as attractive as it used to be. Younger faculty members are indicating a disinterest, which concerns older members who are major proponents and who are getting ready to retire (Arreola, Aleamoni, & Theall, 2001). The faculty respondents in the CSU (2001) study, *Shared Governance Reconsidered*, provided several solutions for how the institution can increase faculty participation in its decision-making activities. This study suggested that if these issues were addressed, it would be more encouraging to faculty and would increase their participation. Some of the solutions included: (a) a need for holistic change in the environment; and (b) improvement in areas such as communication among constituents, (c) board attitudes towards faculty and faculty toward the boards, (d) environmental factors, structures and processes, and; (e) a reduction in disincentives.

Abdelkader, Al-Hussami, Al barmawi, Saleh, & Shath (2012) study about the perception of academic nursing staff toward "shared governance" was assessed in a nonexperimental survey research design. Using a nonprobability sampling method, all academic nursing staff had the opportunity to respond to the Collaborative Behavior Scale (CBS) at the pre-implementation of shared governance model. Four universities, including public and private universities were included in the study. Both surveys contained a short demographic section and the Collaborative Behavior Scale CBS adapted from Stickler 1991. Results showed a low level of perception which presented by the collaborative behaviors toward shared governance. Interestingly, commitment to shared governance was neither sufficient nor satisfied during this time. Long experiences with advanced ages for MSc and PhD holders' had significantly higher scores on perception than other groups. The results of the survey indicated that academic staff members recognized shared governance as a process, not a project, and that it takes time to share responsibility, accountability, and authority for faculty members. Overall, Jordanian academic nursing staff have not enough willingness nor commitment to shared governance principles.

For shared governance to be sustained, Birnbaum (1988) posited that a way to sustain shared governance is that the parties involved be very clear and specific in their intentions. He argued that shared governance usually lacks clarity and specificity. Mitchell, Grant and Rossa (1992) theorized that shared governance works very well in the corporate world and that it can work equally well in academia. However, they contended that the first thing that must happen in making shared governance work is that necessary changes must be made. For example, they noted that a negative attitude towards shared governance does not benefit the process. Instead, they recommended that participants see themselves as being responsible and must be ready to commit to the decisions that emerge as a result, whether they agree or not.

Schuetz (1999) posited that governance is a function of structure and of how people act within that structure. The models of shared governance in higher education institutions are not all similar. In a shared governance environment, there are three fundamental assumptions that institutions should use to develop the guiding principles: (a) governance should result from the interdependence and cooperation among the various governance components; (b) shared governance and academic freedom are inextricably linked; and (c) faculty participation in governance is an ethical obligation (Ramo, 1997).

Gerber (2001) appeared to agree with the notion that academia should adopt abandon that model and adopt the corporate philosophy. He suggested that most critics of shared governance believe that it is no longer a useful model in higher education, and that the shared governance model should be replaced with a hierarchical corporate model.

Birnbaum (1988) insisted that academia must create models of shared governance that can work for the academic environment. In order to accommodate a model that works, academic leadership needs to take into account issues such as the interdependence of the various divisions and the interplay between and among these divisions in these institutions. interdependence is clearly manifested whenever change occurs in the institution. For example, if one area of the college goes through a significant change, then other areas will need to change in order to accommodate the initial changes.

Giordani (2005) explained that there are three basic types of governance models that exist in organizations, and all organizations will avail themselves of one of these models. However, he argues that in academia, management and governance systems are structured according to how institutions are perceived. For example, the top- down (administrative or corporate) model in academia espouses the belief that consulting too extensively with faculty prevents the institution from responding rapidly; this model is characterized by speed and efficiency.

The collective bargaining models said to work best for faculty that sense growing antagonism between the administration and themselves. This model creates a sense of empowerment for faculty and is characterized by "us" and "them" (Giordani, 2005, p. 1). The shared governance model is utilized by academic institutions and implies that there is shared responsibility for decision making. It also implies that constituents understand the interdependence among the stakeholders and try to be cooperative about it. In this model, one of the basic assumptions of faculty members and administrators is that they are all peers and they all share the same values about their institutions (Giordani, 2005).

Theoretical Framework

Van (1999) noted that personal characteristics such as age affect faculty members' participation in shared governance, that older faculty members (over 55years) are generally more satisfied than younger ones (early 20s and 30s). The more satisfied faculty members are, the more willing they are to participate in shared governance processes in their institutions. Younger faculty are less interested in shared governance (Van, 1999), and shared governance becomes less important in the institution as older faculty members retire.

Ramo's (1997) six tenets of frame this study. These tenets are: (a) the University board's role, (b) the president's role, (c) the faculty's role (d) joint decision making, (e) climate for governance, and (f) organizational environment. Ramo (1997), in his body of work on shared governance, provided a basic description of the indicators of shared governance, with the expectation that colleges and universities can modify these basic indicators to suit their own institutional cultures. This framework provides the indicators to examine governance practices to determine whether shared governance was evident in the Jordanian universities.

