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EDITOR'S NOTE

Welcome to this edition of JIRSEA and thank you to all contributors.

In this edition we bring you researched papers from Jordan at one end and all the way east to Australia at the other.

The importance of students and their perceptions are topics of several of the papers. This signals the continuing concerns of higher education institutions (HEIs) on their primary client-customers. As we know, students embody an enigma and uniqueness. They are both our *raw material* for our teaching and learning processes, but are simultaneously our customers. Academics and university administrators must be able to find the happy medium as it were in treating them.

Private universities in Southeast Asia for example, face an unenviable challenge in this respect, for the students themselves or their parents, are very clear of their *customer* roles. The students' academic performances, however, sometimes heighten this dilemma.

In this edition, we have introduced a column called simply "**Comments**". The particular topic this time is *Quo Vadis Higher Education?* The idea of this column is to encourage people especially academics to think beyond their respective expertise and even disciplines in order to see the wider picture of the *ship* we are in. I hope this first *Comments* would encourage you to submit one for our future editions.

A researched paper on the reactions of academics to *On-line Learning* nicely follows up the essence of *Comments* above. The empowerment of students through on-line learning is indeed one of the ways, though not new, to respond to some of the challenges of the new generations of students.

For those who wish to contribute to JIRSEA please visit our website http://www.seaair.info . Also please note that the next SEAAIR Conference will be held on 13-15 October 2009 in Batu Ferringhi, Penang, Malaysia and hosted by Malaysia's recognized research university, Universiti Sains Malaysia (USM). Further information is available on the Conference website http://www.ptpm.usm.my/seaair2009

Happy reading,

Nirwan Idrus

Editor

Student Perceptions of Learning and Support Environments within a Technological University

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Abstract

Student and other higher education surveys constitute an important aspect of institutional research. In particular such surveys provide decision support to the institution, as well as underpinning many of the quality and planning processes within universities. Student experience surveys are particularly important in a climate of accountability and an increasingly diverse student population. Accordingly, this paper reports on a student survey undertaken within a University of Technology in 2008, covering perceptions of the learning and teaching environment, including the Course Experience Questionnaire good teaching and overall satisfaction items.

Given the increasing diversity of the student body, survey findings were cross-tabulated against a number of demographic and related variables to ascertain their effects on student perceptions of learning and teaching. A key finding of the study is that whichever way the data is segmented, the students were found to be dissatisfied with their workload. Inter alia it is suggested that the students be provided with workshops on effective time management to at least partially traverse their difficulties in this respect.

Introduction

The case study institution is a technologically focused tertiary education institution that is cross-sectoral in nature. This study will focus only on the experiences within the higher education sector.

One of the major student surveys undertaken within this institution each semester is the Student Experience Survey that focuses on the student feedback at the program level. The survey instrument is organised into three broad sections as follows:

- Section one gathers information on students' experience of teaching quality. It focuses on teachers' feedback, motivation, attention, understanding of problems and skill in explaining concepts; it includes items from the standard Course Experience Questionnaire (CEQ) instrument so as to provide leading indicators, prior to the student's graduation.
- Section two captures information on student experiences related to the support environment including the library, computer facilities and other activities. It is not the purpose of this paper to focus on that, but on the "core university business" of learning and teaching.
- Section "About You" captures some demographic information including gender, level of program, age, student load (Full-time and Part-time), citizenship and the like.

Although a number of surveys of this nature are undertaken within the institutional context, there is a dearth of studies that relate the two components of the survey with demographic and teaching standard variables in order to ascertain whether student experiences vary and how any important differences may be addressed through targeted strategies in the future. This is the purpose of the current study.

Literature Review

Student experience plays an important role in measuring institutional performance aspects such as learning and teaching performance (Australian Government, 2007). Measures derived from the Course Experience Questionnaire furnish information on whether the institution has provided a high quality learning experience to students. This questionnaire was developed in the early 1990s as a tool for measuring the quality of student learning experiences at a national level (Niland 1998 and Long & Johnson 1997). It is designed specifically for measuring student experience in terms of Higher Education learning and teaching outcomes.

The CEQ referred to in the paper is actually part of the Australian Graduate Surveys which includes the CEQ, the Graduate Destination Survey and the Postgraduate Research Experience Questionnaire. The questionnaire uses a five point Likert scale with responses

varying from strongly disagree to strongly agree; it also has three core sets of items and eight optional sets of items as described below (Graduate Careers Australia 2007, p.2):

The core items compose the Good Teaching Scale (GTS), Generic Skills Scale (GSS) and Overall Satisfaction Item (OSI).

The optional items relate to Clear Goals and Standards Scale (CGS), Appropriate Workload Scale (AWS), Appropriate Assessment Scale (AAS), Intellectual Motivation Scale (IMS), Student Support Scale (SSC), Graduate Qualities Scale (GQS), Learning Resources Scale (LRS) and Learning Community Scale (LCS).

The GCA instruments also include demographic questions that collect information on such variables as gender, age, mode of attendance and citizenship (Graduate Careers Australia, 2008, p.74). Some of the demographic variables have been studied in the past and these are considered below.

Age
Hand, Trembath & Elsworthy (1998) and Long & Johnson (1997) noted that older graduates have a higher satisfaction level on the Good Teaching Scale and the Appropriate Assessment Scale. More recently, Graduate Careers Australia (2008) notes similar findings: mature age students were found to have a higher satisfaction level on these two scales and also on the Intellectual Motivation Scale (IMS).

Gender
Hand, Trembath & Elsworthy (1998) found little difference between male and female graduates on the CEQ scales. Long & Johnson (1997) indicated that female and non English speaking graduates have a lower score for Appropriate Workload. Given the divergence of findings between these two studies, it will be useful to revisit the gender differences in the CEQ outcomes survey.

Citizenship
Hand, Trembath & Elsworthy (1998) mentioned that there was little or no differences between local and international graduates on the Overall Satisfaction item (OSI) and the Good Teaching Scale (GTS). However, international graduates showed less satisfaction than local graduates on the Appropriate Workload Scale (AWS) and Appropriate Assessment Scale (AAS). Ten years later, Graduate Careers Australia (2008) in *Graduate Course Experience 2007*, found that in most items on the CEQ, international fee paying graduates showed less satisfaction than domestic ones.

Another study finding unrelated to CEQ from Norwani (2005) indicates that I-E-O model shows a positive relationship between input, environment and output. Input factors relate to demographic factors, while environmental factors relate to academic and social aspects. In other words, that international study found that there is a relationship between demographic factors and certain academic aspects.

From the above findings, it is clear that at the national survey level, age factor contributes to the satisfaction level of students on Good Teaching Scale, Appropriate Assessment Scale and also Appropriate Workload Scale. Norwani (2005) notes that student satisfaction levels vary with their gender, race and entry qualification. Further it is observed that each university might have its own unique result on their CEQ analysis as they differ in their student characteristics (Graduate Careers Australia, 2008). For example, a study from Monash University found that their international graduates' GTS and GSS items tended to be lower than domestic ones' (Thakur & Hourigan, 2007). Given the variations in CEQ results according to certain demographic variables, it will be of interest to consider a study within the context of a university of technology that examines this matter further.

Based on this University's 2008 Student Feedback - Summary Report (Monk, 2008), student satisfaction in relation to six CEQ Scales used by the institution have shown an increase of overall satisfaction level from 62 % in 2005 to 71% in 2008. However, when satisfaction level is broken down by demographic factors, would the resulting study find any statistically significant variation of learning and teaching scale outcomes against such variables? This is the focus of the present study.

Methodology

This study investigates the relationships between percentage satisfaction rates and age, program year (commencing or re-enrolling), gender and citizenship. Data for the analysis was obtained from the University's program level survey which is called Student Experience Survey (SES). This survey has a similarity with the GCA survey in that it incorporates the CEQ and demographic questions. However, the GCA sponsored project is a survey of graduates while SES is a program level survey for current students. The SES is administered every semester by the University's survey unit.

The survey data for this study was collected from semester 1 2008 which is the most current data available. The Student Experience Survey is a program service level survey that is not compulsory for the academic organisational units. The survey unit invites Schools to participate in this survey as an input into their program review. The total survey forms requested by the Schools were 11,772 forms with 3,515 of those being completed, giving the response rate of 29.86%. The survey covered 21 schools and 141 programs.

Sample size and representativeness

University statistics show that total Higher Education student enrolments in 2007 were 43,974 with 21,666 males and 22,308 females (Statistics & Reporting Unit, 2008). Thus in the total population 49.3% were male students and in the survey responses 47.9% were male; the difference in the proportion of male students, however, was not statistically significant ($Z=1.13$, $p>0.05$). This suggests that the sample was representative of the total

population in terms of student gender, thus providing a degree of confidence in relation to the findings of the study along this dimension.

Concerning student age distribution, 72.9% of the students in the sample were less than 25 years old whereas in the total population only 60.9% of the students were in this age group. Unfortunately the difference in proportions was found to be statistically significant (Z=13.5, p<0.01) suggesting that the younger age group may have been over-represented in the sample. Nevertheless, the more youthful sample may be explained by certain factors that impinge on the implementation of the Student Experience Survey within the case study institution. The latter is a major provider of distance education and unfortunately such students were not included in the survey since it is implemented through the classes on campus. External studies students tend to be drawn largely from the older age groups and their exclusion would have impacted on the age distribution in the sample. This then constitutes one of the limitations of the study.

Data analysis

The SES has two sections. Section one concerns teaching and learning; it includes CEQ and demographic questions. This section of the survey provides data for program annual reports and supports school plan, budget and profile decisions (Patrick, 1998). Section two covers questions related to university facilities and support, such as library, computers, student support and administration. These non-academic aspects will not be covered in the present study and are not discussed further.

There are 27 questions on the first section to measure students' academic satisfaction level. These questions are grouped into six scales as follows:

- Good Teaching Scale (GTS)
- Generic Skills Scale (GSS)
- Overall Satisfaction Item (OSI)
- Clear Goals and Standards Scale (CGS)
- Appropriate Workload Scale (AWS)
- Appropriate Assessment Scale (AAS)

For each CEQ question, students are asked to select their response on a 5 point scale from strongly disagree to strongly agree. Those with strongly disagree, disagree and neutral answers are given 0% weight and those who agree and strongly agree answers are given 100 % weight in the calculation of the satisfaction levels on the scales. This is consistent with the "percentage agreement" approach used by the Graduate Careers Australia (2008, p.2).

Since CEQ scales have more than one question, in order to calculate the six scales, all the weights in each scale are added and then divided by total number of questions providing

a percentage outcome for each of the scales. This gives each student a percentage satisfaction score for each of the six scales.

Results

Learning and Teaching Satisfaction Scales

Commencing and Other Students
Table 1 compares the Good Teaching Scale (GTS) outcomes for commencing and later year students within the Case Study University. It was found that differences in the pattern of responses were statistically significant (Chi-square=102.3, p<0.001). It appears that the commencing students were somewhat more positive about their teaching experiences than the returning students with a majority of such students (51%) assigning a GTS of greater than 50% in comparison to their returning student colleagues (47%).

Table 1: Good Teaching Scale for Commencing/Returning Students

Good Teaching Scale Score	Percentage	
	Commencing	Returning
0.0%	8.7	12.6
16.7%	10.7	12.8
33.3%	13.6	12.5
50.0%	16.2	14.6
66.7%	15.8	12.4
83.3%	15.6	14.5
100.0%	19.5	20.5

Table 2 presents the Generic Skills Scale (GSS) score comparisons for commencing and later year students. Overall the outcomes from the GSS appear more positive than that observed for the GTS, but in this case later year students appear to be more positive than their commencing student counterparts. In particular, 61% of the returning students had assigned a GSS greater than 50% in comparison to 56% of commencing students. This difference in response pattern was statistically significant (Chi-square=114.2, p<0.001).

Table 2: Generic Skills Scale for Commencing/Returning Students

Generic Skills Scale Score	Percentage	
	Commencing	Returning
0%	5.8	6.2
17%	9.2	7.7
33%	12.7	10.2
50%	16.3	14.9
67%	19.2	16.7
83%	20.1	21.2
100%	16.8	23.2

Table 3 compares commencing and later year students' perceptions of clear goals and standards. The response pattern was again statistically significant (Chi-square=71.7, p<0.01). Fewer commencing students than returning students were clear about goals and standards (41% of commencing students were over 50% satisfied with this aspect compared with 47% of returning students).

Table 3: Clear Goals & Standards Scale for
Commencing/Returning Students

Clear Goals & Standards Score	Percentage	
	Commencing	Returning
0%	17.5	15.5
25%	21.3	19.2
50%	20.5	18.0
75%	23.5	25.6
100%	17.2	21.7

Table 4 reveals that satisfaction with appropriate workload is relatively low among both commencing and returning students: around 11% of the commencing students indicated greater than 50% satisfaction with this scale compared with just under 10% of the returning students being satisfied in this respect; the difference in responses between the two sub-groups was not statistically significant (at p<0.01 level). Clearly inappropriate and particularly heavy student workloads may create learning difficulties for students. In some cases students may require counselling to juggle their workload and to varying degrees (as applicable) other pressures including employment, child rearing and the like.

Table 4: Appropriate Workload Scale for
Commencing/Returning Students

Appropriate Workload Score	Percentage	
	Commencing	Returning
0%	36.5	35.1
25%	35.3	36.9
50%	17.2	18.3
75%	9.2	8.1
100%	1.7	1.5

Table 5 shows that both commencing and returning students experienced very similar distribution of responses in respect to the appropriate assessment scale with the difference in observation not being statistically significant (at p<0.01 level). Around 46% of the commencing and 47% of returning students expressed greater than 50% satisfaction in terms of this scale.

Table 5: Appropriate Assessment Scale for
Commencing/Other Students

Appropriate Assessment Score	Percentage	
	Commencing	Returning
0%	10.3	8.4
25%	20.8	21.8
50%	23.3	23.2
75%	22.8	23.4
100%	22.7	23.2

In terms of overall satisfaction, commencing students (71%) expressed greater satisfaction than their returning student counterparts (68%) with the observed difference being statistically significant (Chi-square=23.6, p<0.01).

Program Level
Student response to the various learning and teaching scales was also analysed according to the level of the program. Concerning the latter, it is noted that these CEQ derived scales are not relevant to postgraduate research program. Hence the following findings contrast the findings in relation to undergraduate and postgraduate coursework programs:

- *Good Teaching* 46% of the Bachelors' level students and a much higher 57% of the postgraduate coursework students expressed greater than 50% satisfaction in respect to the Good Teaching Scale. This difference in responses was statistically significant (Chi-square=62.0, p<0.001).
- *Generic Skills* Although the postgraduate coursework students (60% were greater than 50% satisfied) had expressed slightly greater satisfaction on the generic skills scale than undergraduates (59%, Chi-square=17.6, p>0.05) the difference was not statistically significant.
- *Clear Goals and Standards* Similarly the goals and standards appear to be equally clear to undergraduate (45%) and postgraduate by coursework students (44%, Chi-square=18.5, p>0.01).
- *Appropriate Workload* Both undergraduate (only 10% were more than 50% satisfied) and postgraduate coursework students (11%) were largely dissatisfied with the appropriateness of their academic workload with no statistical difference in terms of the pattern of their responses to this scale (Chi-square=11.9, p>0.05).
- *Appropriate Assessment* Relatively high and similar levels of satisfaction were expressed by undergraduate (47% were greater than 50% satisfied) and postgraduate students (47%, Chi-square=16.9, p>0.05) in terms of their perception of the appropriateness of academic assessment.
- *Overall Satisfaction* The overall satisfaction rate for undergraduates (70%) was greater than that observed for postgraduate courses (68%) although the difference was not statistically significant (Chi-square=1.4, p>0.05).

Attendance Mode
There were some significant differences in learning and teaching scale responses by students' attendance mode, in relation to Clear Goals, Appropriate Workload and Appropriate Assessment as follows:
:
- *Clear Goals and Standards* Part-time students (46% expressed greater than 50% satisfaction) were more positive about the goals and standards being clear in comparison to full-timers (44%, Chi-square=14.5, p<0.01).
- *Appropriate Workload* Again the negative perceptions of the appropriateness of the academic workload appears to be pervasive with only 10% of the full-time students expressing over 50% satisfaction with this scale whilst a slightly greater percentage of part-time students (13%, Chi-square=29.2, p<0.001) were satisfied with their workload at the University.
- *Appropriate Assessment* Part-time students were more positive about the appropriateness of their academic assessment (56% were more than 50% satisfied with the items on this scale) than full-time students (44%) with the difference in perceptions being statistically significant (Chi-square=23.0, p<0.001).

However, there was no significant difference between part-time and full-time students in relation to Good Teaching, Generic Skills, and Overall Satisfaction:
- *Good Teaching* Although part-time students (53% sustained greater than 50% satisfaction) recorded a greater satisfaction on the GTS than their full-time counterparts (49%), the difference was not statistically significant (Chi-square=10.2, p>0.05).
- *Generic Skills* Nearly 59% of full-time students expressed greater than 50% satisfaction with generic skills development in their program; this satisfaction rate is very similar to that mentioned by the part-time students (58%) and the difference in responses for the attendance mode was not statistically significant (Chi-square = 7.3, p>0.05).
- *Overall Satisfaction* Both full-time (69%) and part-time students (71%) expressed relatively high overall satisfaction with the learning and teaching environment (Chi-square=0.6, p>0.05).

Student Age Group
Student age group is yet another demographic variable captured by the Student Experience Survey. The following compares the learning and teaching scales outcomes for the younger (less than 25 years old) and older student sub-populations (25 years or older). While there was no significant difference in relation to the Overall Satisfaction item, overall older students were more satisfied than younger students.

- *Good Teaching* Students at or below 24 years of age (47% sustained greater than 50% satisfaction) tended to be less satisfied with the GTS items than the older students with the difference in perceptions being statistically significant (55%, Chi-square=80.0, p<0.001).