University Board's Role. The board forms the central governing body of the institution with the ultimate responsibility for the management and effectiveness of the institution. Board members are either appointed or elected and their length of service varies (Ramo, 1997). The success of shared governance depends heavily upon establishing effective working relationships among trustees, college administrators, the academic senates, faculty and classified staff. Shared governance assumes that there will be collegiality in the working relationships among all stakeholders for the good of the "collegium" (Birnbaum, 1998). This is especially true of the relationship among the boards of trustees and other administrators and faculty.

Trust is a major hurdle that boards of trustees and faculty must overcome. Kezar (2004) noted that the whole idea that shared governance can be effective, is predicated on the notion that there will be trust in these shared decision making relationships; it has been established that there is a relationship between trust and accountability in shared governance relationships.

President's Role

The president is the chief academic administrative officer for the institution. One of the main functions of the leader of any institution is to shape the culture of that institution (Baldridge et.al, 1978). The culture of the institution will be important in what the members expect from the institution, and the president is a major factor in the creation of this culture (Ramo, 1997).

Faculty Role

The faculty role in shared governance is the most complicated of all the roles. Often, administrations are accused of encroaching on areas that are of faculty purview and this often results in disquiet among faculty (Ramo, 1997). However, it is of critical importance that faculty members have a voice in the decisions that are made about the areas where they maintain some levels of autonomy. AAUP (1966) declared faculty have primary responsibility in the fundamental areas of what they do in the institution; for example, faculty must be involved in decision-making about curriculum, methods of instruction and faculty status and for the aspects of student life related to students' academic success.

Faculty is generally perceived as embodying a lackluster attitude toward participation in the governance process, and apathy and cynicism is ranked high as negative attitudes from faculty (Center for Higher Education and Policy Analysis , CHEPA, 2003). A lack of participation in the

process is perceived as lack of interest in the institution (CSU, 2006) and can leave senior administrators with negative impressions of faculty.

The perception of effectiveness of people in their roles is persistent between administrators and faculty. In a study conducted with academic vice presidents, senate leaders and faculty, it was revealed that faculty influence in the decision making process is high. However, while senior administrators believed that faculty have great influence in the decision making process, faculty believed otherwise.

Birnbaum (1988) argued that faculty and administrators are in a no-win situation. Frequently, faculty feels their roles are threatened or oppressed and that the vacuum between them and administrators could widen. Birnbaum (1988) posited that when faculty perceives their roles as being threatened, they usually respond with antagonism, sometimes expressing this antagonism in very explicit ways.

The AAUP (1966) regarded any attempt by administrations to engage in bureaucratic control as an attempt to create instability in the institution. Currie (2005) argued that faculty must deal with the perception that is harbored about them in the institution. In a study conducted by Currie (2005), the respondents cited faculty's lack of involvement in budgetary matters as the biggest impediment to shared governance in academia. For example, their lack of participation in the budgetary process may be seen as a challenge to their role in the effective functioning in the shared governance process.

Senge (1990) argued that mental models in many institutions are a prohibitive factor to people participating effectively in organizational processes. He explained that faculty and administrators who cooperate and work together in a climate of shared governance can achieve a more positive cultural climate, which ultimately benefits the institution.

Joint Decision-Making

Decisions that are made on behalf of the institution should be made within a framework of consultation with the stakeholders of the institution, primarily the faculty. Long-term plans such as vision and mission, long range budgeting plans, the search for a new president and other academic administrators, should all be done on the basic assumption that there will be consultation with all members of the academic community, including faculty (Ramo, 1997).

Joint decision-making involves consultation and participation. The AAUP (1966) suggested that before any decision is made regarding any change in the institution, the parties involved should be consulted and decisions should be made by involving the participation of the board, administration and faculty. For example, any long range plans for the institution or any changes in the physical structure must be achieved through a joint decision-making process.

Climate for Governance.

Climate refers to the perceptions and attitudes that are held by members towards the institution (Ramo, 1997). The climate for governance in academia is usually measured by faculty morale. Institutions that have effective participatory leadership usually enjoy a good climate within which to govern effectively (Ramo, 1997).

Spitzerberg (1989) stated that climate in the institution is determined by the unity exhibited on the campus. He argued that the quality of relationships, working conditions and the respect shown on the campus all helped to form the campus climate. The overt challenges displayed among stakeholders will help to determine this. For example, recurring tensions between trustees, administrators, and faculty are not new (Birnbaum, 1998) and play a major role in determining the campus climate.

The shared governance model that the institution adopts also indicates its culture. The connection between corporate and academic cultures is a persistent issue in higher education dialogue. Mangrum & Mangrum (2000) supported the idea that shared governance is academia's version of the corporate world's total quality management. Historically, a large percentage of trustees have been business people who are more likely to be conservatives. They have limited understanding of academic institutions, may be more likely to support the top down model of governance, least likely to support the principles of academic freedom, and more likely to scoff at academic realities, such as shared governance (Birnbaum, 1988).

Organizational Environment

Ramo (1997) defined the organizational environment as those organizations and systems that influence the government of the campus. These influences range from governmental regulations, to professional faculty organizations. Oftentimes, other campuses of the same institution or other colleges within the same system may influence the organizational environment.

Ramo (1997) suggested that faculties and other players in the shared decision-making process should strive for cooperation as a day-to-day method of conducting business, or as a desired end when cooperation does not currently exist. But as Rhodes (2005) indicated, this will be a major challenge for academia because as colleges move toward the corporate way of life, shared governance models as they exist now may not be receptive to deal with the "academic capitalism" that the corporate culture demands.

Problems of the Study

In examining the literature on shared governance in the Jordanian universities, it is apparent that few studies have focused on faculty at these universities, especially as they perceive their interaction with administration, or the concept of shared governance. The governance of universities in Jordan appears complex and relatively under-examined. As universities mature, the role of the faculty will become more critical (Roberts, 2003). The question of faculty attitudes toward sharing the responsibility for how their institutions are governed, gives rise to a concern for the future of shared governance in these institutions.

There is little evidence

    a. that universities are involved in how decisions are made about their institutions in relationship to the overall higher education landscape in Jordan

    b. that universities have identified and articulated what their role should be in the creation of policy and procedures that affect them, and

    c. that the practice of faculty towards the shared governance practices have been solicited

Consequently, this study will investigate, (a) the degree of practice by faculty members of shared governance in the Jordanian universities, and (b) any correlations between their personal and/or institutional characteristics and the degree of practice in shared governance.

Research Questions

Research Question One:

What is the degree of practicing shared governance by faculty members in the Jordanian universities?

Research Question Two:

Are there statistical significant differences in the degree of practicing shared governance by faculty members in Jordanian universities based on "gender, *years of teaching*, *academic rank*, *classification of college*", of respondents in the Jordanian universities?

Significance of the Study

The significance of this study lies in its attempt to increase published research about universities in Jordan. The information in this study is specific to the degree of practice of faculty members of shared governance in the Jordanian universities, with a focus on faculty perspectives. The education policymakers in the Jordanian universities may be able to benefit from this body of work. This study will focus on Jordanian universities and their governance processes.

The data from this study hopefully will provide contribution toward understanding how faculty members perceive their role in the decision-making process and better inform policy makers about the necessity for the inclusion of faculty in this process in Jordanian universities. Additionally, policy makers can use this information to construct policies that will require faculty participation in areas where faculty believe they should be active participants.

Methodology

Research Design

This is a quantitative study that contains descriptive components. It consists of forty eight questions of which analyzed quantitatively. The quantitative data were summarized using descriptive statistics including means, standard deviations. Analysis of Variance (ANOVA) was used to determine whether there were significant differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on personal and institutional characteristics. An alpha level of 0.05 was required for the difference to be considered significant.

Population and sample of study

A total of 231 faculty members, or XX% of the entire population of XXX faculty members (Professors, Associate professors, Assistant professors) enrolled during the first semester 2012/ 2013 term, participated in the survey, a purposeful sampling process was used to select the participants for the study. A majority of respondents (128, 55.4%) were male, (103, 44.6%) were female. Data by faculty rank showed that (38, 16.5% of respondents were full professors, (83, 5.9%) were associate professors, and (110, 47.6%) were assistant professors. Data for years of teaching were (87, 37.7%) low years, (83, 35.9%) mid years, and (61, 26.4%) high years of experience. Data for classification of institution were (123, 53.2%) humanities colleges, and (108, 46.8%) scientific colleges.

Instrument

Ramo's (1997) tenets formed the basis of the instrument used in this study to measure participants' practices shared governance. The measure of practices shared governance was the degree of practices by participants to each of these tenets. Research questions were developed to investigate these practices.

The *Faculty Survey* developed by Baker-Brown (2011), was used as the primary survey instrument for this study. The first section of the instrument focused on the personal and institutional characteristics. The second section contains six dimensions of Faculty Survey: First dimension; "*University board role*" covered the board's role in institutional governance, there were six items about the board's role in the institution. The second dimension "*faculty member's role*" with three items about the faculty role. The third dimension "*president role*", it had eight items covering president role. The fourth dimension "*joint decision making*" with five items covered joint decision making. The fifth dimension "*organizational environment*" with nine items. And the sixth dimension "*organizational climate*" with three items.

Each item is accompanied by a 5-point Likert scale, ranging from 5 (strongly agree) to 1 (strongly disagree). All of these items were used to determine the degree of practice of faculty members of shared governance in the Jordanian universities. The total scores were interpreted as following: it should notice that the researcher used the response scale of each item which ranged

from 1 to 5 to determine these cut points according to the following manner: 1-2.33= low, 2.34-3.67=moderate, 3.68-5.00=high. The alpha level was set at .05 a priori.

Cronbach's alpha reliability coefficients were computed for each variable. Results showed acceptable reliability for all measures. The validity of the questionnaire was assessed by 10 people specialist in the field of education in the Hashemite University. Alpha reliability for six dimensions as follows: "*university board's role*" = 0.86, "*faculty members role*" = 0.87, "*president role*" = 0.84, "*joint decision making*" = 0.81, "*organizational environment*" = 0.79, and "*organizational climate*" = 0.88.

Findings

Research Question One: What is the degree of practicing shared governance by faculty members in the Jordanian universities?