- **_Generic Skills_** Again the older age group students (61%) were more positive about generic skills formation than younger students (58%, Chi-square=52.3, p<0.001).
- **_Clear Goals and Standards_** The 25 and over age group (46% expressed greater than 50% satisfaction) reported more satisfaction with the clarity of goals and standards than the younger students (43%) with the difference being statistically significant (Chi-square=44.6, p<0.001).
- **_Appropriate Workload_** While satisfaction with academic workloads was generally low, the older students (11% expressed over 50% satisfaction) sustaining slightly higher satisfaction than their younger colleagues (10%, Chi-square=36.8, p<0.01).
- **_Appropriate Assessment_** The older students (50%) expressed greater satisfaction regarding the appropriateness of academic assessment in comparison with younger students (44%, Chi-square=43.2, p<0.001).
- **_Overall Satisfaction_** Overall satisfaction with the learning and teaching environment was the same for the younger (69%) and older age groups (69%, Chi-square=8.0, p>0.05).

Gender
Interestingly, gender was not a statistically significant variable (at p<0.01 level) in terms of the learning and teaching scales, with one exception: the female respondents (50%) expressed greater satisfaction with the appropriateness of assessment in comparison with their male counterparts (41%, Chi-square=33.3, p<0.001).

Citizenship
Local students (including students with Australian permanent residency status) were significantly more satisfied than international students on almost all the teaching and learning measures, apart from Good Teaching.
- **_Good Teaching_** Satisfaction rates were very similar in terms of local (50%) and international students (47%) with regards to the GTS (Chi-square=13.5, p>0.05).
- **_Generic Skills_** Australian respondents (61% expressed greater than 50% satisfaction on the scaled items) were more positive about the attainment of generic skills than their international colleagues (54%, Chi-square=22.2, p<0.001).
- **_Clear Goals and Standards_** A much larger gap exists with respect to the sub-groups in relation to the clarity of the goals and standards, in particular, again the Australian students scored higher on this scale (48% sustaining greater than 50% satisfaction) in comparison to international students (37%, Chi-square=52.7, p<0.001).
- **_Appropriate Workload_** Again the absolute satisfaction with the appropriateness of the workload was relatively low for both sub-groups but the international students were more negative about this matter (only 6% indicated greater than 50% satisfaction on this scale) than local students (12%, Chi-square=35.4, p<0.001).

Table 6: Course Experience Responses by Age

Good Teaching Scale	25 years ≤	≤ 24 years	Note
The teaching staff of this program motivate me to do my best work	70%	61%	
The staff put a lot of time into commenting on my work	53%	46%	✓
The staff really tried to understand difficulties I might have with the work	58%	52%	
The teaching staff normally give me helpful feedback on how I am going	59%	53%	
My lecturers are extremely good at explaining things	63%	57%	
The teaching staff work hard to make their courses interesting	69%	62%	

Generic Skills Scale			
The program develops my problem-solving skills	76%	71%	
The program sharpens my analytic skills	76%	69%	
The program helps me develop my ability to work as a team member	54%	59%	
As a result of my program, I feel confident with unfamiliar problems	58%	57%	
The program improves my skills in written communication	63%	56%	
My program helps me develop the ability to plan my own work	67%	68%	

Overall			
Overall, I am satisfied with the quality of this program	72%	71%	

Clear Goals and Standards Scale			
It was always easy to know the standard of work expected	57%	57%	
I usually have a clear idea of where I am going and what is expected of me in this program	65%	61%	
It was often hard to discover what is expected of me in this program (*)	44%	39%	✓
The staff made it clear from the start what they expect from students	59%	53%	

Appropriate Workload Scale			
The workload is too heavy (*)	31%	28%	✓
I was generally given enough time to understand things I have to learn	56%	51%	
There is a lot of pressure on me as a student in this program (*)	21%	20%	✓
The sheer volume of work to be got through in this program means that it can't all be comprehended (*)	33%	28%	✓

Appropriate Assessment Scale			
To do well in this program, all you really need is a good memory (*)	64%	56%	
The staff seem more interested in testing what I have memorised than what I have understood (*)	61%	53%	
Too many staff ask me questions just about facts (*)	57%	54%	
The assessment methods employed in this program require an in-depth understanding of the program content	72%	67%	

Other			
Teaching staff can be hard to contact	26%	30%	✓
It's easy for me to get the information I need about my program	62%	59%	

Source: Student Experience Survey Semester 1 - 2008 - RMIT
University

Note:
✓ means the area needs some improvement. It is chosen when the
satisfaction level of students is ≤ 50 %.
 (*) Negative questions.

- ***Appropriate Assessment*** Australian students (52%) were more positive about the appropriateness of academic assessment than was the case with the international students (33%, Chi-square=129.5, p<0.001).
- ***Overall Satisfaction*** Local students (71%) similarly scored more highly on the overall satisfaction with the learning and teaching environment than their international counterparts (65%, Chi-square=12.8, p<0.001).

From the above analysis, there are some findings in relation to demographic factors and satisfaction level on CEQ scales.
- First, there was no significant difference in satisfaction between male and female students, except for Appropriate Work Assessment Scale where female students were more satisfied than males.
- Second, in term of gender and citizenship there were significant differences between younger and older students in most of the CEQ scales, except for overall satisfaction level which was the same for both age groups (69%).
- Third, local students were significantly more satisfied on more CEQ scales than international classmates.
- Fourth, the Appropriate Workload Scale consistently showed the lowest satisfaction levels across the six demographic factors analysed above.

In summary, age and citizenship factors showed the most significant relationship to CEQ scales for this technological university.

These two factors have been previously discussed in the literature review and it seems it has become a sustained trend that younger students are less satisfied on the CEQ scales than mature age students. Also lower satisfaction rates tend to be sustained by international students for all of the CEQ scales.

A more detailed approach is needed to identify where to improve the experience of younger and international students. Tables 6 and 7 provide this detail, giving a breakdown for these groups across the individual questions of the CEQ.

Table 7: Course Experience Item Responses by Citizenship

Good Teaching Scale	% agree		
	Local	International	Note
The teaching staff of this program motivate me to do my best work	64%	64%	
The staff put a lot of time into commenting on my work	48%	49%	✓
The staff really tried to understand difficulties I might have with the work	55%	50%	✓
The teaching staff normally give me helpful feedback on how I am going	52%	61%	
My lecturers are extremely good at explaining things	62%	52%	
The teaching staff work hard to make their courses interesting	68%	57%	

Generic Skills Scale			
The program develops my problem-solving skills	75%	68%	
The program sharpens my analytic skills	73%	66%	
The program helps me develop my ability to work as a team member	58%	57%	
As a result of my program, I feel confident with unfamiliar problems	59%	54%	
The program improves my skills in written communication	60%	50%	✓
My program helps me develop the ability to plan my own work	69%	65%	

Overall			
Overall, I am satisfied with the quality of this program	73%	66%	

Clear Goals and Standards Scale			
It was always easy to know the standard of work expected	60%	50%	✓
I usually have a clear idea of where I am going and what is expected of me in this program	66%	55%	
It was often hard to discover what is expected of me in this program (*)	43%	34%	✓
The staff made it clear from the start what they expect from students	57%	53%	

Appropriate Workload Scale			
The workload is too heavy (*)	33%	20%	✓
I was generally given enough time to understand things I have to learn	54%	50%	✓
There is a lot of pressure on me as a student in this program (*)	20%	21%	✓
The sheer volume of work to be got through in this program means that it can't all be comprehended (*)	33%	20%	✓

Appropriate Assessment Scale			
To do well in this program, all you really need is a good memory (*)	64%	46%	✓
The staff seem more interested in testing what I have memorised than what I have understood (*)	60%	47%	✓
Too many staff ask me questions just about facts (*)	60%	44%	✓
The assessment methods employed in this program require an in-depth	70%	63%	

understanding of the program content			

Other			
Teaching staff can be hard to contact	29%	28%	✓
It's easy for me to get the information I need about my program	63%	54%	

Source: Student Experience Survey Semester 1 - 2008 - RMIT University

Note:
✓ means the area need to have some improvement and it is chosen when
the satisfaction level of international students is ≤ 50 %.
(*) Negative questions.

Regarding age segmentation, the detailed breakdown in Table 6 suggests that institutional action is required for younger students in the following areas:

- *Generic Teaching Scale*
  Greater effort is required by academic staff to comment on students' work.
- *Clear Goals and Standards Scale*
  More accessible information on program expectation is required.
- *Appropriate Workload Scale*
  More acceptable workload and pressure is needed and more applicable teaching method is advised including teaching methods that help students to understand the course instead of memorising it.
- *Other*
  Increase availability of teaching staff and their easier contact by students.

Regarding citizenship segmentation, the detailed breakdown in Table 7 suggests that actions are required for international students in the following areas:

- *Generic Teaching Scale*
  Greater effort from teaching staff to put more time in commenting on student's work and develop their responses to international students in understanding their work difficulties.
- *Generic Skills Scale*
  Students need facilities and support to improve their written communication.
- *Clear Goals and Standards Scale*
  Provide easily accessible information regarding the expectation of work standard and program.
- *Appropriate Workload Scale*
  Workload and teaching method need to be adjusted to reduce students' pressure and to help student to improve their understanding of the subjects (see next point).
- *Appropriate Assessment Scale*
  Teaching staff are required to modify their teaching method, from memorising points to understanding the course; from questioning fact to using more applicable questions with examples.

- *Other*
  Teaching staff ought to set aside time to make them more contactable by students.

Conclusions

An overall finding of the study is that whichever way the student population is segmented, the perception emerges that students are not happy with the academic workload sustained by them. Clearly this is a major area of challenge for the case study institution. Being a technological university, it is the case that the class contact hours would be relatively high in disciplines such as Engineering and the Applied Sciences. Accordingly strategies may need to be developed to render the class and non-class student workloads more manageable for such students. For instance, instead of placing all students into the standard semester "straight jacket" of 12 weeks, could the semester be lengthened for some disciplines so as to reduce the weekly class contact hour and related workloads? Alternatively, students might be given a workshop about time management for their study.

Younger counterparts have six factors that contribute to the lower satisfaction level and they are associated with GTS, CGS, AWS and other Scale. Predominantly, they are in the group that need more contact with their teaching staff to receive comment on their work and clarification on what is expected in their programs. The teaching staff might need to be more contactable probably at least by email or they could set aside time after classes to communicate with their students.

International students have thirteen factors which relate to GTS, GSS, CGS, AWS, AAS and contact with teachers generally; these appear to have contributed to an overall lower satisfaction level. They have the need for more contact with their teaching staff to receive comments on their work, to know the program expectation and to be understood for the difficulties they have with the work. International students also mentioned that the program does not quite improve their written communication. They might need language learning facilities support to improve their writing skills.

The case study institution is a major provider of tertiary education to international fee paying students. Indeed such students have been increasingly important in bridging the gap between the declining Government funding and the upward cost pressures on Australian higher education institutions. In this regard, the relatively lower satisfaction rate of international students in terms of generic skills formation, clarity of goals and standards and the like suggests a need to develop focused strategies to ameliorate difficulties faced by such students. It may be that further institutional research is required to more specifically diagnose the problems faced by international students, in this respect, so that future strategy development can be underpinned by knowledge rather than simply "shooting from the hip". In this respect the more detailed breakdown of data suggests that they need to be given enough time to understand things they have to learn, easier access to information about their program, and clarity about assessment expectations.

References

Australian Government (2007) *Learning and Teaching Performance Fund 2008: Assessment Process*. Published at
http://www.dest.gov.au/NR/rdonlyres/6BEA3DF7-9804-4D8B-8F54-7AE40EE6EAB8/17779/LTPF2008AssessmentProcessPartARevision300707.pdf

Graduate Career Australia (2008) *Graduate Course Experience 2007: The Report of the Course Experience Questionnaire*. Melbourne: Graduate Careers Australia.

Hand, T., Trembath, K. & Elsworthy, P. (1998) *Enhancing and Customising the Analysis of the Course Experience Questionnaire*. Canberra: DETYA.

Long, M. & Johnson, T. (1997) *Influences on the Course Experience Questionnaire Scales*. Canberra: DETYA.

Monk, H. (2008) *Student Feedback – Summary Report, Themes & Responses 2008*, Policy and Planning Group, RMIT University, Melbourne, Australia.

Niland, J. (1998) The CEQ and Accountability: a Systems-wide Perspective and the UNSW Approach, in T. Hand & K. Trembath: *The Course Experience Questionnaire Symposium 1998*. Canberra: DETYA.

Norwani, M.N. (2005) Learning Outcomes at Higher Learning Institution: Do Institutional Environments Matter?, Refereed Proceedings of 2005 Forum of the *Australasian Association for Institutional Research.* Published at http://www.aair.org.au/Forum2005/Norwani.pdf

Patrick, K. (1998) Using CEQ Results at RMIT, in T. Hand & K. Trembath: *The Course Experience Questionnaire Symposium 1998*. Canberra: DETYA.

Statistics & Reporting Unit (2008), *RMIT University 2007 Pocket Statistics*. Published at http://mams.rmit.edu.au/lj63q8bsujwe.pdf

Survey Services Centre (2008) *Student Experience Survey Manual*, Planning Group, RMIT University, Melbourne.

Thakur, M. & Hourigan C. (2007) International Student Experience: What Is It, What It Means and Why It Matters, *Journal of Institutional Research*, 13 (1), 42 – 61.

Construct Validation of an Arabic Version of the College Students' Self- Efficacy Scale for Use in Jordan

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Abstract

The purpose of this study was to determine whether exploratory factor analysis of the Arabic version of college students' self efficacy scale results in an interpretable factor structure consistent with the original English version of college students' self-efficacy scale (CSSES). The design of this study was an ex-post facto, with data collected using the survey method. The sample for this study consisted of a random sample of 305 students chosen from the Hashemite University. The CSSES consists of 32 items that measure different dimensions of self-efficacy among college students. Principle axis factoring was performed utilizing the oblique rotation method to uncover the underlying structure of the CSSES in Jordan (an Arabic culture). The finding realized four factor solution explained 34.88% of the common variance and produced a more meaningful structure. The four factors were named learning efficacy, planning efficacy, funding strategy, and organization efficacy.

Introduction and Theoretical Framework

Changes in the academic environment represented by globalization, organizational restructuring, and reform initiatives have prompted higher education institutions to graduate confident students with independent learning capabilities to better succeed in their future employment (Long, 2001; Zeegers, Martin & Martin, 1999). Previous research has emphasized the importance of initiating and processing learning on part of the learner (Taylor, 1999). For example, Hammond and Collins (1991) mentioned that learners need to develop the capability of directing their own learning and acting on the world around them, otherwise, they will be partially educated, and limited in what they can do. Moreover, learners need to be more independent and responsible for their own learning (Codde, 1996). This notion of independent learning is referred to as self-efficacy.

Self-efficacy is a term coined by Bandura (1977) which refers to one's beliefs in his/her own capability to perform a specific task or behavior. It has been shown through research that self-efficacy consistently impacts courses of action pursued, predicts performance, and enhances learning (Alderman, 1999; Cole & Latham, 1997; Maltby, 1995; Pajares, 1996; Phillips & Gully, 1997; Stevens & Gist, 1997; Woolfolk, 2001). Furthermore, the research indicates that individual's logic of self-efficacy is also related to achievement goals (Braten & Olaussen, 1998; Pajares, Britner & Valiante, 2000), attributions (Chase, 2001; Sherman, 2002), self-regulation (Joo, Bong & Choi, 2000; Malpass, O'Neil & Hocevar, 1999), and volition (Garcia, McCann, Turner & Roska, 1998). Based on that self-efficacy is regarded as a motivating factor that influence the courses of action individuals choose to pursue, the effort they put forth to achieve a task, the commitment level they put forth to successfully accomplish desired outcomes, and how long they will persevere in the face of obstacles (Bandura, 1977). According to Bandura (1982), perceptions of self-efficacy is what guides human's life decisions to undertake activities and choose situations deemed to be within capabilities for success. He further mentioned that once efficacy beliefs have been established, it is unlikely to be changed.

Bandura (1997) conceptualized self-efficacy as consisting of three areas: level, strength, and generality. Level refers to the degree of difficulty of the tasks that an individual feels able to perform. Strength refers to the confidence an individual has in his or her performance. Generality of self-efficacy concerns the range of situations in which an individual considers himself or herself to be efficacious (Lent & Hackett, 1987). The level and strength of self-efficacy will determine the initiation of a behavior, exerting and sustainability of an effort. Therefore, self efficacy provides individuals with the ability to influence their won courses of action and alter their environments (Bandura, 1977).

Self-efficacy for college student is comprised of four parts: (a) self-efficacy for self-regulated learning, which taps students' confidence in utilizing a variety of self-regulatory strategies in the academic environment without the constraint of particular subject matters (Bong, 1999), (b) self efficacy for academic achievement, defined as "personal judgments of one's capabilities to organize and execute courses of action to attain designated types of educational performances" (Zimmerman, 1995), (c) self-

efficacy for financial attitudes and difficulties. Financial capabilities not only impact students withdrawal decision directly, but also impact other variables including academic factors, socialization process, and psychological outcomes such as perceptions of fitting in at an institution, satisfaction with the institution, perceived utility of the education obtained at that institution, commitment to the goal of completing college, and intent to persist (Cabrera, Nora, & Castaneda, 1992), and (d) self-efficacy for career decision-making. Career decision-making self-efficacy identifies the extent to which students has self-efficacy about their abilities to engage in educational and occupational information gathering, goal planning, and decision- making (Taylor & Betz, 1983). Research on these four dimensions is well-documented in the literature. For example, previous research has emphasized that when students actively engage in the academic process, an increase in academic performance was obtained (Dweck, 1986; Zimmerman, 1989). Therefore, learners who utilize self-regulated learning strategy are regarded as high achievers (Zimmerman & Martinez-Pons, 1990).

According to Pajares (1996), self-efficacy research in academic settings has focused primarily on the link between efficacy beliefs and college major and career choice, particularly in the areas of science and mathematics (e.g. Brown, Lent, & Larkin, 1989; Farmer, Wardrop, Anderson, & Risinger, 1995). Moreover, mathematics self-efficacy of college students was a good predictor of their mathematics interest. Also, male students indicated higher mathematics self- efficacy than female students (Hackett, 1985; Hackett & Betz, 1989). Relationships among self-efficacy for self-regulation, academic self-regulatory processes, and academic achievement have also been reported in the literature (Risemberg & Zimmerman, 1992; Zimmerman & Ringle, 1981; Zimmerman & Bandura, 1994). Therefore, the research base to support the important role played by self-efficacy in predicting and explaining human behavior has been well documented.