The findings are given under the following sub-sections:

- University Board's role
- Faculty Members' role
- President's role
- Joint Decision Making
- Organizational Environment, and
- Organizational Climate

University Board's Role

The following describes the means and standard deviation of the responses that were provided to the items of this section.

a. "*Faculty members representatives can access the information necessary to make informed decisions and recommendations to the university board* ", indicated that it was low practices with mean (M=1.32, SD= 0.776)

b. "*Information is provided in reasonable time to make informed decisions*", reported that it was low practices with mean (M=1.16, SD= 0.501)

c. "*Faculty members views are communicated to the principal and the board, and vice versa, accurately",* reported that it was low practices with mean (M=1.62, SD= 1.060)

d. "*There is effective communication among college employees and the administration, including the university board*", reported that it was low practices with mean (M=1.76, SD=0.895)

e. "*There is good faith and an atmosphere of trust when it comes to communication across the campus and with the university board*", reported that it was low practices with mean (M=1.61, SD=0.971)

f. "*There is consultation between the board and the faculty members, on policy decisions, when key policies and issues are being discussed*", reported that it was low practices with mean (M=1.55, SD=1.136)

g. "*That the governing board is involved in day-to-day operations of the institution*", reported that it was low practices with mean (M=1.49, SD=0.889)

h. The total mean for the university board's role was low with (M=1.50, SD=0.569)

President's Role

Eight questions were used to respond to this section and the means and standard deviation of the responses are provided below.

a. "*The president's human relations skills*", reported that it was moderate practices with mean (M=2.45, SD=1.452)

b. "*The president's conceptual skills*", reported that it was low practices with mean (M=1.85, SD=1.036)

c. "*The president's technical skills*", reported that it was low practices with mean (M=2.04, SD=1.313)

d. "*The relationship between president and faculty* members", reported that it was moderate practices with mean (M=2.37, SD=1.226)

e. "*That there is consultation with faculty members on policy decisions when key policies and issues are being discussed*", reported that it was low practices with mean (M=1.80, SD=0.911)

f. "*The relationship between president and university board*", reported that it was low practices with mean (M=1.86, SD=.950). "*The relationship between faculty and president*", reported that it was low practices with mean (M=1.97, SD= 0.908)

g. "*The relationship between faculty members and university board*", reported that it was low practices with mean (M=1.90, SD=1.012)

h. The total mean for the president's board's role was low with (M=2.03, SD=0.608)

Faculty Members Role

The means and standard deviation of the responses are provided below.

a. "*That there is faculty members participation in areas where faculty members lack authority*", reported that it was low practices with mean (M=1.70, SD=1.088)

b. "*That there is faculty members participation in areas where faculty members have authority*", reported that it was low practices with mean (M=1.49, SD=0.762)

c. "*That there is collaboration between faculty members and administration when it comes to institutional projects*", reported that it was low practices with mean (M=2.07, SD=1.029)

d. The total mean for the faculty members role was low with (M=1.75, SD=.663)

Joint Decision-Making

The findings for joint decision-making as followed:

a. "*The selection process for members of the board for the institution*" reported that it was low practices with mean (M=2.29, SD=1.194)

b. "*The evaluation process for members of the board of the institution*" reported that it was low practices with mean (M=2.14, SD=.874)

c. "*The board interaction with faculty regarding issues impacting faculty*" reported that it was low practices with mean (M=2.02, SD=.969)

d. "*The selection process for the president of your institution*" reported that it was low practices with mean (M=1.97, SD=1.142)

e. "*The selection process for faculty for your institution*" reported that it was low practices with mean (M=2.10, SD=1.199)

f.   The total mean for the Joint Decision-Making was low with (M=2.10, SD=.863)

Organizational Environment

Faculty involvement in the following organizational environment as follows:

a.   *"Faculty Involvement in Establishing Budget Priorities"* reported that it was low practices with mean (M=1.81, SD=1.108)

b.   *Faculty Involvement in Library Priorities"* reported that it was low practices with mean (M=1.56, SD=.837)

c.   *"Faculty Involvement in Creating New Academic Programs"* reported that it was low practices with mean (M=2.12, SD=1.055)

d.   *"**Faculty I**nvolvement in Hiring New Faculty"* reported that it was low practices with mean (M=2.32, SD=1.235)

e.   *"Setting Priorities for Construction/ Repair of Buildings"* reported that it was low practices with mean (M=2.07, SD=.892)

f.   *"Evaluation of Colleagues' Teaching"* reported that it was low practices with mean (M=2.05, SD=1.003)

g.   *"Evaluation of Colleagues' Service Contributions"* reported that it was low practices with mean (M=2.00, SD=1.168)

h.   *"Setting Tenure and Promotion Standards"* reported that it was low practices with mean (M=2.02, SD=1.174)

i.   *"Making Individual Tenure and Promotions Decisions"* reported that it was low practices with mean (M=1.81, SD=1.152)

j.   The total mean for the Organizational Environment was low with (M=2.01, SD=.709)

Climate for Governance

The following three questions were explored and the frequency distributions of the responses are provided below.

a. "*The faculty is able to monitor the relationships that the institution has with outside organizations*" reported that it was low practices with mean (M=2.16, SD=.913)

b. "*That the level of influence from outside organizations on governance of this institution is kept to a minimum*" reported that it was low practices with mean (M=2.06, SD=1.022)

c. "*That relationships between the outside organizations and the institution be kept to a minimum*" reported that it was low practices with mean (M=2.05, SD=.877)

d. The total mean for the Climate for Governance was low with (M=2.09, SD=.877)

Research Question Two: Are there statistically significant differences in the degree of practicing shared governance by faculty members in Jordanian universities based on their "gender, *years of teaching*, *academic rank*, *classification of college*"?

The findings are presented below:

Gender

Table 1 shows t-test for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their gender.

Table 1. t-test for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their gender

Dimensions	Discipline	N	Means	SD	t	P
University Board Role	Female	102	1.48	0.524	.399	.690
	Male	129	1.51	0.603		
President Role	Female	102	2.06	0.573	.643	.521
	Male	129	2.01	0.635		
Faculty Members Role	Female	102	1.79	0.586	.744	.457
	Male	129	1.72	0.718		
Joint Decision-Making	Female	102	2.09	0.815	.200	.841
	Male	129	2.11	0.903		
Organizational Environment	Female	102	1.99	0.644	.430	.667
	Male	129	2.03	0.759		
Climate for Governance	Female	102	2.06	0.800	.409	.638
	Male	129	2.11	0.937		

Table 1 reveals that no differences were found in the degree of practicing shared governance by faculty members in Jordanian universities based on their gender. Male and female faculty members did not differ significantly in their degree of practice of shared governance in, university board role, president role, faculty role, joint decision-making, organizational environment, or climate for governance.

Years of Teaching

Based on their years of teaching, Table 2 shows differences in the means and Standard Deviation on the question.

__Table 2. Means and Standard Deviation in the degree of practice of faculty members of shared governance in the Jordanian universities based on their years of teaching__

	Years of Teaching	Mean	SD
University Board Role	low	1.68	.619
	med	1.28	.411
	high	1.53	.585
	Total	1.50	.569
President Role	low	1.96	.758
	med	2.28	.393
	high	1.77	.464
	Total	2.03	.608
Faculty Members Role	low	1.73	.711
	med	1.55	.420
	high	2.05	.760
	Total	1.75	.663
Joint Decision-Making	low	1.95	.979
	med	1.99	.530
	high	2.46	.961
	Total	2.10	.863
Organizational Environment	low	1.98	.856
	med	1.92	.450
	high	2.20	.743
	Total	2.01	.709
Climate for Governance	low	1.99	.995
	med	1.88	.635
	high	2.52	.847
	Total	2.09	.877

Table 3 shows One Way Analysis of Variance for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their years of teaching. (low=88, Med=83, and high=60).

Table 3. One Way Analysis of Variance for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their years of teaching.

		Sum of squares	df	Mean square	F	Sig.
University Board's Role	Between Groups	6.948	2	3.474	11.731	.000*
	Within Groups	67.521	228	.296		
	Total	74.469	230			
President Role	Between Groups	9.690	2	4.845	14.647	.000*
	Within Groups	75.423	228	.331		
	Total	85.114	230			
Faculty Members Role	Between Groups	8.446	2	4.223	10.391	.000*
	Within Groups	92.665	228	.406		
	Total	101.111	230			
Joint Decision-Making	Between Groups	10.593	2	5.297	7.501	.001*
	Within Groups	160.995	228	.706		
	Total	171.588	230			
Organizational Environment	Between Groups	2.871	2	1.436	2.895	.057
	Within Groups	113.046	228	.496		
	Total	115.917	230			
Climate for Governance	Between Groups	15.509	2	7.755	10.928	.000*
	Within Groups	161.790	228	.710		
	Total	177.299	230			

Table 3 reveals significant differences in the degree of practicing shared governance by faculty members of in the Jordanian universities based on their years of teaching. Faculty members differed significantly in the University Board's Role $F_{(2, 230)}=11.731$, p=0.00, in President Role $F_{(2, 230)}=14.647$, p=0.00, in Faculty Role $F_{(2, 230)}=10.391$, p=0.00, in Joint Decision Making $F_{(2, 230)}=7.501$, p=0.001, in Climate for Governance $F_{(2, 230)}=10.928$, p=0.00. Based on the results of the least significant difference (Scheffe) post hoc test were used as shows in Table 4.

Table 4.Scheffe post hoc test for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their years of teaching

		Med	High
University Board's Role	Low	.401[*]	.152
	Med		.248[*]

		Med	**High**
President Role	Low	.322*	.187
	Med		.509*
Faculty Members Role	Low	.179	.312*
	Med		.491*
Joint Decision-Making	Low	.040	.506*
	Med		.465*
Climate for Governance	Low	.104	.531*
	Med		.635*

*. The mean difference is significant at the 0.05 level.