Statement of the Problem

Self-efficacy research is well-documented in the literature in western societies. Many instruments have been developed abroad to measure college students' self-efficacy, especially the academic ones. However, to the researchers' best knowledge, no research instrument was found in Jordan to measure students' level of self-efficacy. Therefore, the primary purpose of the current study was to cross-culturally validate the constructs of a well-established instrument in the Jordanian context.

Research question

To achieve the purpose of the study, the following research question was addressed:
1. Will exploratory factor analysis of the ACSSES (an Arabic version of college students' self-efficacy scale) results in an interpretable factor structure consistent with the original CSSES (the English version of the college students' self-efficacy scale?

Importance of the Study

The present study yields especial importance to a variety of stakeholders. When validated, the present instrument can be used by university administrators to measure the level of students' self-efficacy and to take proactive steps toward low levels of self-efficacy. Seminars, workshops, cultural events can be used to enhance students' self-efficacy. Faculties can also emphasize the importance of students' self-efficacy by incorporating teaching strategies and curriculum designs that emphasizes self-efficacy as an important factor. Finally, students can learn about themselves facts that can help them in their future employment.

Research Methodology

Study Design

The design of this study was an ex-post facto, with data collected using the survey method. First, an equivalent Arabic version of the CSSES was developed using cross-cultural translation techniques developed by the researchers. The Arabic version of the CSSES was named "ACSSES" throughout the study. The ACSSES was administered to college student during the summer semester of the academic years 2007/2008. The latent factor structure of the ACSSES was investigated using exploratory common factor analysis with oblique rotation.

Population and Sample

The target population for this study was all the Hashemite University students enrolled for the summer semester of the academic years 2007/2008. The sample for this study consisted of a random sample of 305 students chosen from the Social and Humanities Faculties. Benson and Nasser (1998), Floyd and Widaman (1995), and Hair, Anderson, Tatham, and Black (1998) suggested factor analysis requires a minimum of five subjects per independent variable to assure adequate statistical power and generalizability of results. Taking into account that the instrument contained 32 items, the minimum sample size needed was 160 subjects. Furthermore, allowing for 10% missing or unusable data, the total sample size appropriate for use in this study was a minimum of 176 usable observations.

Instrumentation

The CSSES developed by Landry (2003) were used in this study. It is 32-item instrument that measure self-efficacy among college students. The constructs for this instrument are self-efficacy for self regulated learning, self-efficacy for academic achievement, financial attitudes / difficulties, and career decision–making. Respondents were asked to rate items using a Likert-type scale with 1 = Strongly Disagree; 2 = Disagree; 3 = Neither Disagree nor Agree; 4= Agree; and 5 = Strongly Agree as anchors.

Instrument Translation Process

Since the scale used in this study were developed in English, a rigorous English-to-Arabic translation process was used that included an iterative process of forward translation, backward translation, assessment for clarity and correctness, and subjective and objective evaluation. The goal of the translation and various evaluation procedures was to produce an Arabic version of the items that were equivalent in meaning to the original English versions. This last point is important because our objective was an equivalent translation not an identical word-by-word translation. Equivalent translations emphasize functional equivalence or the equivalence of meaning of the survey items between the original and translated instruments. Functional equivalence helps to ensure that the measures work in the new target culture as well as they did in the original culture because the translation is based on achieving equivalence in meaning rather than just the form of the sentence or word-by-word translation. Based on recommendations from the literature regarding the best practices of translating instruments, the following rigorous translation procedures used in this study are summarized below:

1. Forward translation. Two bilinguals from Jordan (including the researcher) who are faculties at the Hashemite University translated the CSSES from English into Arabic. Both bilinguals produced their own individual translations, compared results, discussed discrepancies, and then collaborated and reached agreement on one final Arabic version.

2. Back translation. Two different bilinguals, who are faculty members, who had never seen the original version of the CSSES, translated the ACSSES (Arabic version) back into English. The translators produced individual translations, compared results, discussed discrepancies, and then collaborated and reached agreement on one final English version.

3. Assessment for clarity and correctness (subjective evaluation). A panel of judges compared both English versions (original CSSES and the back-translated CSSES) to ensure that the items are equivalent in meaning.

4. Pilot testing. The CSSES Arabic version was reviewed by five faculties who come from different educational backgrounds (research design, measurement, human resources, and evaluation). The faculties were asked to complete the instrument, identify any items they thought were ambiguous, and make any other comments they wished about instrument improvement. The comments on the returned instruments were positive and encouraging. These comments were: "the items in the instrument are easy to understand and respond to"; "the items represent their thoughts and worry about the usefulness of training"; and "even though the instruments are too long, they are comprehensive and complete". This feedback did not lead to any additional changes.

Data Collection Procedures

Participants were selected from intact classrooms only. The desired sample comprised slightly less than ten percent of the student population. Once consent forms were received from professors, arrangements were made by the researchers to either visit each classroom and administer the surveys or get the appropriate number of surveys to the faculty member so that they could administer the surveys at a time convenient to them. Surveys were sent to professors who chose to administer them along with a letter of instruction. A deadline was given to faculty members who chose to administer the surveys during a regularly scheduled class period. The sample was comprised of students in courses of faculty who granted permission to participate in the study. If a faculty member decided to cancel the study or for some reason changed his or her mind about participating, a comparable class was chosen from the list provide by the researcher. Fortunately, it was not necessary to do this. Students were solicited on a voluntary basis after a full explanation of informed consent and confidentiality. Students were also asked to sign a consent form, which further explained the study. All data were collected in a manner that insured anonymity of participants and was treated confidentiality. The packets containing consent forms, pencils, questionnaires, and instructions were hand delivered immediately following to each faculty member who chose to administer the survey themselves. These faculty members were able to administer the questionnaires during any class period held during the summer semester but before the deadline, which was May 1, 2008. Once students completed the questionnaires, the faculty members contacted the researchers, who then picked up the questionnaires within a 48-hour period. All completed surveys were delivered to the researcher to arrange, classification, creation of data files, and data analyses followed.

Data Analysis

The first research question asked, "Will exploratory factor analysis of the ACSSES result in an interpretable factor structure consistent with the original CSSES?" Factor analysis was used to answer the first research question. There are two types of factor analysis: exploratory factor analysis and confirmatory factor analysis. Exploratory factor analysis is primarily used in the early stages of instrument development when the researcher is trying to determine the underlying structure of the instrument. Confirmatory factor analysis is used to confirm the structure of the measuring instrument. Since this is the first time the CSSES was used with a population in Jordan, the exploratory data analysis was more appropriate to use.

Factor analysis is a multivariate statistical technique used to examine the intercorrelations among a large set of variables, and then attempt to find a smaller number of constructs that still capture those relationships (Ary, Jacob & Razaviely 1996; Benson & Nasser, 1998). The objective of exploratory factor analysis (EFA) is to "reduce the number of dimensions necessary to describe the relationships among the variables" (Gardner, 2001). In other words, EFA will uncover the underlying structure of the ACSSES, thereby allowing understanding of the simple structure of the measuring instrument. There are certain steps to follow when using factor analysis. These steps include: extracting factors,

deciding on how many factors to retain, and rotating factors to an interpretable and more meaningful solution.

In exploratory factor analysis, there are two methods of extraction: common factor analysis and principal component analysis. Principal component analysis is used for prediction (Hair & et al, 1998; Nunnally & Bernstein, 1994) and for data reduction (Floyd & Widaman, 1995). It is less appropriate for exploratory use because a) it does not account for error variance and attempts to explain everything by placing ones on the diagonal of the correlation matrix as an estimate of communalities (meaning that all variance, even error, is appropriate to explain); and b) it attempts to "represent all of the variance of the observed variables" (Floyd & Widaman, 1995). On the other hand, principal axis factoring (or common factor analysis) was more appropriate to use in this study because the purpose of the analysis is to uncover the underlying structure of the instrument. This method has the advantage of accounting for error variance when extractions are made, uses squared multiple correlations (SMC) of each variable with the remainder of the variables when calculating initial communalities, and places communalities on the diagonal of the input correlation matrix "to represent only the common variance of each variable" (Floyd & Widaman, 1995) and to remove the unique (error) variance.

Communalities are the percentage of variance in the variable accounted for by the common factors, which are then used to extract factors (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Floyd & Widaman, 1995; Hair & et al, 1998). When the communalities are between .40-.70 which is moderate in nature, it is advisable to use a sample size of 200 subjects or more for factor analysis, to produce an accurate estimate of the population parameters (Fabrigar & et al, 1999). Finally, using principal axis factoring produces more accurate estimates of cross-loadings, communalities, factor loadings, and factor correlations than does principal component analysis because it accounts for error variance and uses the shared variance as an estimate of communalities on the diagonal of the correlation matrix (Fabrigar & et al, 1999; Floyd & Widaman, 1995). The overall measure of sampling adequacy (MSA) for the whole data set and for individual items was used to determine the appropriateness of factor analysis. Hair & et al (1998) suggested values above .90 to be excellent while values below .60 should be deemed unacceptable.

When determining the number of factors to extract, the visual scree plot and an eigenvalue greater than or equal to one was used (Benson & Nasser, 1998). An eigenvalue represents the total variance explained by the factor (Benson & Nasser, 1998). However, in this study, it was appropriate to explore alternative factor structures other than that suggested by the eigenvalue greater than one criterion. This allowed for the exploration of factor structures that are more meaningful or conform more closely to established theory. Visual scree plots were consulted to determine the number of factors to extract. The visual scree plot separates the scree of trivial factors from the cliff of nontrivial factors (Benson & Nasser, 1998). As a general rule the scree plot usually results in at least one, and sometimes two or three more factors being considered significant than does the eigenvalue standard. Subjective evaluation and visual inspection were satisfactory determinants (Floyd & Widaman, 1995).

Once the factors have been extracted, the next step is to rotate them as an aid in the interpretation of those factors. The main goal behind factor rotation is to produce a simple structure (Gorsuch, 1997) where each variable has the highest loading on its major factor, and the lowest loading on the remaining factors. Because the latent constructs in this study are expected to be correlated, a restriction placed on factors by orthogonal rotation, oblique rotation with direct oblimin was performed. With oblique rotation, the factor pattern matrix was used because the values are "standardized regression weights (betas) reflecting the relationship between the variable and a factor, after partialling out the relationship between the variable and the remaining factors" (Benson & Nasser, 1998). The pattern matrix was more appropriate to examine than the structure matrix because "we are interested in the unique variance accounted for by each factor" (Morgan & Casper, 2000). Finally, items were considered for retention on factors when they have a loading value above .30. In conclusion, the following data were reported: 1. the overall MSA value for the data to ensure the appropriateness of the data for factor analysis. 2. The initial communalities for all items as well as the ending communalities (after iteration and rotation). 3. The overall percentage of variance accounted for by all factors and by each factor separately. 4. Rotated factor loadings for each factor. 5. Factor correlation matrix. 6. Cronbach's alpha was calculated on each of the factors (Cronbach, 1951). According to Benson & Nasser, (1998) coefficient alphas greater than .70 are acceptable for early stages of scale development. 7. Descriptive statistics including the mean and standard deviation on each of the factor subscales was calculated.

Results

Research Question

Research question asks "Will exploratory factor analysis of the ACSSES result in an interpretable factor structure consistent with the original CSSES?" Principle axis factoring was performed utilizing the oblique rotation method to uncover the underlying structure of the ACSSES in Jordan (an Arabic culture). The CSSES consisted of 32 items measuring four construct domains: the self-efficacy for self-regulated learning domain, the self-efficacy for academic achievement domain, the financial attitudes/difficulties domain and career decision-making.

Before conducting exploratory factor analysis, the data were screened in several ways to ensure their normality and appropriateness for factor analysis. With respect to normality, visual inspection of the histogram, mean, median, mode, skewness, and kurtosis for each item and for the whole data shows that the data were normally distributed. With regard to the appropriateness of the data for factor analysis, two statistical tests (overall Measure of Sampling Adequacy (MSA) and the Bartlett Test of Sphericity) were conducted. MSA is an index used to determine the appropriateness of the data for factor analysis (Hair & et al, 1998). The MSA assesses the degree of inter correlations among variables and provides information about the appropriateness of the data for factor analysis. An (MSA)

value above .70 shows that there is meaningful variance to explain and that the data are suitable for factor analysis. According to Hair & et al (1998), an MSA value below .60 is considered poor and potentially unacceptable, whereas values above .80 are considered meritorious. On the other hand, the Bartlett Test of Sphericity measures the "overall significance of all correlations within a correlation matrix" (Hair & et al, 1998). The null hypothesis states that there is no factor structure for the data at hand, and then the goal is to reject the null hypothesis. A p-value below .05 indicates that there is a factor structure for the data and it is appropriate to run factor analysis. The results of the MSA (.82) and the Bartlett Test of Sphericity (p < .05) indicated that the data were suitable for factor analysis. Another indication of the factorability of the data set was the item-to-respondent ratios was 9.5:1 (Hair & et al, 1998).

To justify the application of factor analysis, it is important to ensure that the correlations of the data matrix for the variables have a substantial number of correlations above .30 (Hair & et al, 1998). Visual inspection of the data matrix revealed a substantial number of correlations greater than .30. Moreover, the anti-image correlation matrix (with negative partial correlations) indicated a low partial correlation between the variables. The anti-image correlation matrix is important to consider because it includes information about partial correlations. Low partial correlations suggest "true" underlying factors exist because the variables can be explained by the factor that loads on each variable. Finally, there are certain assumptions associated with factor analysis. These assumptions are multivariate normality, homoscedasticity, and linearity. According to Hair & et al (1998), these assumptions are more conceptual than statistical. Only multivariate normality is necessary if a statistical test is applied to the significance of the factors. The Bartlett Test of Sphericity with p < .05 confirmed this assumption.

The college student's self-efficacy scale asked respondents to reference their responses to a self-efficacy scale. This instrument contained 32 items. The overall MSA for this section was .82 indicating the data was appropriate for factor analysis. Before conducting factor analysis, the MSA value for each item was investigated. Exploratory factor analysis procedures were completed for the purpose of identifying the latent constructs underlying the data. The criteria for determining how many factors to extract included the eigenvalue greater than one rule, and a visual inspection of both the scree plot (Ary & et al, 1996) and several trial solutions. The initial analysis was run without specifying how many factors to retain. This procedure resulted in six factors explaining 38.05% of the common variance. However, this factor structure included two factors containing only one or two items that cross-loaded across multiple factors. Based on the previous analysis and after consulting the scree plot, the next analysis was run by specifying four factors to extract. A four -factor solution appeared to provide a conceptual and theoretical representation of self-efficacy scale factors in Jordan. The 4-factor solution explained 34.88% of the common variance and produced a more meaningful structure (see Table 1). Moreover, the residual correlation matrix was examined and no meaningful residuals were found, suggesting that the 4-factor structure was appropriate and that no more factors could be extracted. The 4 factors were named similar to the factors found in the original CSSES. These factors were described as follow:

1. Learning efficacy. The first factor included 12 items with a reliability estimate of .91 and accounted for approximately 20.56% of the total variance in all items. Learning dimension measures the confidence of students in learning various aspects of their course and the items represent student's beliefs in their ability to learn information need for courses. This factor included items such as "Learn foreign languages, Learn to use computers, Learn science".

2. Planning efficacy. This factor included six items with a reliability estimate of .72 and accounted for 5.59% of the total variance. This factor measures the degree to which Students make plan for your goals, schoolwork's, abilities, and occupations and the items assessing student beliefs in their abilities to execute the required actions to accomplish goals, determine the steps to complete their major, and persist with the chosen major until they graduate. This factor included items such as "make a plan for your goals for the next five year, determine the steps you need to take to successfully complete your chosen major, accurately assess your abilities".

3. Funding strategy. This factor included four items with a reliability estimate of .85 and accounted for approximately 5.34% of the total variance. This factor measures the how to make the strategy for funding with many field for the students in their complete study and in find the major which appropriate for their abilities and how can they used the external strategies to fixed and support internal strategies. This factor included items such as "Secure necessary funds to complete college, Choose a major or career that suits your Abilities, Come up with a strategy to deal with Flunking out of college".

4. Organization efficacy. The fourth factor included three items with a reliability estimate of .85 and accounted for approximately 3.39% of the total variance. This domain related to the extent of organizing for teaching process which makes it proceed smoothly without any problem and make teaching process efficient for students and instructor by arrange the place, organizing schoolwork's. This factor included items such as "organize your schoolwork, remember information presented in class and textbooks, and arrange a place to study without distractions".

Table 1: *Factor Loadings for the college student's self-efficacy scale.*

	Factor				
	Items	1	2	3	4
19	Learn foreign languages	**.821**	-.189	.091	-.098
18	Learn to use computers	**.688**	-.003	.229	.006
15	Learn science	**.628**	-.186	-.189	.092
17	Learn reading and writing language skills	**.583**	-.013	-.041	-.015
20	Learn social studies	**.486**	-.003	.229	.006
3	Concentrate on school subjects	**.471**	-.008	-.100	.072
14	Learn algebra	**.455**	.101	-.107	.162
2	Study when there are other interesting things to do?	**.441**	-.064	-.018	.198
5	Use the library to get information for class assignments?	**.433**	.230	.145	-.071

Factor				
Items	1	2	3	4
12 Do an excellent job on the problems and tasks assigned for the courses you are taking this semester?	**.377**	.298	-.050	-.040
21 Learn English grammar?	**.367**	-.056	.245	.168
4 Take notes in class	**.314**	.287	-.040	.223
25 Make a plan of your goals for the next five years?	-.010	**.792**	-.115	-.086
27 Determine the steps you need to take to successfully complete your chosen major?	-.123	**.776**	-.039	.166
26 Accurately assess your abilities	-.280	**.724**	.145	-.104
6 Plan your schoolwork	.091	**.520**	.020	-.052
23 List several majors that you are interested in?	109.	**.434**	.089	.113
28 Decide what you value most in an occupation?	-.049	**.411**	-.077	.163
22 Secure necessary funds to complete college?	.164	.093	**.644**	-.130
30 Choose a major or career that suits your Abilities?	-.028	-.226	**.583**	.221
32 Come up with a strategy to deal with Flunking out of college?	-.091	-.006	**.322**	.077
29 Resist attempts of parents or friends to push you into a career or major you believe is beyond your abilities?	.227	.142	**.344**	-.175
7 Organize your schoolwork?	.213	.012	-.128	**.532**
8 Remember information presented in class and textbooks?	.022	.150	.036	**.522**
9 Arrange a place to study without distractions?	.087	.267	.031	**.335**

Items were retained on factors if they had a minimum factor loading of .30. Items with a multiple cross-loading of .20 and above on at least three factors were deleted from the factor. The .30 level is a generally accepted minimum factor loading because it indicates that approximately 10% of the variance for a corresponding variable has been explained by a factor (Tinsley & Tinsley, 1987). The pattern matrix was chosen to examine the data instead of the structure matrix because in using the oblique rotation method we were interested in the unique variance accounted for by each factor. Also, because the pattern matrix yields partial weights, the values in this matrix are more appropriate to interpret (Hair & et al, 1998). Using these criteria, 25 items of the original 32 items were retained on the CSSES and accounted for 34.34% of the total variance. Seven items were dropped because of low factor loadings and cross-loadings. To a large extent the original factor structure of the CSSES was replicated. Three of five factors matched those of the original CSSES. The other two factors (funding strategy and organization efficiency) emerged in this analysis from a combination of factors. All factors had acceptable reliabilities as estimated by Cronbach's Alpha. Scale reliabilities ranged from .70- .87, with an average alpha of .74. Which exceeded Nunnally and Bernstein's (1994) suggested minimum reliability of at least .70 for instruments in early stages of development.