In University Board's Role, significant differences were found between low experience in teaching (M = 1.68, SD = 0.619) and Med (M = 1.28, SD = 0.411) in favor of low experience, and significant differences were found between Med experience in teaching (M = 1.28, SD = 0.411) and high (M = 1.53, SD = 0.353) in favor of Med experience. In President Role, significant differences were found between low experience in teaching (M = 1.96, SD = 0.758) and Med (M = 2.28, SD = 0.393) in favor of Med experience, and significant differences were found between Med experience in teaching (M = 2.28, SD = 0.393) and high (M = 1.77, SD = 0.464) in favor for Med experience.

In Faculty Role, significant differences were found between low experience in teaching (M = 1.73, SD = 0.711) and High (M = 2.05, SD = 0.706) in favor of High experience, and significant differences were found between Med experience in teaching (M = 1.55, SD = 0.420) and high (M = 2.05, SD = 0.706) in favor of High experience. In Joint Decision-Making, significant differences were found between low experience in teaching (M = 1.95, SD = 0.979) and High (M = 2.46, SD = 0.961) in favor of High experience, and significant differences were found between Med experience in teaching (M = 1.99, SD = 0.530) and high (M = 2.46, SD = 0.961) in favor of High experience. In Climate for Governance, significant differences were found between low experience in teaching (M = 1.99, SD = 0.995) and High (M = 2.52, SD = 0.847) in favor of High experience, and significant differences were found between Med experience in teaching (M = 1.88, SD = 0.635) and high (M = 2.52, SD = 0.847) in favor of High experience.

Academic Rank

Table 5 shows differences in the means and Standard Deviation in the degree of practicing shared governance by faculty members in the Jordanian universities based on their academic rank.

Table 5. Means and Standard Deviation in the degree of practice of faculty members of shared governance in the Jordanian universities based on their academic rank

		N	**Mean**	**SD**
University Board Role	Full professor	39	1.62	.650

		N	Mean	SD
	Associate	83	1.28	.411
	Assistant	109	1.62	.595
	Total	231	1.50	.569
President Role	Full professor	39	1.87	.817
	Associate	83	2.28	.393
	Assistant	109	1.89	.597
	Total	231	2.03	.608
Faculty Members Role	Full professor	39	1.61	.781
	Associate	83	1.55	.420
	Assistant	109	1.95	.714
	Total	231	1.75	.663
Joint Decision-Making	Full professor	39	1.71	.955
	Associate	83	1.99	.530
	Assistant	109	2.32	.970
	Total	231	2.10	.863
Organizational Environment	Full professor	39	1.70	.934
	Associate	83	1.92	.450
	Assistant	109	2.20	.731
	Total	231	2.01	.709
Climate for Governance	Full professor	39	1.70	.976
	Associate	83	1.88	.635
	Assistant	109	2.38	.909
	Total	231	2.09	.877

Table 6 shows One Way Analysis of Variance for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their Academic Rank. (Full=39, Associate=83, and Assistant=109).

Table 6. One Way Analysis of Variance for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their academic rank

		Sum of squares	df	Mean square	F	Sig.
University Board Role	Between Groups	6.118	2	3.059	10.204	.000*

		Sum of squares	df	Mean square	F	Sig.
	Within Groups	68.351	228	.300		
	Total	74.469	230			
President Role	Between Groups	8.443	2	4.222	12.554	.000*
	Within Groups	76.671	228	.336		
	Total	85.114	230			
Faculty Role	Between Groups	8.278	2	4.139	10.165	.000*
	Within Groups	92.833	228	.407		
	Total	101.111	230			
Joint Decision-Making	Between Groups	12.132	2	6.066	8.674	.000*
	Within Groups	159.456	228	.699		
	Total	171.588	230			
Organizational Environment	Between Groups	8.265	2	4.133	8.753	.000*
	Within Groups	107.652	228	.472		
	Total	115.917	230			
Climate for Governance	Between Groups	18.598	2	9.299	13.360	.000*
	Within Groups	158.701	228	.696		
	Total	177.299	230			

*. The mean difference is significant at the 0.05 level.

Based on the results of the least significant difference (Scheffe) post hoc test were used as shows in Table 6.

Table 6. Scheffe post hoc test for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their academic rank.

		Associate	Assistant
University Board's Role	Full professor	.343*	.006
	Associate		.337*
President Role	Full professor	.410*	.016
	Associate		.393*
Faculty Members Role	Full professor	.055	.339*
	Associate		.395*
Joint Decision-Making	Full professor	.284	.610*
	Associate		.325*
Organizational Environment	Full professor	.212	.495*
	Associate		.282*
Climate for Governance	Full professor	.178	.677*
	Associate		.498*

*. The mean difference is significant at the 0.05 level.

In University Board's Role, significant differences were found between full professor (M = 1.62, SD = 0.650) and associate (M = 1.28, SD = 0.411) in favor of full professor, and significant differences were found between associate (M = 1.28, SD = 0.411) and assistant (M = 1.62, SD = 0.595) in favor of assistant. In President Role, significant differences were found between full professor (M = 1.87, SD = 0.817) and associate (M = 2.28, SD = 0.393) in favor of associate, and significant differences were found between associate (M = 2.28, SD = 0.393) and assistant (M = 1.89, SD = 0.597) in favor of associate.