Table 2: *Factor Correlation Matrix for the Self- efficacy scale.*

Factor	1	2	3	4
1	1.00			
2	.497	1.00		
3	.236	.273	1.00	
4	.354	.254	.176	1.00

For The college student's self-efficacy scale (a) factor loadings reflected interpretable simple structures; (b) only items with loadings .30 or higher were included in the scales; and (c) average item loading values were greater than .50 on major factors and less than .15. Table 3 provides a comparison between the factors, their respective items found in the ACSSES, and those of the original CSSES. Most of the factors were significantly correlated (see Table 2).

Table 3: *Factor and Item Comparisons between the ACSSES and the ACSSES*

	ACSSES	**CSSES**
Factors	**Five**	**Four**
Factor labels	1)organizing and planning (22, 24, 25, 26, 27, 28, 29, 30, 31)	1)learning efficacy (19, 18, 15, 17, 20, 3, 14, 2, 5, 12, 21, 4)
	2) academic efficacy (12, 9, 1, 2, 3, 4, 6, 7)	2)Planning efficacy (25, 27, 26, 23, 28, 6)
	3) learning efficacy (16, 15, 10, 8)	3)Funding strategy (22, 30, 32, 29)
	4)verbal efficacy (32, 23, 21, 20, 17)	4)Organization efficacy (7, 8, 9)
	5) quantitative & scientific efficacy (18,19, 14, 13)	

Discussion

The purpose of this study was to establish a valid and reliable Arabic version of the college student's self-efficacy scale (ACSSES) for use in Jordan. The original CSSES is well grounded in previous research and theory and has exhibited fairly robust psychometric qualities. The College Student Self-Efficacy Scale (CSSES) was developed by Landry (2003) and was used to measure strengths of students' self-efficacy beliefs. The College Student Self- Efficacy was considered to be multifaceted and comprised of the following facets: self- efficacy for self-regulated learning, self-efficacy for academic achievement, financial attitudes/difficulties, and career decision- making. The results of the factor analysis indicated that four latent factors with 30 items emerged from the Jordanian data collected with the ACSSES. Factor analysis procedures on the CSSES completed in Landry (2003) study identified a five- factor solution as the most acceptable multiple dimension representation of the data. The five factors identified were organizing

and planning major, academic efficacy, learning efficacy, verbal efficacy, and quantitative and scientific efficacy. In this study factor analysis proceed four factors identified as follow: learning efficacy, planning efficacy, funding strategies, and organizing efficacy. The factor analysis results for the self- efficacy beliefs measure clearly support that students in their study differentiated their self-efficacy strengths across different domains. Bandura (1997) acknowledges that a failure to recognize the transfer of efficacy beliefs across activities or settings would constrict people to having to reestablish their sense of self- efficacy with each activity attempted.

Results suggest that the Arabic version of the CSSES can provide reliable and internally consistent measurement for self efficacy in Jordan. These results are consistent with other cross-cultural instrument validation research done with the CSSES. For example, Landry (2003) validated the CSSES with the same factor analysis procedures and resulted in validation of 5 factors; the factors conducted similarly the factor in this study. The agreements in two factors the learning factor, the organizing and planning factor while in current study separated the planning as factor and organizing as a factor. Factor two does not appear in this study that the verbal factor and quantitative and scientific factor while the funding strategy appear in this study but dose not in his study. And this refers to geographic and cultural boundaries. Moreover, that exists in the Arabic cultures, develop interventions to enhance learning, and ultimately improve learning and performance. On the other hand, in the U. S. will have further proofs to the validity and reliability of the CSSES psychometric properties. The CSSES can be used to guide the efforts of the HRD function in enhancing learning effectiveness and diagnose early problems with learning efficacy.

Recommendations for Future Research

The present research directed at improving the psychometric qualities of certain ACSSES scales is warranted. There is a need to increase the number of items on a few factors and avoid writing items that have negative connotations. Moreover, there is a need to validate the definition of each construct in Jordan by students various methods such as interviews, focus groups, and surveys. The second recommendation would be to add more factors to the ACSSES that may specifically pertain to the Jordanian culture and thereby impact learning efficacy within that culture. The cultural differences alone suggest that may be other learning efficacy factors. A qualitative effort that includes interviews and focus groups may be helpful in uncovering those factors. After the structure of the ACSSES has been enhanced, a confirmatory factor analysis (CFA) would be needed to fully confirm the latent structure of the ACSSES. CFA methodology is necessary to confirm that those items found to belong to a certain factor in the initial exploratory factor analysis actually exist. Once confirmed, the ACSSES can be explored with a different sample to ensure that the factor structure exists in the Jordanian culture.

The fourth recommendation would be to establish the criterion validity of the ACSSES in Jordan by establishing its relationship with other important outcomes in learning. Such procedures will add credibility to the measuring instrument by establishing its criterion validity. Furthermore, the convergent and divergent validity of the ACSSES can be

established by establishing the relationship between the ACSSES constructs and similar other constructs. The final recommendation would involve comparing the responses from the Jordanian culture with those from the American culture or other cultures, after employing invariance testing techniques. Invariance testing allows comparison of results across different sampling parameters to determine how similar or different the results are. This is an important technique in establishing the reliability of results for future research.

References

Alderman, M. K. (1999). *Motivation for achievement: Possibilities for teaching and Learning* New Jersey: Lawrence Erlbaum Associates, Inc.

Ary, D., Jacob, L. C., & Razavieh, A. (1996). *Introduction to research in education*. (5th ed.). Fort Worth, TX: Harcourt Brace College Publishers.

Bandura, A. (1977). Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*, 122–147.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.

Benson, J., & Nasser, F. (1998). On the use of factor analysis as a research tool. *Journal of Vocational Education Research*, 23(1), 13-33.

Bong, M. (1999). Role of self-efficacy and task value in predicting college students' course performance and future enrollment intentions. *Paper presented at the annual convention of the American Psychological Association*. Boston, MA.

Braten, I & Olaussen, B. S. (1998). The Relationship between motivational beliefs and learning strategy use among Norwegian College students. *Contemporary Educational Psychology, 23*, 182-194.

Brown, S. D., Lent, R. D., & Larkin, K. C. (1989). Self-efficacy as a moderator of scholastic aptitude-academic performance relationships. *Journal of Vocational Behavior, 35*, 64-75.

Cabrera, A.F., Nora, A., & Castaneda, M. (1992). The role of finances in the persistence process: A structural model. *Research in Higher Education*, 33 (5), 571-593.

Chase, M. A. (2001). Children's self-efficacy, motivational intentions, and attributions in Physical education and Sport. *Research Quarterly for Exercise and Sport*, 72, 47-54.

Codde, J.R. (1996). Using learning contracts in the college classroom. Retrieved March 19, 2001 .Available online at http://www.msu.edu/user/coddejos/contract.htm.

Cole, N. D., & Latham, G. P. (1997). Effects of training in procedural justice in on predictions of disciplinary fairness by unionized employees and disciplinary subject matter experts. *Journal of Applied Psychology*, 82, 699-705.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika,* 16, 297-334.

Dweck, C. (1986). Motivational processes affecting learning. *American Psychologist*, 41, 1040-1048.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272-299.

Farmer, H. S., Wardrop, J. L., Anderson, M. Z. & Risinger, R. (1995). Women's career choices: Focus on science, math, and technology careers. *Journal of Counseling Psychology*, 42, 155-170.

Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement assessment instruments. *Psychological Assessment*, 7(3), 286-299.

Garcia, T., McCann, E. J., Turner, E. J. & Roska, L. (1998). Modeling the mediating role of volition in the learning process. *Contemporary Educational Psychology*, 23, 392-418.

Gardner, R. C. (2001). *Psychological statistics using SPSS for windows*. Upper Saddle River, NJ: Prentice-Hall, Inc.

Gorsuch, R.L. (1997). Exploratory factor analysis: its role in item analysis. *Journal of Personality Assessment,* 68(3), 532-560.

Hackett, G. (1985). The role of mathematics self- efficacy in the choice of math-related majors of college women and men: A path analysis. *Journal of Counseling Psychology*, 32, 47-56.

Hackett, G. & Betz, N. (1989). An exploration of the mathematics self efficacy/ mathematics performance correspondence. *Journal for Research in Mathematics Education,* 20, 261-273.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. (5th ed.). Englewood Cliffs, NJ: Prentice Hall.

Hammond, M. & Collins, R. (1991). *Self-directed learning: Critical practice*. London: Kogan

Joo, Y., Bong, M. & Choi, H. (2000). Self-efficacy for self-regulated learning, academic self- efficacy, and internet self-efficacy in web-based instruction. *Educational Technology Research and Development*, 48, 5-17.

Landry, Carol. (2003). *Self-efficacy, motivation, and outcome expectation correlation of college students intention certainty*, Unpublished Doctoral Dissertation, Louisiana State University, Baton Rouge.

Lent, R. W., & Hackett, G. (1987). Career self-efficacy: Empirical status and future

directions. *Journal of Vocational Behavior*, 30, 347-382.

Long, H. B. (2001). *A multi-variable theory of self-direction in learning.* In H. B. Long (Eds.) Self-directed learning and the information age. Motorola University Press.

Malpass. J. R., O'Neil, H. F. & Hocevar, D. (1999). Self-regulation, goal orientation, self-efficacy, worry, and high-stakes math achievement for mathematically gifted high school students. *Roeper review*, 21, 281-288.

Maltby, F. (1995). *Educational psychology: An Australian and New Zealand perspective*. Brisbane: John Wiley & Sons.

Morgan, R. B., & Casper, W. J. (2000). Examining the factor structure of participant reactions to training: A multidimensional approach. *Human Resource Development Quarterly*, 11(3), 301-317.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory.* New York: McGraw Hill.

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research,* 66 (4), 543-578.

Pajares, F., Britner, S. L. & Valiante. G. (2000). Relation between achievement goals and self-beliefs of middle school students in writing and science. *Contemporary Educational Psychology*, 25, 406-422.

Phillips, J. M., & Gully, S. M. (1997). Role of goal orientation, ability, need for achievement, and locus of control in the self-efficacy and goal setting process. *Journal of Applied Psychology*, 82(5), 792-802.

Risemberg, R. & Zimmerman, B. J. (1992). Self- regulated learning in gifted students. *Roeper Review*, 15, 98-101.

Sherman, N. W. (2002). Motivation, attributions, and self-efficacy in children. *Journal of Physical Education Recreation and Dance*, 73, 10-13.

Stevens, C. K., & Gist, M. E. (1997). Effects of self-efficacy and goal-orientation training on negotiation skill maintenance: What are the mechanisms? *Personnel Psychology*, 50, 955-978.

Taylor, C. M. (1999). Education and personal development: A reflection. Archives of *Disease in Childhood*, 81, 531-537.

Taylor, K.M. & Betz, N.E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior,* 22, 63-81.

Tinsley, H. E., & Tinsley, D. J. (1987). Uses of factor analysis in counseling psychology research. *Journal of Counseling Psychology, 34*(4), 414-424.

Woolfolk, A. (2001). *Educational Psychology*. 8th.ed. Boston: Allyn and Bacon.

Zeegers, P., Martin, L. & Martin, C. (1999). Using learning to learn strategies to enhance student self-regulated learning in first-year chemistry. Retrieved June 15, 2001 Available online at http://adminwww.flinders.edu.au/CAS/PacRim99.html.

Zimmerman, B.J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, 81, 329-339.

Zimmerman, B. J. (1995). Self-efficacy and educational development. In A. Bandura (Ed.), *Self-efficacy in changing societies* (pp. 202-231). New York, NY: Cambridge University Press.

Zimmerman, B. J. & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal*, 31, 845-862.

Zimmerman, B.J., & Martinez-Pons, M. (1990). Student differences in self regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82, 51-59.

Zimmerman, B. J. & Ringle, J. (1981). Effects of model persistence and statement of confidence on children's self-efficacy and problem-solving. *Journal of Educational Psychology,* 73, 485-493.

Quality and the Current Student Experience:
An offshore campus approach to improvement

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Abstract

This paper examines the academic experience of students at the Monash University Malaysian campus, an offshore campus of Monash University, Australia. The paper also investigates the significant role of the Monash Experience Questionnaire (MEQ) in gaining student views on their experience while studying at Monash University, and also in identifying areas of best practice and areas requiring improvement.

The responses of the students on the Malaysian campus concerning the overall study experience indicated that, across the board, students were generally satisfied with their academic experience at Monash University. Malaysian students also expressed satisfaction with student support and resources for teaching and learning.

Comments made by students on their academic experience and teaching and learning support indicated that there were four major areas that were of particular importance in delivering a positive experience. These were: social life at the University, the learning experience, the high standard of teaching and the skills developed in their courses. In terms of improvement, the major areas identified were: computer and library facilities, the heavy course workload and feedback on submitted work.

Keywords: *Monash Experience Questionnaire (MEQ), student experience, best practice in higher education, quality enhancement*

Introduction

Higher education has in recent years been increasingly regarded by some as another service industry, and thus higher education institutions around the world had to re-evaluate their approaches to 'service' provision. For instance, they have started placing a greater emphasis on meeting the expectations and needs of their 'customers', i.e. students (Griffin et al, 2003; McInnis, 2003; Wright, and O'Neil, 2002). Despite the fact that higher education may be regarded as an environment with less 'tangible' outcomes than other service industries, such as banking or tourism, a remarkable progress has been made in conceptualising, assessing and researching higher education determinants of success and student satisfaction.

Research has consistently confirmed a strong correlation between classroom environments, student learning and satisfaction (Devlin, 2002; Ramsden, 1991; Entwistle, and Ramsden, 1983).

Ramsden (1991), for instance, found that students were more likely to attempt to understand course material if it was presented in a structured manner. Based on a set of interviews with students, Entwistle and Ramsden (1983) confirmed a functional link between teaching quality and student learning. Devlin (2002) highlighted the value in collecting student perceptions of their learning as a form of evaluating and enhancing quality of teaching, indicating also the close relation between the perceptions of student learning and quality of teaching.

In his theory of educational productivity, Walberg (1981, 1984) outlined nine factors that contribute to variation in student cognitive and affective outcomes. These factors were: ability, maturity, motivation, quality of instruction, quantity of instruction, psychological classroom environment, environment at home, peer group outside the classroom, and time involved with video/television media (Walberg, 1981; Walberg, 1984). This theory was then employed in a study by Walberg, Fraser and Welch (1986) which showed that student achievement and attitudes were influenced jointly by these factors. The fact that classroom and school environments were important influences on student outcomes was further highlighted by Lee et al (2000). Lee et al (2000) found that the influences or determinants of satisfaction were not only multi-factorial, but that they were likely to vary from person to person and from institution to institution and were also most likely to vary over time.

However, satisfaction with university experience in terms of the overall enjoyment, benefit and value was found to be an important parameter which may influence student decisions to enter, persist with or leave higher education (Mavondo et al, 2000).

Research has consistently shown that students, for instance, regard effective and timely feedback as a significant component of good teaching, having impact on their learning experiences (Billing, 1998; Mullins, Quintrell, and Hancock, 1995). Further, Oblinger, and Verville (1998), Peterson et al (1999), and Reynolds and Mackay (1997) found that students also valued the development of graduate attributes during their tertiary studies that would assist them in gaining employment after graduation. These findings will be later related to the feedback gained from Monash University students.

One way in which higher education institutions worldwide have approached identification and meeting the needs of students has been through introduction of evaluation surveys. Evaluation surveys fulfil a number of purposes, including:
- Providing feedback on teaching to individual faculties for further development and improvement of teaching;
- Providing a measure of effectiveness of teaching as a form of performance management;
- Providing information to current and potential students in selection of units and courses;
- Providing a measure for judging the quality of units and courses (increasingly related to future funding arrangements).

With increasing focus on student needs and expectations, evaluation data has become a crucial part of institutional research and planning for strategic decision making in many universities, including in Malaysia and Australia. Evaluations also play a significant role in quality assurance and enhancement activities in universities (Nair et al, 2006).

Background

Monash University consists of eight campuses: six in Australia and two offshore (in Malaysia and South Africa). Monash University Malaysia was the first offshore campus established by Monash University and the first foreign university set up in Malaysia. The Malaysian campus is a partnership between Monash University and Sunway College Sdn. Bhd[1], a subsidiary of the Sunway Group, a Malaysian corporation. Following representations to the Malaysian Minister of Education, the partners were invited by the Malaysian Government in February 1998 to set up a branch campus of Monash University. Monash University Malaysia Sunway Campus was thus established as a private company under Malaysian law. Current student enrolment is approximately 3500 and the campus offers undergraduate and postgraduate programmes in four schools: Business, IT, Engineering and Arts and Sciences.