In Faculty Role, significant differences were found between full professor (M = 1.61, SD = 0.781) and associate (M = 1.55, SD = 0.420) in favor of full professor, and significant differences were found between associate (M = 1.55, SD = 0.420) and assistant (M = 1.95, SD = 0.714) in favor of assistant. In Joint Decision-Making, significant differences were found between full professor (M = 1.71, SD = 0.955) and associate (M = 1.99, SD = 0.530) in favor of associate, and significant differences were found between associate (M = 1.99, SD = 0.530) and assistant (M = 2.32, SD = 0.970) in favor of assistant.

In Organizational Environment, significant differences were found between full professor (M = 1.70, SD = 0.934) and associate (M = 1.92, SD = 0.450) in favor of associate, and significant differences were found between associate (M = 1.92, SD = 0.450) and assistant (M = 2.20, SD = 0.731) in favor of assistant. In Climate for Governance, significant differences were found between full professor (M = 1.70, SD = 0.976) and associate (M = 1.88, SD = 0.635) in favor of associate, and significant differences were found between associate (M = 1.88, SD = 0.635) and assistant (M = 2.38, SD = 0.909) in favor for assistant.

Classification of College

Table 7 shows t-test for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their classification of College.

Table 7. t-test for differences in the degree of practice of faculty members of shared governance in the Jordanian universities based on their classification of College

Dimensions	Discipline	N	Means	SD	t	P
University Board's Role	humanities	122	1.50	.526	.023	.982
	scientific	109	1.50	.615		
President Role	humanities	122	2.10	.566	1.876	.062
	scientific	109	1.95	.645		
Faculty Members Role	humanities	122	1.79	.595	1.052	.294
	scientific	109	1.70	.730		
Joint Decision-Making	humanities	122	2.08	.816	.391	.696
	scientific	109	2.12	.916		

Dimensions	Discipline	N	Means	SD	t	P
Organizational Environment	humanities	122	1.99	.662	.420	.675
	scientific	109	2.03	.762		
Climate for Governance	humanities	122	2.08	.813	.186	.852
	scientific	109	2.10	.948		

Table 7 reveals no significant differences were found in faculty members practicing shared governance based on the classification of the college.

Conclusions

This study investigated the degree of practice of faculty members of shared governance in the Jordanian universities. All major decisions impacting the operations of colleges are centralized at the university level, the results of study reveals that the practice of faculty members of shared governance in all aspects (university board's role, the president's board's role, faculty members role, Joint Decision-Making, Organizational Environment, Climate for Governance) in the Jordanian universities was in low degree. The faculty members could be expected to participate in the process, if given the opportunity to. The fact that they don't, but points to the presence of other barriers that are preventing them from participating. Faculty members may value shared governance but they are not able to take advantage of it because the system is preventing it from taking place. Faculty members may see that the system is too autocratic, too inconsistent, unfair, and generally non-inclusive.

Based on the findings of the study, No differences were found in the degree of practice of faculty members of shared governance in the Jordanian universities based on their gender, and the classification of the college.

Significant differences were found in the degree of practice of faculty members based on their years of teaching in (University Board's Role, President Role, Faculty Members Role, Joint Decision Making, and Climate for Governance). In University Board's Role, significant differences were found between low experience in teaching and Med in favor for low experience, and significant differences were found between Med experience in teaching and high in favor of Med experience. Regarding President Role, significant differences were found between low experience in teaching and Med in favor of Med experience, and significant differences were found between Med experience in teaching and high in favor of Med experience. Regarding Faculty Members Role, significant differences were found between low experience in teaching and High in favor of High experience, and significant differences were found between Med experience in teaching and high in favor for High experience. Regarding Joint Decision-Making, significant differences were found between low experience in teaching and High in favor of High experience, and significant differences were found between Med experience in teaching and high in of High experience. Regarding Climate for Governance, significant differences were found between low experience in teaching and High in favor of High experience, and significant

differences were found between Med experience in teaching and high in favor for High experience.

Differences were found in the means and Standard Deviation in the degree of practice of faculty members of shared governance in the Jordanian universities based on their academic rank. In University Board's Role, significant differences were found between full professor and associate in favor of full professor, and significant differences were found between associate and assistant in favor for assistant. Regarding President Role, significant differences were found between full professor and associate in favor of associate, and significant differences were found between associate and assistant in favor of associate. Regarding Faculty Role, significant differences were found between full professor and associate in favor of full professor, and significant differences were found between associate and assistant in favor for assistant. Regarding Joint Decision-Making, significant differences were found between full professor and associate in favor of associate, and significant differences were found between associate and assistant in favor of assistant. Regarding Organizational Environment, significant differences were found between full professor and associate in favor of associate, and significant differences were found between associate and assistant in favor for assistant. Regarding Climate for Governance, significant differences were found between full professor and associate in favor of associate, and significant differences were found between associate and assistant in favor of assistant.

The literature on shared governance indicates that faculty commitment to shared governance is affected by the length of time faculty members remain in their institutions academic rank, and years of teaching). Professors are more interested in shared governance and are more willing to participate in the process, than associate and assistant professors (CSU, 2001; Giordani, 2005). If the literature is correct, professors, who are also part of high experience in years of teaching, reported high degree of practice of shared governance in the Jordanian universities. One possible explanation of why this may be a factor in Jordan is because of the status quo that exists in these universities.