In 2002, in its institutional self-review entitled *Still Learning: The Report of our Self-Review*, Monash University highlighted the need for the development of an instrument to systematically collect current students' views of their experience. The Monash Experience Questionnaire (MEQ) was subsequently developed to meet this need.

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[1] Sdn. Bhd. are acronyms indicating a private company, similar to Ltd. in the Australian or UK contexts.

This paper investigates the role of the Monash Experience Questionnaire (MEQ) in gaining student views on their experience while studying at Monash University, and the way in which such findings are utilised to identify areas of best practice and areas that require improvement. The paper focuses specifically on the academic experiences of students reported at an offshore Monash University campus. The paper may provide some guidance to other tertiary institutions which may be considering introducing similar student experience questionnaires as a form of evaluating and improving learning environments for their students.

Method

The Questionnaire

The Monash Experience Questionnaire (MEQ) was developed after extensive consultation with staff and students across Monash University. It was further endorsed by major decision-making and consultative groups throughout the University. The MEQ is intended for undergraduate and postgraduate by coursework students and seeks high-level perceptions of student experience of academic programmes, administrative and support services and of the University in general. It is distributed to Monash on-shore and also off-shore students, and was designed so as to provide information specific to Monash experience.

The MEQ consists of 47 items in 7 scales, and a global satisfaction item. It includes three key scales from the Australian national survey, Course Experience Questionnaire (CEQ): 'good teaching', 'generic skills' and 'learning community'. All items in the MEQ were personalised, i.e. students are asked to give their personal perceptions of the learning environment.

The CEQ is a national survey, which is posted to every student completing an undergraduate qualification in Australia. The CEQ scales enable universities to benchmark themselves against one another. These scales are used in evaluating current student experience, as well as broadly compare current student experience with experiences of students who have completed their studies. The scales utilised in the MEQ are: Good Teaching, Generic Skills, Learning Community, Graduate Attributes, Student Support/Resources, Monash Approach to Teaching and Learning, and Other Important areas of Teaching and Learning. These scales, including their purpose, are outlined in Table 1 below. The individual items within each scale used to measure the overall study experience are outlined in Appendix A at the end of this paper.

Table 1: Description of Scales used to measure overall study experience.

Scale	No of Items	Description	Sample Items
Good Teaching	6	Measures student perception of teaching and focuses on feedback, motivation, attention, understanding of problems and skill in explaining concepts.	The teaching staff motivate me to do my best work.
Generic Skills	6	Measures student perception of generic skill development achieved in their courses.	The course develops my problem-solving skills.
Learning Community	5	Focuses on student perceptions of the social experience of learning at university.	I feel I belong to the university community.
Monash Graduate Attributes	9	Measures student perception of graduate attributes specifically identified at Monash University.	The course develops my ability to conduct research.
Student Support / Resources	8	Measures student perception of support and resources available.	I am generally satisfied with my physical classroom environment.
Monash Approach to Teaching & Learning	7	Measures student perception of the Monash specific approach to teaching and learning.	My course encourages innovation and creative thinking.
Other Important areas of Teaching & Learning	6	Measures student perception in other key areas of teaching and learning not covered elsewhere.	My course workload is appropriate.

Sample

The questionnaire on the Malaysian campus was administered in-class to undergraduate and postgraduate by coursework students seeking high-level perceptions of student experience of the academic programmes. All participants were informed that participation in the survey was not compulsory, that it was voluntary. The distribution and collection of the survey was carried out by a person other than the academic in the class, thus ensuring confidentiality and data integrity. On the Malaysian campus, 1007 students completed the MEQ, resulting in an overall response rate of 57.7%. Nearly all

responses were from full-time, undergraduate, on-campus students. The majority (91.5%) of students belonged to two age groups, 17-19 and 20-22.

Reliability and validity of the MEQ

The Cronbach alpha reliability figures using the individual student as the unit of analysis ranged from 0.44 to 0.76. Factor loadings obtained when the individual was used as the unit of analysis with a principal components factor analysis, followed by varimax rotation, showed an instrument in which 45 of the 47 items had a factor loading greater than 0.30. The conventional cut-off value of 0.30 was chosen for the factor loadings (Stevens, 1992).


Findings

The 'closed' response items were constructed as Likert scales measuring 1 (very dissatisfied) to 5 (very satisfied), with the middle item (3) being neutral. Means of responses are interpreted as 'above 3' being positive and 'below 3' being negative. Results for these and other scales are presented in a way that has been universally adopted for the Course Experience Questionnaire (CEQ) reporting: as the percentage of students broadly in agreement with the items of the scales (i.e. students scoring 3, 4 and 5). Broad agreement is taken to indicate general satisfaction. In 2007, the Australian Government's Learning and Teaching Performance Fund (LTPF) calculations were based on 'percentage agreement' which is the sum of categories 4 ('agree') and 5 ('strongly agree') on the 5-point scale. This is presented in Table 2 below for comparison.

Student responses concerning the overall study experience indicated that, across the board, students were generally satisfied with their academic experience at the Monash University Malaysian campus. In all scales, as shown in Figure 1 and Table 2, the mean ratings were above 3, ranging from 3.15 –3.56 with standard deviation ranging from 0.78 – 0.92, broad agreement ranging from 81.0% - 92.1% and percentage agreement ranging from 37.7% - 58.3%. An item analysis within each scale highlighted a more accurate picture of the student experience at Monash University.

Students were particularly positive regarding: teaching staff motivating them to do their best work, the development of generic skills, such as analytical and planning skills, and their ability to use the skills developed at Monash University in their future employment. With regard to student support and resources for teaching and learning, students were also positive, however, to a lesser degree than concerning their academic experience. Students were also positive in terms of feeling part of a group committed to learning.

Comments made by Malaysian students on their Academic Experience and Teaching and Learning Support indicated that there were four major areas that were of particular importance in delivering a positive experience. These included: social life at the

University, learning experience, high standard of teaching and skills developed in their courses. With regard to improvement, the major areas identified were: computer facilities, heavy course workload and feedback on submitted work.
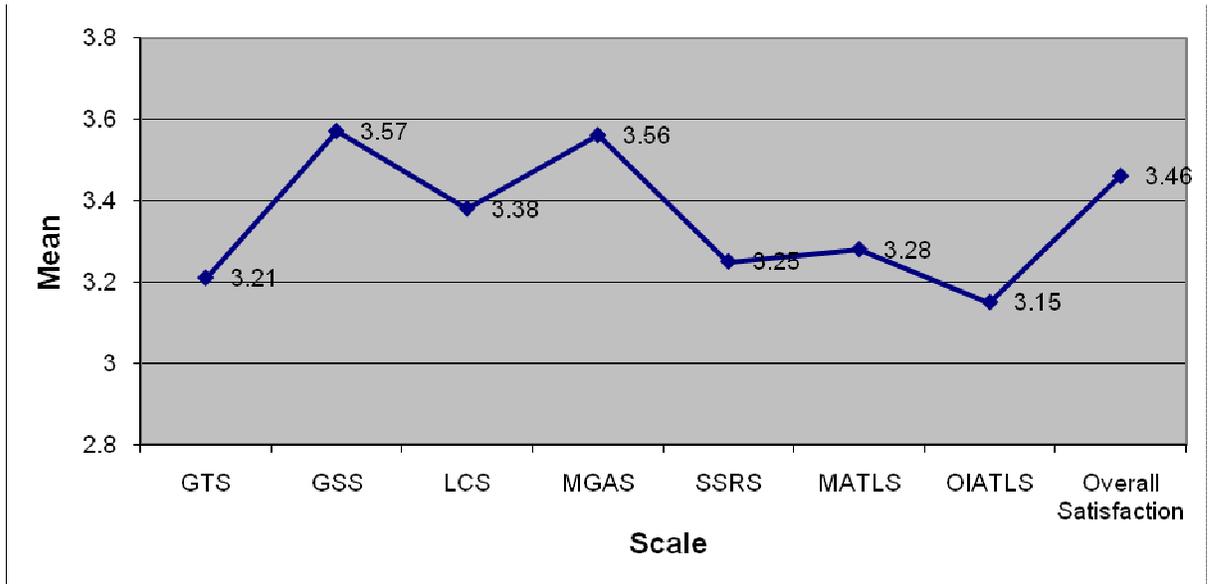
Legend	
Good Teaching Scale (GTS)	Student Support / Resources Scale (SSRS)
Generic Skills Scale (GSS)	Monash Approach to Teaching & Learning Scale (MATLS)
Learning Community Scale (LCS)	Other Important areas of Teaching & Learning Scale (OIATLS)
Monash Graduate Attributes Scale (MGAS)	

Figure 1: Scale mean profile for the study experience on the Monash Experience Questionnaire

Table 2: Mean, Standard Deviation and Percentage agreements for major scales and global item used to measure the overall study experience

Scales	Mean	Standard Deviation	% Broad Agreement	% Agreement
Good Teaching	3.21	0.83	83.1	37.7
Generic Skills	3.57	0.78	92.1	58.3
Learning Community	3.38	0.83	87.5	46.2
Monash Graduate Attributes	3.56	0.83	91.4	56.7
Student Support/Resources	3.25	0.94	81.0	44.2
Monash Approach to Teaching and Learning	3.28	0.85	85.0	41.8
Other Important Areas of Teaching & Learning	3.15	0.92	78.0	38.9
Global Item (overall satisfaction)	3.46	0.81	90.2	53.2

Evaluating on the Good Teaching Scale, students were particularly positive concerning teaching staff motivating them to do their best work. Using the reporting by broad agreement, approximately 83% of students were broadly satisfied with the teaching and learning they experienced at the Monash University Malaysian campus.

Students evaluated Generic Skills highly positively (a mean rating of 3.57). In particular, items of analytical and planning skills, problem solving skills, and the courses improving students' written skills were given high rating.

The Learning Community Scale, which focuses on student perceptions of the social experience of learning at the University, was generally perceived as satisfactory with a mean score of 3.38 and a broad agreement of 92.1%. Students highlighted that they felt part of a group committed to learning and also their confidence in exploring ideas with other people.

Items on the Monash Attributes Scale were perceived by students highly favourably, with 91.4% of students being broadly satisfied with the development of their graduate attributes at the Malaysian campus. In particular, students were highly positive about their ability to use the skills they developed at Monash University in their future employment. Students also perceived that courses they took developed their ability to use

information technology to conduct research and to value perspectives of others. Students rated the flexibility of their courses less favourably.

The dimension measuring Other Important Areas of Teaching and Learning was perceived less favourably in comparison to the other scales, with 78% of students reporting broad satisfaction. Students highlighted two issues: the first concerning feedback being provided in time to improve and the other regarding workloads. The only item in the survey scoring mean of less than 3.0 on the five-point Likert scale was noted in the course workloads.

With regard to Student Support and Resources for Teaching and Learning, students were also positive, but generally to a lesser degree than concerning their academic experience. In particular, students were positive about the accessibility of library services.

Monash University approach to teaching and learning, as measured by the Monash Approach to Teaching and Learning Scale, is based on the importance of innovation, internationalisation, engagement, together with the development of student-centred flexible learning with the appropriate use of technology. Students were positive on these dimensions, particularly with regard to the encouragement of innovation and creative thinking, the international opportunities offered by studying at Monash University and their understanding of international perspectives. Engagement was also rated positively.

A total of 1118 comments were made by students to open-ended questions relating to the study experience on the Malaysian campus. Students made 539 diverse comments concerning the best aspects of their study experience. Among the diverse comments, students highlighted some key areas. These related to social life at the University, learning experience, teaching staff and skills developed. Following are some examples of the comments made by students.

'Ability to socialise with other students pursuing the same field of study and to share ideas / perceptions.' (Student 1)

'Being more prepared for the working days ahead (sufficient experience with group work and doing research). Meeting people from around the world (many international students). So this enables me to understand other cultures as well.' (Student 2)

'Environment. It is different from my previous university. Monash staff are very efficient. Students are open-minded. Teaching skills are of high standard. Lectures are well-structured and clear.' (Student 3)

An equal amount of diverse comments (539) was made by students with respect to improvement. The major areas of concern were workloads, IT and library facilities, teaching and feedback on submitted work. Examples of comments concerning improvement included the following.

'At the moment, the assignment workloads are pretty heavy. Deadlines are very close to each other, making it very stressful. Besides that, since many different subjects have the same deadline, students are always competing for use of PCs.' (Student 4)

'The library and computer lab services could be improved by having more copies of books and more computers. In addition, the Internet quota should not be so limited, as we need to use the Internet to search for information often.' (Student 5)

'Reports and assignments handed in should be returned to students as soon as possible. The reports handed in usually are not returned until weeks or even months later. Students are not able to assess whether they have done their reports correctly.' (Student 6)

Monash University offers a number of double degree courses. Malaysian students undertaking these double/combined degree courses were highly positive about their experience. Examples of the comments made by students in that regard included the following:

'Double degree study allows me to get a better feel of different academic background.' (Student 7)

'I think it will be useful when I start looking for jobs. The double degree allows me to experience the best of the worlds.' (Student 8)

'Wholesome and integrated well for my overall understanding.' (Student 9)

Discussion

The MEQ has provided a rich insight into the current student experience, where students have highlighted the strong and weaker aspects of their learning environment. Overall, the results suggested that students were generally satisfied with their learning experience at Monash University. However, students have highlighted two key areas in their study experience that needed improvement: the workloads and the timely return of the feedback. The importance of feedback being prompt and effective was consistent with findings that showed that this was an essential component of good teaching and learning (Billing, 1998; Mullins et al, 1995). Further, the issue of feedback was also included in the open-ended comments received during the University institutional self-review (Monash University, 2002).

In terms of best practice, student perceptions suggested that the courses they pursued at Monash University equipped them with attributes that would be marketable in the future. Equally, students perceived the use information technology for educational purposes as a strong area at Monash University. This was consistent with the research findings by Oblinger and Verville (1998), Peterson et al (1999), and Reynolds and Mackay (1997), which supported the perception that tertiary qualifications and attributes assisted students in gaining a 'good' employment after graduation.

The challenge for the future for the Monash University Malaysian campus is in developing processes to 'close the loop', and ensuring that data is being used for improvement purposes to further enhance student life on campus. This may involve, for example, setting new key performance indicators (KPIs) and developing action plans to address areas of concern. Processes need to be established to ensure data is used for improvement purposes, and that it feeds into the 'improvement' and 'planning' cycle of the support areas. Change does not mean digesting data without action. This issue is best summarized by the Graduate Careers Council of Australia (GCCA), which stated that:

> 'It is a myth that all you have to do is to send back the result of a survey to those concerned and action, improvement and innovation will automatically occur. Such an assumption ignores all the research on motivation and change management in universities.'
>   (Graduate Careers Council of Australia, 1999, p. 20)

At present, the approach adopted by Monash University is that each area on individual campuses would set up a management plan and report to the Quality Development Committee on the priorities, plans and strategies to implement changes as a result of the Monash Experience Questionnaire. Table 3 below lists the actions that are proposed for four areas identified on the Malaysian campus as needing improvement, as a result of student feedback from the MEQ. The four areas included: library and computer facilities, the heavy course workload and feedback on submitted work.

Table 3: Proposed response for improvement in major areas identified

Area identified	Student concerns	Proposed Response
Library	• Lack of books	▪ Continue new acquisitions.
		▪ Work closely with academic staff to identify relevant library materials.
		▪ Analyse current collection to determine gaps.
		▪ Further develop the reference section.
	• Lack of Space	▪ Expansion of library space to accommodate needs of students.
IT Facilities	• Lack of computers	▪ Convert computer-teaching laboratories to open laboratories in consultation with academic staff.
	• Improve IT Services	▪ Increase staffing at Helpdesk.
		▪ Upgrade Helpdesk system with better tracking facilities for faster response times.

		▪ Extend opening hours.
Workload	● Heavy workloads and deadlines close to each other	▪ Run internal survey to 'measure' the seriousness of the issue. ▪ Awareness campaigns for both students and lecturers – students ought to learn more about time management, and lecturers ought to plan coordination of deadlines.
Feedback	● Late receipt of feedback on submitted work	▪ Work with faculties and staff on the campus to address this shortfall. Identify units and form an action plan. Re-evaluate the effectiveness of the plan. ▪ Reinforce the importance of the Monash University Teaching and Learning Plan, especially concerning the aspect of student-centeredness.

In conclusion, consistent with the research findings outlined in this paper, student feedback at Monash University is perceived as important and integral to the University quality cycle. Student feedback in the Monash Experience Questionnaire (MEQ) is treated as a reliable and valuable source of information, which provides a basis for the institution's future endeavours. It is believed that the MEQ will continue providing the means of collecting student feedback on their academic as well as whole-of-institution experience at Monash University in the future.

References

Billing, D. (1998). Quality management organisational structure in higher education. *Journal of Higher Education Policy and Management*, 20(2), 139 – 159.

Centre for Higher Education Quality (CHEQ). (2008). *The Monash Experience Questionnaire (MEQ)*, Monash University, online, available at: http://www.adm.monash.edu.au/cheq/reports/ (accessed July 2008).

Devlin, M. (2002). An improved questionnaire for gathering student perceptions of teaching and learning. *Higher Education Research and Development*, 21(3), 289-301.

Entwistle, N.J., Ramsden, P. (1983). *Understanding Student Learning*, London: Croom Helm.
Graduate Careers Council of Australia (1999). *Institutional Arrangements for Student Feedback*, GCCA: Australia, p. 20.

Graduate Careers Council of Australia (2001). *Course Experience Questionnaire 2001*, GCCA: Australia.

Griffin, G, Coates, H., McInnis, C., and James, J. (2003). The development of an extended course experience questionnaire. *Quality in Higher Education*, 9(3), 259-266.

Lee, G., Jolly, N., Kench, P., and Gelonesi, B. (2000). *Factors related to student satisfaction with university.* Paper presented at the Fourth Pacific Rim: First year in Higher Education Conference: Creating futures for a new millennium. Brisbane: Australia.

Mavondo, F., Zaman, M., and Abubakar, B. (2000). *Student satisfaction with tertiary institution and recommending it to prospective students*. ANZMAC 2000: Visionary Marketing for the 21st Century: Facing the Challenge, online, available at: http://smib.vuw.ac.nz:8081/www/ANZMAC2000/CDsite/papers/m/Mavondo1.PDF (accessed May 2008).

McInnis, C. (2003). *New Realities of the Student Experience: How should Universities respond?* Paper presented at the25th Annual conference of the European Association for Institutional Research.

Monash University (2002). *Still Learning: The report of our self-review*, online, available at: http://www.adm.monash.edu.au/unisec/res/Still%20Learning.pdf   (accessed   June 2008).

Mullins, G., Quintrell, N., and Hancock, L. (1995). The Experiences of International and Local Students at Three Australian Universities. *Higher Education Research and Development*, 14 (2), 201 – 231.

Nair, C.S., Adams, P., Ferraiuolo, S., and Curtis, A. (2006). *Student engagement the key to better response rates*. Proceedings of the 2006 Australian Universities Quality Forum (AUQF): Evaluating to Improve the Student Experience, online, available at: http://lsn.curtin.edu.au/evaluationforum06/program.html (accessed June 2008).

Oblinger, D.G., and Verville, A.L. (1998). *What Business wants from Higher Education*, Phoneix: Oryx Press.

Peterson, D.M., Briggs, P., Dreasher, L., Horner, D.D, and Nelson, T. (1999). Contributions of International Students and Programs to Campus Diversity. *New Directions for Student Service*, 86, 77.

Ramsden, P. (1991). A performance indicator of teaching quality in higher education: the Course Experience Questionnaire. *Studies in Higher Education*, 16(2), 129-149.

Reynolds, C., and Mackay, T. (1997). *Generic Skills (Key Competencies) in Australia – the Way of the Future or a track into the Never Never? Key Skills and Key Competencies.* Paper presented at the British Educational Research Association Annual Conference, University of York.

Stevens, J (1992). *Applied multivariate statistics for the social sciences*, Hillsdale, NJ: Lawrence Erlbaum.

Walberg, H.J. (1981). A psychological theory of educational productivity. In F. Farley and N. Gordon (Eds.). *Psychology and Education*. Berkely, CA: McCutchan.

Walberg, H.J. (1984). Improving the productivity of America's schools. *Educational Leadership*, *41*(8), 19-27.

Walberg, H.J., Fraser, B.J., and Welch, W.W. (1986). A test of a model of educational productivity among senior high school students. *Journal of Educational Research*, 79 (3), 133-139.

Wright, C., and O'Neil, M. (2002). Service Quality in the Higher Education Sector: An Empirical Investigation of Students' Perceptions. *Higher Education Research and Development*, 21(1), 23 – 29.

APPENDIX A: OUTLINE OF THE ITEMS WITHIN INDIVIDUAL MONASH EXPERIENCE SCALES (Source: The Monash Experience Questionnaire MEQ)

Good Teaching Scale

No	Item
1	The teaching staff motivate me to do my best work
2	The teaching staff put a lot of time into commenting on my work
3	The teaching staff make a real effort to understand difficulties I might be having with my work
4	The teaching staff normally give me helpful feedback on how I am going
5	The teaching staff are extremely good at explaining things
6	The teaching staff work hard to make their subjects interesting

Generic Skills Scale

No	Item
1	The course develops my problem-solving skills
2	The course sharpens my analytical skills
3	The course helps me develop my ability to work as a team member
4	As a result of my course I feel confident about tackling unfamiliar problems
5	The course improves my skills in written communication
6	The course helps me to develop the ability to plan my own work

Learning Community Scale

No	Item
1	I feel part of a group of students committed to learning
2	I am able to explore academic interests with staff and students
3	I am learning to explore ideas confidently with other people
4	Students' ideas and suggestions are used during the course
5	I feel I belong to the university community

Monash Graduate Attributes Scale

No	Item
1	The course develops my numeracy skills
2	The course stimulates my enthusiasm for further learning
3	The course improves my skills in oral communication
4	The course develops my ability to conduct research
5	The course encourages me to values perspectives other than my own
6	The course develops my confidence to investigate new ideas
7	The course develops my ability to use information technology
8	The course develops my sense of ethical responsibility
9	I believe I will be able to use the skills I am learning at Monash in my future employment

Student Support/Resource Scale

No	Item
1	The library services are readily accessible
2	The library resources are appropriate for my needs
3	I am able to access information technology resources when I need them
4	I am generally satisfied with the level of language/learning/study skills support.
5	I am generally satisfied with my physical classroom environment
6	I am generally satisfied with the online classroom environment
7	I am generally satisfied with the ratio of staff to students at Monash
8	Teaching resources and facilities (laboratories, studios, equipment) are appropriate for my needs

Monash Approach to Teaching and Learning Scale

No	Item
1	**Information and communication technology (eg web-based learning, online discussion groups, etc) is used appropriately in my course to facilitate my learning**
2	**My course provides me with the opportunity to engage with its related profession and the community it serves**
3	**My understanding of international perspectives is enhanced through my course**
4	**My course encourages innovation and creative thinking**
5	International opportunities (work, further studies) are available to me as a result of my experience at Monash
6	**The course is flexible and takes into account my individual learning needs**
7	The teaching staff encourage me to participate in classroom or online discussion

Other Important Areas of Teaching and Learning

No	Item
1	**My course workload is appropriate**
2	**Feedback I receive on my submitted work is useful**
3	**Feedback I receive on my submitted work is provided in time to help**

me improve

4   **There is sufficient access (eg online, face to face, telephone) to teaching staff**

5   **Teaching staff make a genuine effort to assist me with any problems I might have**

6   It is generally easy for me to know the standard of work expected of me in this course

The evolution of stakeholder feedback: An approach by a research-intensive university

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Abstract

The aim of this paper is to give an overview of the evolution of evaluation services at an Australian research-intensive university from the provision of a limited range of surveys to becoming an integral part of an evidence-based decision making in the institution, supported by an integrated evaluation system.

In 2000, the University has established a Centre for quality development as part of a wide ranging restructure of central support services in the institution. At the time of the Centre's formation, the University conducted only two core evaluation surveys – teacher evaluation and unit evaluations coordinated by individual faculties. The primary aim of establishing the Centre was to provide a range of evaluation services for corporate, academic, research and support services in the institution.

Introduction

Higher education in Australia has changed markedly over the last two decades. Factors such as a growing demand for university places from an increasingly diverse student population, the introduction of new quality-driven competitive government funding models, a greater reliance on full-fee paying (predominantly international) students, and an increased focus on compliance and accountability have played a significant role in these changes (OECD, 1998; Fiocco, 2005). The impact of all these factors on higher education has been to bring an increasing focus on quality in the sector (Harvey, 1998; Green, 1994). With the inception of the Australian Universities Quality Agency (AUQA) in 2000, Australian universities have been required to participate in quality reviews in which they had to demonstrate that they had clear policies, systems and procedures in place to ensure a quality experience for their students and that they were also generally meeting requirements of other stakeholders in higher education (AUQA, 2008).

With these influences, the main providers in the higher education sector have realised the need to re-evaluate their approaches to tertiary provision by placing a greater emphasis on meeting the expectations and needs of their stakeholders, especially students (Cheng and Tam, 1997; Griffin et al, 2003).

To continually monitor the stakeholder needs and expectations, universities introduced a range of evaluation surveys distributed on a regular basis. Both print-based questionnaires and, more recently, online questionnaires have been utilised. The most widely used type have been surveys administered to students seeking feedback on their study experience. These have ranged from surveys which focused on student perceptions of units (subjects), courses, staff and support services (Bennett et al, 2006; Harvey, 2003). There have been other surveys, for instance, targeting graduate experience, such as the Australian national Graduate Destination Survey (GDS) and the Course Experience Questionnaire (CEQ)[2]. A number of universities (such as Macquarie University and Monash University in Australia) have also started conducting major alumni surveys, for instance, surveys administered to staff to collect feedback on staff satisfaction levels and attitudes to the workplace (Pawley et al, 2004; Langford, 2008). Employer surveys, which are more challenging to administer, have also been introduced by some universities (such as University of Tasmania, Griffith University and Monash University in Australia) to track graduate employment and to review the match between employers' needs and the knowledge and skills (graduate attributes) of students graduating from universities (Bierbaum, 2007).

Regarding student evaluations, Bennett et al (2006) have identified a number of purposes behind the rationale of universities' conducting student evaluations. Some of these purposes included:

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[2] Course Experience Questionnaire (CEQ) and Graduate Destination Survey (GDS) is a combined survey which is sent to every graduating undergraduate and postgraduate by coursework student in Australia to establish their study experiences and also their post-graduation activities in terms of their employment or further study.
These surveys are now part of what is referred to as the Australian Graduate Survey.

- Providing diagnostic feedback to faculties about their teaching that can aid in the development and improvement of teaching;
- Providing research data to underpin further design and improvements to units, courses, curriculum and teaching;
- Measuring teaching effectiveness that can be used in administrative decision making, (e.g. performance management and development appraisals);
- Informing current and potential students in the selection of units and courses; and
- Offering a measure for judging quality of units and courses, increasingly becoming tied to funding mechanisms.

The first two purposes are recognised universally as the basis for many evaluations (Fraser, 1998; Marsh and Dunkin, 1997). The latter three purposes are relatively new to many universities, particularly in the Australian context. While there is a growing awareness across universities of the purposes of evaluations, it is only recently that universities have started focusing on the need to act on the data collected in a systematic and strategic manner (Nair et al, 2008; Nair and Pawley, 2006).

Evaluation at an Australian University

The University described in this paper is a large research-intensive and highly internationalised institution. It is home to approximately 56,000 students from around 130 countries. The University has six Australian campuses, two international campuses, and a number of international partners (for instance, in Singapore, Hong Kong and Indonesia).

As a result of the University's international activities, the institution is subject to regulation and quality assurance processes in all its jurisdictions. Internal evaluations and quality assurance activities are carried out by the Centre for quality development. The Centre was established in September 2000 as part of a wide ranging restructure of central support services in the University.

Evolution of evaluation needs at the University

The Centre for quality development currently has a wide ranging mission to lead and support quality assurance and improvement processes across the University. However, at the time of the Centre's establishment, the University only conducted two core evaluation surveys – teacher evaluation, provided centrally, and unit evaluation surveys operating in individual faculties. The primary aim of the Centre is to provide a range of evaluation services for corporate, academic, research and support service areas. Since 2001 until the present time the operation of the Centre with minor changes has been coordinated and conducted by the quality adviser for research and evaluations and an evaluation team made up of an evaluations manager, two evaluations administrators and an evaluations assistant.

The establishment of the Centre resulted from a number of external and internal factors impacting on the University. These included the following:

- Growth in size, number of campuses and increasing international orientation;
- The need to evaluate the 'services' the institution provided, and assure its 'stakeholders' of their standard. This is supported by literature showing the correlation between student satisfaction measures, student learning outcomes and the tracking of improvements (Marsh, 1987; Marsh, Dunkin, 1997);
- The need to broaden the number and range of evaluation surveys conducted at the University;
- Formation of the Australian Universities Quality Agency (AUQA) in 2000, and resulting requirement to prepare the institution for academic audits;
- Institutional self-review report which identified the need for institutional measures of academic activity;
- Realization that quality was an integral part of the higher education sector (Griffin et al, 2003);
- Need for an integrated service that would support quality development across a multi-campus institution in three different countries.

With the above outlined drivers, the area of evaluation at the University has expanded over the last seven years from a boutique process into eleven core University-wide systematic evaluative instruments, in academic and support service areas as well as supporting the administration of the three Australian national surveys (GDS, CEQ and PREQ[3]).

The increased volume and changed nature of demand have resulted in a restructure of the evaluations area, re-engineering of core processes, and the creation of a distinction between core institutional surveys and those conducted on a fee-for-service basis. Core surveys included those that were covered under the Centre's budget, while the fee-for-service surveys were those that were specifically requested by individual faculties and administrative areas and were tailored to specific needs. Over the last five years, there has been a growing emphasis on embedding a comprehensive and systematic unit evaluation process into the University's educational activities, as well as an increased focus on the evaluation of the student experience in general.

Change in the evaluation landscape

A number of major evaluation initiatives have been developed at the University in recent years. These included the following:

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[3] Postgraduate Research Experience Questionnaire (PREQ) and Graduate Destination Survey (GDS) is a combined survey which is sent to every graduating postgraduate by research student in Australia, similar to the CEQ/GDS survey, to establish students' research degree experiences and also their post-graduation activities.

- University Evaluation Standard
- Core Instruments:
  - Questionnaire Series on Teaching (student questionnaire)
  - Unit Evaluation (student questionnaire)
  - Student Experience Questionnaire
  - Student Support Experience Questionnaire
  - University Employer Survey
  - Learning and Growth Survey
  - Postgraduate Research Supervision Survey (student questionnaire)
  - Residential Services Survey (student questionnaire)
  - Head of School/Department Survey
- Fee for Service.

The University's current approach to evaluation is that every student should have the opportunity to provide feedback on the learning and teaching environments. As such, in order to maintain a systematic evaluation process, questionnaires are administered to all students (whether on-shore or off-shore) at the same time. Limitations of technology and accessibility of students at certain locations are taken into account when the administration methodology is considered. For example, one of the University's overseas campuses (in South Africa) has a different dynamic in terms of student access to computers off-campus. In such circumstances, online surveys are replaced with paper-based surveys so as not to hinder the opportunity of all students to provide feedback to the University.

University Evaluation Standard

In order to ensure the quality of questionnaires and surveys, a process was developed where only those questionnaires and surveys designed in consultation and with the endorsement of the Centre for quality development were analysed and reported by the Centre (CHEQa, 2008). This ensured that all aspects of questionnaire development were considered and all safeguards were in place, prior to the administration of a survey. The benefit of this measure to the University was that surveys and questionnaires administered at the University and endorsed by the Centre were credible and valid and the results obtained were reliable and able to be used with confidence.

Core instruments

A range of surveys are now undertaken by the Centre as part of its core service. Below is an overview of the most significant surveys and the changes that have evolved in the last four years:

- **Questionnaire Series on Teaching**

  The Questionnaire Series on Teaching is the standard teaching evaluation carried out at the University. It consists of a series of eleven questionnaires. Each questionnaire

is focused on a different aspect of teaching and is designed to enable student feedback to be obtained on that specific aspect of teaching. These evaluations are conducted by teachers on a voluntary basis, however are a requirement for academic staff promotion applications. The eleventh questionnaire was added to the series in 2004, and enables measuring the quality of online flexible learning delivery. The results are processed by the Centre on a semester-by-semester basis, and it also produces annual aggregated reports, the Summary Profiles. These Profiles were initially limited in circulation and staff who wanted access had to obtain them from their Faculty Office. This has changed to make the Profiles available to all staff and they can now be accessed on the Centre's website (CHEQb, 2008).

The demand for teaching evaluations has grown significantly since the inception of the Centre (see Figure 1 below). In the period between 2001 and 2008, there has been a 382% growth in teaching evaluations, with many academics using the reports for promotion as well as for performance management purposes. For instance, the demand for the teacher evaluations in 2008 has exceeded the demand for the years 2001, 2003 and 2005 taken together.
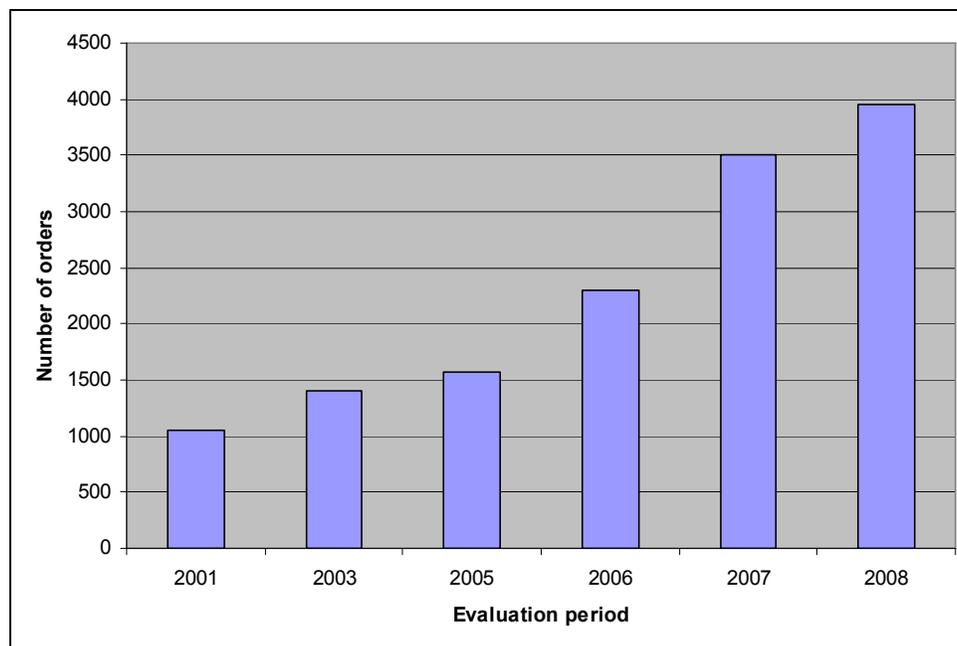
Figure 1: Number of requests for Teaching Evaluations, 2001-2008

A further change to the teacher evaluations was in the practical administration of the questionnaires. Until 2002, and in accordance with previous practice, administrators were appointed by the Centre to administer these evaluations in class. In the second semester of 2002, responsibility was transferred to the academic requesting the evaluation. The only requirement was that teaching questionnaires had to be distributed and collected by a person other than the academic being evaluated. This meant that the questionnaire had to be distributed either by students, a colleague or a faculty designated administration person. In order to assist the survey administration

and to maintain the credibility of the student evaluation of teaching, process guidelines were developed to help in ensuring data integrity. This process is outlined in detail on the Centre's website (CHEQc, 2008).

Further checks have also been built into the process with the survey administrator required to be identified so that follow-up contact can be made to ensure that correct administration protocols have been followed. Where these protocols are not followed, reports may be withheld or released with a caveat regarding the failure to meet protocols.