Recommendations

The following recommendations are made in this study for the stakeholders in the shared governance process in Jordan: Policymakers can benefit from the data provided in this study. Based on the findings of this study, the researchers recommend that

- the Jordanian universities pay attention to the leadership structure in their universities

- Developing policies that will serve to encourage faculty inclusiveness in shared governance may result in more meaningful roles for faculty in the process

- Leadership of these universities need to encourage active participation in discussions about the issues that affect them, and should assert themselves more so as to ensure that they are participating in these conversations about level education issues in Jordan

- There is much scope for further studies on shared governance in Jordanian universities. The researchers recommend additional research to include the perspectives of the other stakeholders

- The researchers also recommend that further studies examine the organizational structure of Jordanian universities and the impact of that on shared governance

- The researchers also suggest that it would be beneficial to utilize a qualitative approach for further studies on shared governance in Jordanian universities

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Appendix

Evaluation of Shared Governance

The primary purpose of this study was to assess the Faculty practices shared governance in Jordanian Universities.

First: Information:

Please complete following by filling in the blank.

-       Gender: Male   (   )   Female   (   )
-       Academic Rank: Professor   (   )
                                        Associate Professor   (   )
                                        Assistant Professor   (   )
-       Years of Teaching:
-       Classification of University: Public   (   )   Private   (   )

Second: How critical are the following items to the Faculty practices shared governance in Jordanian Universities. Below is a list of various statements about your institution. Read each statement carefully and decide the extent to which it actually applies to your case. Use the following scale: **Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), Strongly Disagree (1)**.

	Items	5	4	3	2	1
The University Board's Role						
1	*Faculty members representatives can access the information necessary to make informed decisions and recommendations to the university board*	5	4	3	2	1
2	*Information is provided in reasonable time to make informed decisions*	5	4	3	2	1
3	*Faculty members views are communicated to the president and the university board, and vice versa, accurately*	5	4	3	2	1
4	*There is effective communication among college employees and the administration, including the university board*	5	4	3	2	1
5	*There is good faith and an atmosphere of trust when it comes to communication across the campus and with the university board*	5	4	3	2	1
6	*There is consultation between the university board and the faculty members, on policy decisions, when key policies and issues are being discussed*	5	4	3	2	1
7	*That the governing board is involved in day-to-day operations of the institution*	5	4	3	2	1
The President's Role						
1	*The president's human relations skills*	5	4	3	2	1
2	*The president's conceptual skills*	5	4	3	2	1
3	*The president's technical skills*	5	4	3	2	1
4	*The relationship between president and faculty*	5	4	3	2	1
5	*That there is consultation with faculty on policy decisions when key policies and issues are being discussed*	5	4	3	2	1
6	*The relationship between president and board*	5	4	3	2	1
7	*The relationship between faculty members and president*	5	4	3	2	1
8	*The relationship between faculty members and university board*	5	4	3	2	1
The Faculty's Role						
1	*That there is faculty members participation in areas where faculty members lack authority*	5	4	3	2	1
2	*That there is faculty members participation in areas where faculty members have authority",*	5	4	3	2	1
3	*That there is collaboration between faculty and administration when it comes to institutional projects*	5	4	3	2	1
Joint Decision-Making						
1	*The selection process for members of the board for the institution*	5	4	3	2	1
2	*The evaluation process for members of the board of the institution*	5	4	3	2	1
3	*The board interaction with faculty regarding issues impacting faculty*	5	4	3	2	1

4	*The selection process for the president of your institution*	**5**	**4**	**3**	**2**	**1**
5	*The selection process for faculty for your institution*	**5**	**4**	**3**	**2**	**1**

Organizational Environment

1	*Faculty Involvement in Establishing Budget Priorities*	**5**	**4**	**3**	**2**	**1**
2	*Faculty Involvement in Library Priorities*	**5**	**4**	**3**	**2**	**1**
3	*Faculty Involvement in Creating New Academic Programs*	**5**	**4**	**3**	**2**	**1**
4	*Faculty Involvement in Hiring New Faculty*	**5**	**4**	**3**	**2**	**1**
5	*Setting Priorities for Construction/ Repair of Buildings*	**5**	**4**	**3**	**2**	**1**
6	*Evaluation of Colleagues' Teaching*	**5**	**4**	**3**	**2**	**1**
7	*Evaluation of Colleagues' Service Contributions*	**5**	**4**	**3**	**2**	**1**
8	*Setting Tenure and Promotion Standards*	**5**	**4**	**3**	**2**	**1**
9	*Making Individual Tenure and Promotions Decisions*	**5**	**4**	**3**	**2**	**1**

Climate for Governance

1	*The faculty is able to monitor the relationships that the institution has with outside organizations*	**5**	**4**	**3**	**2**	**1**
2	*That the level of influence from outside organizations on governance of this institution is kept to a minimum*	**5**	**4**	**3**	**2**	**1**
3	*That relationships between the outside organizations and the institution be kept to a minimum*	**5**	**4**	**3**	**2**	**1**