- **Unit Evaluation**

The policy governing unit (subject) evaluation was developed in 1998 and the administration of unit evaluation developed in two stages prior to 2005. First, until 2002, unit evaluation was conducted mostly using an item bank system whereby academics created their own unit questionnaires from a selection of over 100 items in the item bank. This led to a system where academics managed the timing of evaluations and the reports that were produced. Academics usually produced single aggregated reports for individual units. The second phase, introduced in 2002, saw a shift of responsibility from the academics to the faculties. In this phase, faculties were required to design central faculty-wide questionnaires and to conduct the unit evaluations at least every five years for each unit. This second phase saw a patchy take-up by faculties resulting in a mixture of both approaches utilised in this period. This gave rise to a broad combination of questions which did not enable benchmarking, monitoring and improving units within the University. Further, the results of the surveys were not always available within the Faculty for review.

In 2005, a new evaluation system was approved by the University Academic Board which involved significant operational and design changes. These included:

➢ Introduction of ten core items for all unit evaluations;
➢ Addition of up to ten quantitative items by a Faculty in order to produce a report common to the Faculty;
➢ Requirement for student evaluations of every unit to be undertaken each year they were offered;
➢ Requirement for results of the student evaluations of units to be posted on a common website accessible to all staff and students to enable review;
➢ Requirement from the Faculties to systematically review results from the evaluations for each semester and to report to a central committee on the improvements.

With a significant shift in policy and demand, the University initiated re-engineering of the technology utilised for evaluations to support the increasing need for data in the monitoring stage of the quality life cycle (this issue is dealt with in a greater detail in a section below on Re-engineering technology to meet the demand).

- **Student Experience Questionnaire**

  This questionnaire which measures the current student perceptions of the learning and teaching experiences was developed and initially administered in 2003, based on a recommendation in the University's (2002) institutional self-review report. The initial design of the questionnaire evaluated the overall undergraduate and postgraduate-by-coursework student experience at the University, including the study experience, administration and support services and overall university and student life experience. The questionnaire is administered at all University campuses and was developed in online format for off-campus students and students enrolled under the partnership agreements (for instance, in Singapore and Indonesia). The instrument is now a well-embedded tool at the University to such an extent that the key dimensions/findings are included among the University's Key Performance Indicators (KPIs).

- **Student Support Experience Questionnaire**

  In 2006, a decision was made to introduce the Support Experience Questionnaire primarily to measure students' views of their experience and satisfaction with administration and support services. The ability to evaluate the quality of services provided by faculties and central University services was the key consideration in the design of the questionnaire. The data from this survey is reported as part of the University KPIs. Reports for the institutional level and for each faculty are currently prepared by the Centre's Evaluation Unit.

- **University Employer Survey**

  The University Employer Survey was developed and first administered in 2003, using databases from a range of sources, such as the University Careers and Employment Services, the Australian national Graduate Destination Survey (GDS), University Alumni Office, and Faculty information. The survey measures employer perceptions of graduates' readiness for employment.

- **Learning and Growth Survey**

  The Learning and Growth Survey originated with the need to provide information for the University support services in their implementation of the balanced scorecard system. The questionnaire items are based on the dimensions identified by Kaplan and Norton (1996) as being integral to effective learning and growth strategies.

- **Postgraduate Research Supervision Survey**

  This survey is designed to measure the quality of postgraduate research supervision and departmental support for students, and is conducted every four years. During 2007, the Centre in collaboration with the University Research Graduate School redesigned this survey to take into account research findings in this area and to provide a scannable questionnaire for faster processing.

- **Residential Services Survey**

In 2002, the Centre was invited to help in the redesign and analysis of the evaluation tool used by the University Residential Services, the Residential Services Survey. This survey measures the student experience in residences. The redesign of the tool now also allows sub-analysis by different residences operated by the University Residential Services.

- **Head of School/Department Survey**

This survey is designed to gauge the perception of staff regarding the performance of the Head of a School or Department. It is a formative questionnaire, which the Heads of Schools or Departments may use to gain constructive feedback in order to help them in monitoring and improving their leadership of the School or Department. The Centre administers the survey and produces reports which are subsequently forwarded to the Heads of Schools or Departments that requested the evaluation.

Fee for service

The Centre has established a fee for conducting surveys that fall outside of the core surveys conducted in the University. This area has increased since the service was introduced in late 2003 with the average number of surveys in this category rising to more than 50 in 2006. The increase in this type of surveys resulted primarily from the need for additional information to the data provided through the core surveys.

Re-engineering technology to meet the demand

Since 2005, there has been a substantial increase in the number of units being evaluated across the University each semester. This was a result of a new policy governing unit evaluation at the University. To facilitate the administration of all evaluation surveys across the University, a new Survey Management System (SMS) replaced the previous system that utilised optical scanning technology. The purpose of introducing the system was to provide a more integrated mechanism for collecting and storing evaluation data from all over the University. Significant benefits arose as a result of the change:

a)   The replacement of the existing survey scanning system with a modern scanning system and software allowed for a new level of efficiency, productivity and reliability of the evaluation services across the University;

b)   It allowed processing of both paper-based and online surveys for all units, which was previously not possible;

c)   The capability of processing large volumes of survey data within a short period of time;

d)   The ability to store data collected in any survey (both paper-based and online) in a single location;

e)   Allowing for improved access to results and more efficient use of staff time. Stakeholders can access data gathered through multiple modes of data collection, which was not coordinated in an effective way using the previous evaluation system;

f)   It reduced the cost of survey development and processing; and

g)   It enabled the production of automated and comparative reports which allows for easier internal benchmarking between individual faculties, departments and campuses (Nair and Wayland, 2005).

The new SMS system is now utilised for all core evaluation surveys conducted at the University.

Equity and diversity

The new evaluation process ensures that every student has the opportunity to provide feedback on the units that they have completed. In the initial phase of the process, visually impaired students who identified themselves were given assistance to complete unit evaluation questionnaires (e.g. over the telephone), and in some cases through customised surveys built so as to utilize screen readers. In 2006, this issue was overcome initially for the unit evaluation process and at present time, it applies to all other online institutional surveys hosted on the SMS system. This change therefore provides the same level and quality of access to a diverse student and staff population at the University. Initial feedback from other Australian universities suggested that the University was at the forefront of inclusive practices in evaluation.

Breadth of impact

Internal

Since the implementation of the new evaluation system and processes, a number of key changes across the institution have been noted. These have included:

a) Every student enrolled in a unit at the University is now given the opportunity to provide their feedback annually on the quality of the units they have taken. Currently, over 6,400 units are evaluated in comparison to less than 700 typically being evaluated each year under the previous evaluation policy.

b) The unit evaluation system currently produces on average forty different reports each semester which enables management and staff to compare units by modes: faculty-level, department-level, and campus-level (CHEQd, 2008). These reports are now used by faculties to identify improvement priorities and good practice in unit management. The data is provided to committees across the University with responsibility for monitoring comparability of academic standards. Since student satisfaction measures have been correlated with student learning outcomes (Marsh, 1987; Marsh and Dunkin, 1997), the new evaluation system has provided the University with an effective mechanism for directly improving and further monitoring the need for improvement in learning and teaching.

c) An important component of the quality cycle at universities and in improvement of student learning is the ability of students who have participated in a survey to view the results and details of improvements that have been made as a consequence of their input. Students at the University are now notified by email as soon as unit evaluation reports are available online. Further, students are informed of the actions being taken as a consequence of their evaluation directly and through unit guides. This demonstrates that the University takes seriously the educational experience it provides, and also that the feedback provided by students is considered and acted on. The fact that many faculties have demonstrated that student feedback is considered for improvement purposes has resulted in students' gaining confidence in the new unit evaluation process. This is consistent with previous research findings, for instance, by Leckey and Neill (2001). The increased confidence of students was demonstrated in the increase of the overall survey response rates since the implementation of the new unit evaluation system. Response rates across the University have increased from slightly over 32% to nearly 50% in 2008. This translates to an increase in the actual number of responses from 39,041 to 66,558 per semester.

The new evaluation system has worked effectively in evaluating large volumes of survey data. It was estimated that the system in its full implementation of the suite of questionnaires administered by the Centre would cover over 500,000 survey responses per annum. Further demonstration of the effectiveness of the designed system was seen in late 2007 when the Centre processed over 17,000 paper-based responses for the current Student Experience Questionnaire. The system enabled producing data in less than two weeks, compared to the ten weeks with the previous evaluation system.

d) Processing time has dropped significantly. For example, the processing times for unit and teacher evaluations have fallen by about 90% since 2001 (as shown in Table 1 below).

Table 1: Processing times for teaching and unit evaluation

Year	Questionnaire Series on Teaching	Unit Evaluation
2001-2002	8 - 10 weeks	8 to 10 weeks
2003-2004	5 - 8 weeks	Up to 5 weeks
2005	5 - 8 weeks	Within 2 weeks from
2006-2008	1 - 7 days	close of survey period

e) The higher efficiency in processing with the new SMS system has led to savings in resources where there is now one less staff member in the team in the Centre but handling more surveys and producing additional reports.

External

Externally, it was recognised that evaluations at the University have improved over the last six years. Firstly, an external review of the Centre in 2003 highlighted a significant change in the nature of evaluations undertaken. The report has commended as one of the Centre's significant achievements:

'The dramatic expansion of the university's quality tracking and improvement processes, from a focus on the use of teaching evaluations when the Centre was first constituted to the currently extensive suite of instruments and their associated administration, processing, analysis and reporting strategies.'

(Monash University, 2004)

Secondly, the breadth of the impact of the process was also recently acknowledged by the AUQA audit of the University conducted in 2006:

'AUQA commends the University for the systematic implementation of its considerable suite of evaluation instruments, which are supported by the Centre's training activities, and administered and reported systematically.'

(AUQA, 2006)

Finally, the new evaluation system's capabilities and features have gained both national and international recognition. This was demonstrated by the fact that the Centre has hosted a number of visits from national and international universities and quality agencies with the purpose of reviewing the University's approach to evaluation.

Future initiatives in collecting feedback

The research literature suggests that there is a critical need to engage students in the evaluation process (e.g. Coates, 2006; Nair et al, 2008). Inclusive in this approach is the need to establish a link between evaluation, quality and engagement, and thus embedding

in the mindset of students that their feedback provided valuable information that the institution would act upon to meet their needs. The University has embarked on this route from the unit evaluations data. When the unit evaluation results are uploaded on the World Wide Web, students are notified by email advising them of the availability of evaluation reports. Faculties and departments are now required to set action plans to improve areas of weakness and any improvements need to be reported back to students via the course outlines. Course outlines templates at the University have a dedicated space for reporting of actions taken as a result of student feedback.

Other initiatives that the University is looking at include:
- Better informing students on the types and uses of the various surveys employed at the University;
- A communication plan to substantially improve survey response rates (e.g. in terms of their timing and frequency) (Nair et al, 2008);
- Greater involvement of staff in the evaluation process. For example, keeping teaching staff informed of response rates on a weekly basis. This is currently employed for unit evaluations and there is a need to extend this approach to other surveys hosted by the quality development Centre.

Concluding remarks

An effective quality management system relies on the effectiveness of the evaluation system that is employed in an institution. This paper has described evolution in an evaluation system employed by an Australian research-intensive University. To deal with increasing volumes of evaluation surveys required to conduct in the institution, the University established a Centre for quality development.

The paper has outlined the range of evaluation surveys which have been introduced in the University, since the establishment of the Centre in 2000. The range of evaluation surveys has indicated the realization of the widening array of aspects and stakeholders the University has grown to be accountable to. Further, to enable a more effective and efficient evaluation process, the institution has recently introduced a new survey management system to further support the growing number as well as frequency of evaluation surveys. Therefore, this paper has outlined some of the initiatives that a university may undertake in order to prove accountable to its stakeholders and in order to withstand the increasingly competitive environment that higher education has become in recent years.

References

Australian Universities Quality Agency (AUQA). (2006). *Report of an Audit of Monash University.* Melbourne, Australia: AUQA. Online, available at: http://www.auqa.edu.au/qualityaudit/sai_reports/index.shtml (accessed April 2009).

Australian Universities Quality Agency (AUQA). (2008). Online, available at: http://www.auqa.edu.au/ (accessed April 2009).

Bennett, L., Nair, C.S., and Wayland, C. (2006). Love it or Hate it: Participation a Key Ingredient in Closing the Loop. Paper presented at the 2006 Australian Universities Quality Forum, Perth, Australia.

Bierbaum, R. (2007). *University of South Australia Graduate Qualities and Learning Outcomes: Employer Feedback Discussion Paper*. University of South Australia, Carrick Institute for Learning and Teaching in Higher Education.

Centre for Higher Education Quality (CHEQa). (2008). *CHEQ Standard*. Online, available at: http://www.adm.monash.edu.au/cheq/evaluations/standards.html (accessed April 2009).

Centre for Higher Education Quality (CHEQb). (2008). *Monash Questionnaire Series on Teaching (MonQueST)*. Online, available at: http://www.adm.monash.edu/cheq/evaluations/MonQueST/profiles/profiles_index.html (accessed April 2009).

Centre for Higher Education Quality (CHEQc). (2008). *Administration and ordering*. Online, available at: http://www.adm.monash.edu.au/cheq/evaluations/monquest/administration.html (accessed April 2009).

Centre for Higher Education Quality (CHEQd). (2008). *Unit evaluations*. Online, available at: http://www.adm.monash.edu.au/cheq/evaluations/unit-evaluations/index.html (accessed April 2009).

Cheng, Y. C. and Tam, M. M. (1997). Multi-models of quality in education. *Quality Assurance in Education*, 5, 22-31.

Fiocco, M. (2005). *'Glonacal' Contexts: Internationalisation Policy in the Australian Higher Education Sector and the Development of Pathway Programs*. Digital PhD, Murdoch University, Australia. Online, available at: https://wwwlib.murdoch.edu.au/adt/browse/view/adt-MU20060502.154739?PrintFriendly=1 (accessed April 2009).

Fraser, B.J. (1998). Science learning environments: Assessment, effects and determinants. In B.J. Fraser and K.G. Tobin (Eds.) *The international handbook of science education*. Dordrecht, The Netherlands: Kluwer, pp. 527-564.

Green, D. (ed). (1994). *What is Quality in Higher Education?*. Buckingham, UK: SRHE/Open University Press.

Griffin, G., Coates, H., McInnis, C. and James, J. (2003). The development of an extended course experience questionnaire. *Quality in Higher Education*, 9(3), 259-266.

Harvey, L. (1998). An assessment of past and current approaches to quality in higher education. *Australian Journal of Education*, 42 (3), 237-255.

Harvey, L. (2003). Student feedback. *Quality in Higher Education*, 9 (1), 3 – 20.
Kaplan, R., Norton, D. (1996). *The Balanced Scorecard*. Boston, Mass., USA: Harvard Business School Press.

Lanford, P. (2008). Improving Employee Engagement During Change in Australian Universities. The Higher Education HR Conference, April 2008. Online, available at: http://www.aheia.edu.au/pages/1122155 (accessed April 2009).

Leckey, J., Neill, N. (2001). Quantifying Quality: The Importance of Student Feedback. *Quality in Higher Education*, 7(1), 19–32.

Marsh, H. W. (1987). Students' evaluations of university teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research*, 11, 253-388.

Marsh H.W., Dunkin, M.J. (1997). Students' evaluation of university teaching: A multidimensional perspective. In R. P. Perry and J.C. Smart (Eds.) *Effective Teaching in Higher Education: Research and Practice*. New York: Agathon Press, pp. 241-320.

Monash University. (2002). *Still Learning: The Report of our Self-Review*. Online, available at: http://www.adm.monash.edu.au/cheq/reviews/still-learning/contents.html (accessed April 2009).

Monash University. (2004). *Report on a Review of the Centre for Higher Education Quality*. Online, available at: http://www.adm.monash.edu.au/cheq/about/cheq-docs/cheq-review-panel-report.doc (accessed April 2009).

Nair, C.S., Wayland, C. (2005). Quality and Evaluation: A Universal System for a Quality Outcome. *Proceedings of the 2005 Australian Universities Quality Forum: Engaging Communities*. Melbourne, Australia: Australian Universities Quality Agency, pp. 127-130.

Nair, C. S., and Pawley, D. (2006). Quality and Feedback: The Duty of Care. Paper presented at the Annual Conference for the Foundation of Tertiary Institution of the Northern Metropolis (FOTIM), Johannesburg, South Africa.

Nair, C.S., Adams, P., Mertova, P. (2008). Student engagement: the key to imporving survey response rates. *Quality in Higher Education,* 14 (3), 225 – 232.

OECD. (1998). *Redefining tertiary education*. Paris: OECD.

Pawley, D., Nair, C. S., and Dixon, J. (2004). Quality in Practice: An Investment in Human Capital. In AUQF 2003 Proceedings: National Quality in a Global Context, edited by C.S.Nair and R.Harris, June 2003, Melbourne, Australia, pp. 112 – 118, online, available at: http://www.auqa.edu.au/files/publications/auqf2003_proceedings.pdf (accessed April 2009).

Nirwan Idrus

Comments: *Quo Vadis higher education?*

Many countries from one end of the globe to the other have been reforming their education policies and practices for many decades, purportedly to keep abreast of all sorts of things ranging from technology to stakeholders' requirements.

Given the incredibly rapid development of everything we could think of, one shouldn't apologize for asking whether we are really tackling and guiding those who wish to follow us, the future higher education. How do we know that we are on the right track? For those in academia, armed with the most sophisticated statistical and analytical tools, are you able to predict where the *right track* is taking us and our future generations? Those in practice, armed with the vast experiences on the ground as it were, can you answer the same question above?

As some say, *the only constant is change*. How could anybody then predict anything in the future? Granted that the engineers and scientists have the tool called *simulation* to help them and could help them to be as accurate as we want to. Through simulations, as could be demonstrated easily by aircraft or flight simulators, not only could you predict the future, but you could actually make the future and thus also simulate our (or the pilots' in the case of the flight simulations) reactions to these made-up or *simulated* futures.

As we have seen around us, not only things we control are running out of control, but in recent times the number and types of natural events (or disasters) have been unprecedented as well, e.g. the Aceh Tsunami, increased number of earthquakes, tremors, flooding, bush-fires.

However, we have been able to react to and learn from them quickly. For example, anti-tsunami warning equipment have now been deployed, so that human losses could be minimized if not avoided.

Then we should look back at how we teach our students. Don't we shudder when we actually see our lecturers and professors who are at least a dozen or more years older than the students they teach, not really knowing the generational gap that exists between them and their students? That these lecturers and professors would have studied under those who are about twenty years older than them again certainly exacerbates the situation as far as the current generation of students are concerned.

Education system and management in many countries appear to be still *input driven* rather than *outcome driven*. Students as input into the education system are not normally

studied and researched in order to know what to do with the process so that the desired outcome results. The so called *Millenials* (born after 1980) according to experts are multi-skilled (able to do 4 things simultaneously), are computer-literate, readily helpful and highly willing to share. Should we not revisit the way we *teach* in order to ensure that we meet the requirements of our students' *learning*?

At the simplest level for example, don't we ask our students when they come to our universities, to not do B before doing A, to not do C before doing B and so on? If you or your university is already allowing them to do D even before doing A, then you are an exception and we should learn from you on how you do it.

In essence our traditional teaching and learning method has been very much *serial* and hence we see the above. The other possible method of course is the *concurrent* or *parallel* method by which we allow our students to jump ahead or backwards as the need arises so that the students are able to gain and develop their knowledge in wholes. The concurrent or parallel teaching and learning method appears to be one that would suit our *Millenials*. However, much is still to be done in order to ensure that our teachers and professors change their established ways with a new one. The huge question is of course, whether we are able to do so without taking too long a time, because time is of the essence.

As would be expected, concurrent or parallel teaching and learning requires some fundamental shifts particularly in teaching. Even Malaysia for example, has recognized that the traditional lectures are no longer appropriate, as categorically stated in its Malaysian Qualifications Framework's Codes of Practice. The Malaysian Qualifications Agency's (MQA's) auditors are instructed to look for *interactions* in lectures, indicating that information transfer from the lecturer to the students is no longer meeting the requirements of a *lecture* in the new definition. This makes good sense since the *Millenials* are even better than the lecturers and professors in accessing and downloading information from various e-based sources.

Clearly this means at least three things. Firstly that lecturers and professors must stop *teaching* and *regurgitating* what they have read or learnt. Secondly, they must sharpen their e-skills, i.e. not just improving their ability to access and download information from websites but importantly to use the technology in the way they relate to their students who are already competent users of the e-technology. Thirdly, they have to change their classrooms' antics. In short they have to transform their teaching and their students' learning.

In previous articles both in JIRSEA and elsewhere, I have advocated *Transformative Learning*, a method by which *rote learning* is transformed to one that espouses and practices *understanding*, and at least in the case of Asia and Southeast Asia, to transform *acceptance* to *reconceptualization*. If we could represent these transformations as crossing horizontal and vertical axes respectively, we could then imagine that the transformation is the process that sits on the intersection of these axes and the process *black box* is the actions described in the previous paragraphs above.

Just briefly on syllabi and contents of the learning, a number of concerned academics lamented that little is included in university programs and syllabi of what in fact makes up the major part of nations' economy around the world. Seventy five percent of developed nations' economy and over fifty percent of developing nations' economy are dominated by *service*, but little if any universities' syllabi and programs deal with it. Except for a handful of universities in the USA and a lesser number of individuals, most known are Zeithaml and Parasuraman, no one is bothered. Fortunately, work is on-going for a few years now to develop a discipline which will have to be interdisciplinary to cover the science of *services*. Aptly, investigators at North Carolina State University and UC-Berkeley are calling it Services Science, Management and Engineering or SSME. However, to take this off the ground appears to be more than challenging.

Given that we are perpetuating the way we teach irrespective of our new *type* of students with their own characteristics and learning requirements, and who are better e-equipped than most of us, and that we are ignoring global trends in economic activities in our syllabi, one cannot be blamed for thinking that the days of higher education as we know it are numbered. Innovative, creative and entrepreneurial alternatives have begun to appear and will gain some momentum.

Is this not the time for us to go back to the proverbial drawing board and chart the survival route for higher education?

Faculty Members' Attitudes Toward Online Learning: The Case for Higher Education Institutions in Jordan

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Abstract

Online learning is gaining increased attention at the Hashemite University in Jordan. For a successful implementation of such technology, an attention need to be forwarded toward faculty members, which are a key players in utilizing instructional technology in the university classrooms. Based on that, the primary purpose of this study was to determine the attitudes of faculty members at the Hashemite University toward online learning. A random sample of 220 faculty members participated in the study by completing the 14-items researcher-designed questionnaire. The results indicated that participants have positive attitudes toward online learning, thus fostering its implementation in the classrooms. Furthermore, based on t-test and ANOVA analysis, significant differences were not found in faculty members' attitudes based on gender, years of experience, and type of faculty. However, significant differences were detected based on academic rank. The study ended by offering a number of practical and theoretical implications for the field of study.

Introduction and Theoretical Framework

Much of the world today appears to be embarking on massive and accelerating change. This affects many of our attitudes, beliefs, expectations, behaviors, organizations, and management styles (Al-Ghamdi, 1982). In fact, the turn of the 21st century is a time of change and development in which societies are witnessing some of the greatest technological, economic, and social alterations (Irma & Schmida, 1998). All of this rapid growth and change is emphasized in technological terms. In particular, the accelerated progresses in the fields of computers and communications have altered our perception of the world and, thus, the world itself (Ginsburg, 1999). Computer technology is the predominant technology of our time. The central role of computer technology is at the heart of modern organizations and systems, as well as in science and daily life (Innes, 2004). The proliferation of the personal computer, combined with the development of the Internet, has precipitated far-reaching changes in society. Electronic and digital networks are transforming the way we work and are reshaping inter-personal communications and entertainment (Anderson & Falsa, 2002).

Recently in the realm of higher education, the concept of online learning has gained popularity among full-time students who holds jobs. Online learning offers flexibility and self-paced learning which offers students with utterly dissimilar experience from traditional on-campus courses (Neal, 1999). In fact many institutions of higher education have adopted online education as next logical step in educational delivery systems. Online learning has become an important instructional delivery medium for universities (Akdemir, 2008). An important distinction between traditional classroom face-to-face instruction and online course is that the online learning places the responsibility of learning on the student much more so than traditional learning. Using online learning as an alternative method raises questions to what kind of student will have success using on line learning.

Online learning demands a high degree of self discipline, self-organization, and self planning (Nichols,1996). The alterations in the work environment have made it necessary for individuals to learn new skills and information to keep them up-to-date (Akdemir, 2008). The introduction of the life-long learning concept has prompt the need for more affordable education choices and population shift to various geographical locations (Wilson & Mosher, 1994). The fact that more people want to obtain training and education credits on their time schedule and at their designated location have prompt the need to online learning. One educational approach that has emerged to meet this need is distance education. Higher education is no longer constrained to place "campus" or time "class period" (Cole, 2000). Education-on-demand is no longer future scenario--it is now a reality. Distance education is being called upon to meet some of the needs in countries all over the world (Sharma, 2000). The nature of needs varies from country to country, depending upon the stage of development. The necessity for distance education is being recognized both in developed and developing countries for a variety of reasons, some of which are common to all, while others are specific to particular countries depending on their individual requirements (Lumumba, 2004).

According to the international journal for leadership in learning, nearly 3.2 million students were taking at least one online course during fall 2005 and the online tuition revenue totaled $7.1 billion in 2005, up from $2.4 billion in 2002 (Hass, 2007).This proliferation of online degree programs has had a tremendous and dramatic impact on society, particularly in the field of education (Mehlinger & Powers, 2002). Realizing the impact of online learning on individuals and society as a whole and schools and colleges have included computer technology as an integral part of students' learning and experiences and as a way to equip them with the skills and knowledge necessary to succeed in the 21st century (Kay, 1999). The exponential development of increasingly sophisticated communication technologies has prompted universities to experiment with alternatives to the traditional classroom teaching strategies; thereby leading to the evolution of a wide range of online courses skepticism towards this virtual "means of communication" is still common. Faculty members play an important role in the success of online courses in such educational environments.

According to Brian, Donohue and Stagier (2008), a survey was conducted by Sloan in the years 2002-2003 shows that 40 percent of faculty at U.S. degree-granting institutions doesnot accept the value and legitimacy of online education. In their study of faculty member's view of distance learning, Selani and Harrington (2002) found that distance education places different expectations on faculty members. Faculty members tended to be most concerned about quality issues of learning outcomes, faculty training, and selection, academic misconduct, and teaching loads. Moreover, Lee (2002) and Keenan (2007) emphasized that faculty members' perceptions were different with regards to instructional support for distance learning; technical support for distance learning. As a result, online learning has become more and more important in the educational environment. Towards this step, the Hashemite University in jordan established an e-learning center to develop e-learning infrastructure, training, course/curriculum development, and support practices. Therefore, this study lays down a pioneering work for assessing, the attitudes of the faculty members in higher education institutions in Jordan with regard to online learning.

Statement of the Problem

Online learning is gaining attention in higher education institutions in Jordan, especially at the Hashemite University. For a successful implementation of such technology, an attention need to be forwarded toward faculty members, which are a key players in utilizing instructional technology in the university classrooms. To the researcher best knowledge, no study in Jordan touch base the atttiudes of faculty members regarding the value of online learning. Therefore, the main purpose of the study is to investigate faculty members' attitudes toward online learning. Secondary purpose of the study was to determine differences in attitudes based on selected demographic variables.

Research Questions

The following research questions were formulated to achieve the main purpose of the study:

1. What are the attitudes of faculty members at the Hashemite University toward online learning?
2. Are there significant differences in faculty members' attitudes toward online learning based on the following demographic variables: gender, years of experience, academic rank, and type of faculty?

Significance of the Problem

Online learning has become an increasingly popular topic worldwide due to its benefits to the university, the staff, the student, and the nation as a whole. The outcomes of this study is expected to provide a deeper insight of the possible implementation of online learning in the university classrooms. By identifying and explaining the faculty's attitudes toward the use of online learning, it is possible to identify ways and methods to improve the educational process, enhance the educational system, and redesign Jordan's higher education policy.

Research Methodology

Population and Sample

The target population for this study was all faculty members at the Hashemite University for the academic year 2008/2009. A list of faculty members was obtained from the registrar office to determine the population frame for the study. According to the list, the target population was 560 faculty members. A simple random sample of 250 faculties was drawn from the established population frame. A total of 220 usable instruments were returned with a response rate of 88%. The sample distribution was 150 males (68.2%) and 70 females (31.8%). With regard to years of experience of faculty members, 81 (36.8%) had an experience less than 3 years, 67 (30.5%) had an experience between 3-6 years, 46 (20.9%) had an experience between 7-10 years, and 26 (11.8%) had an experience above 11 years. University faculties were classified as follow: the Social Sciences Faculties: 101 (45.9%) and the Science faculties 119 (54.1%). There were 28 (12.7%) instructors, 143 (65%) assistant professors, 29 (13.2%) associate professors, and 20 (9.1%) professors.

Instrumentation

The instrument used in this study was developed by the researcher after an extensive review of related theory and research and following survey design procedures founded in the literature (Alreck & Settle, 1995; Gaddis, 1998; Leady & Ormrod, 2001; Long, 1998). Items in the instrument were drafted by the researcher and submitted to several content judges for review and to determine the face and content validity of the instrument. These

judges had expertise in the field of educational techology, instructional design, instructional technology, and research methodology. This panel of content judges included university faculty members and field professionals. The researcher instructed this panel to check the instrument items for clarity, length, time to complete, difficulty in understanding and answering questions, flow of questions, appropriateness of questions based on the research topic, any recommendations for revising the survey questions (e.g., add or delete), and overall utility of the instrument.

Based on their feedback, items were added, dropped or reworded where necessary. A preliminary questionnaire was pilot tested with a group of 30 faculty members whom were not included in the final sample of the study. Feedback from this pilot test led to minor modifications in the wording of several items. Long (1998) considered peer reviews to be a form of survey pre-testing. All items in the instrument used a five-point Likert-type scale with values ranged as follow: 1 "Strongly Disagree", 2 "Disagree", 3 "Neutral", 4 "Agree", 5 "Strongly Agree".

The final instrument was named the "Online Learning Questionnaire" (OLQ) and consisted of two sections. The first section of the instrument included 14 items that measure faculty members' attitudes toward online learning in a university setting. Examples of the instrument items were "I am interested in dealing with the online learning technoloy"; and "online learning has a great impact on the quality of education". The second section of the instrument included items related to demographic characteristics (e.g., gender, years of experience, academic rank, and type of faculty) of respondents. Since this is an exploratory study, eight demographic variables were submitted to a focus group consisting of 15 faculty members who have expertise in the field of instructional technology and asked for their opinion as to the variables that should be included in the study. Their decision was to use the above mentioned four demographics.

Internal consistency coefficient for the instrument was calculated using Cronbach's alpha and found to be .84. The standards for instrument reliability for Cronbach's alpha by Robinson, Shaver, and Wrightsman (1991) were used to judge the quality of the instrument: .80 – 1.00 – exemplary reliability, .70 - .79 – extensive reliability, .60 - .69 – moderate reliability, and < .60 – minimal reliability. Therefore, the instrument is regarded as a reliable measure of the attitudes of faculty members toward online learning in higher education institutions.

Data Collection

A descriptive research methodology was used to conduct this study. Data were collected from faculty members during the first semester of 2008/2009 academic year. The researcher and his assistants contacted all participants included in the sample either in person or by telephone, explained the nature and goals of the study, and insured confidentiality, voluntaries, and anonymity. The participants were also informed that the instrument will take approximately 10-12 minutes to complete. The participants who agreed to participate in the study were given the instrument and were requested to

complete it within two weeks time-frame. At the end of the two weeks, the researcher and his assistants collected the instruments.

Data Analysis

This study used quantitative data analysis techniques to examine responses to a survey instrument used for this study. The alpha level was set at .05 a priori. Procedures for statistical analysis are discussed by research question. To achieve the first research question, descriptive statistics including means and standard deviations were utilized to describe each of the 14 items and the average of all items. To accomplish research question two, independent t-tests and one way analysis of variance (ANOVA) were utilized to compare if differences exist in attitudes of faculty members based on selected demographic characteristics. In the case where there were two levels of the variable (e.g., gender) the t-test was used while ANOVA was used when the variable has more than two levels (e.g., academic rank). Tukey's post hoc test was used in case differences were detected.

Results

The data collected from all participants were coded, entered to the SPSS spreadsheets, and analyzed using software package SPSS version 11.5. Descriptive statistics of all the variables in this study were examined by using SPSS frequencies. The minimum and maximum values of each variable were examined for the accuracy of data entry by inspecting "out of range" values. An examination of these values showed that no "out of range" values were entered. In addition, missing subjects were not detected either.

Results Pertaining Research Question 1

Question 1 addresses the attitudes of faculty members at the Hashemite University in Jordan regarding online learning. Means and standard deviations were used to answer this question. It is observable from Table (1) that the overall mean value for the 14-item instrument, the (OLQ) was 4.07. This result indicates that faculty members have positive attitudes toward online learning. With regard to the means and standard deviations of the 14 items of the OLQ, the highest mean value of 4.27 was for item nine "I am receptive to the value of online learning in education". In contrast, the lowest mean value of 3.75 was for item 1 "I value a student-centered approach to learning more than a teacher-centered approach to learning". Furthermore, it is noticeable that 12 of the 14 items had mean values above four points on a five-point scale (see Table 1).

Table 1

Means and Standard Deviations for each item and the Overall of the OLQ

Items	Means	Std. Deviations
Item 9	4.27	.73
Item 6	4.26	.72
Item 3	4.21	.78
Item 14	4.18	.89
Item 2	4.12	.90
Item 5	4.11	.88
Item 7	4.09	.73
Item 12	4.07	.90
Item 8	4.06	.83
Item 10	4.05	.71
Item 4	4.04	.76
Item 11	4.01	.69
Item 13	3.86	.79
Item 1	3.75	.84
Overall UBPQ	4.07	.33

Results Pertaining Research Question 2

Question 2 concerns the significant differences among the attitudes of faculty members toward online learning based on the following individual demographics of faculty members: gender, type of faculty, years of experience, and academic rank. T- Tests for independent samples were used to examine the difference in means between males and females faculty members and between faculty members from the Social Sciences Faculties and faculty members from the Science faculties on the overall level of the OLQ scores. However, one-way analysis of variance (ANOVA) was utilized to identify whether the variances of the four level groups of experience, the four level groups of academic rank were equal or significantly different.

Table 2 shows that there were no significant differences at the 0.05 level between male and female faculty members on their attitudes toward online learning ($p=.27$). Moreover, significant differences were not found among the two level groups of type of faculty based on faculty members attitudes toward online learning ($p=.79$) (see Table 3).

Table 2

The Differences between Male and Female Faculty Members on the Overall OLQ Scores

	Gender	N	Means	Std. Deviations	t	*p*
OLQ Overall	M	150	4.05	.31		
					-1.09	.27
	F	70	4.11	.35		

Table 3

The Differences between Faculty Members in Scientific Colleges (Sc.) and Faculty Members in Social Science Colleges (So) on the Overall OLQ Scores

	College	N	Means	Std. Deviations	t	*P*
OLQ Overall	Sc.	119	4.07	.30	.26	.79
	So.	101	4.08	.35		

On the other hand, utilizing one-way analysis of variance, as can be observed in Table 4, there were no significant differences among the four experience level groups (< 3 years, 3-6 years, 7-11 years, and > 11 years) of faculty members on the overall OLQ score ($F= 1.76$, $p= .15$). However, as can be observed in Table 5, significant differences were found among the four rank level groups (instructor, assistant professor, associate professor, and professor) on the overall OLQ score ($F= 11.79$, $p= .000$). Tukey's comparison test revealed that the difference was between assistant professors and instructor for the favor of assistant professors, between associate professors and instructors for the favor of associate professors, and between professors and instructors for the favor of professors.

Table 4

The Differences among the Four Experience Level Groups (< 3 years, 3-6 years, 7-11 years, > 11 years) on the Overall OLQ Score.

		Sum of Squares	df	*F*	*p*
OLQ Overall	Between Groups	.577	3		
	Within Groups	23.596	216	1.76	.15
	Total	24.173	219		

Table 5

The Differences among the Four Rank Level Groups (Instructor, Assistant Professor, Associate Professor, and Professor on the Overall OLQ Score.

		Sum of Squares	df	*F*	*p*
OLQ Overall	Between Groups	3.402	3		
	Within Groups	20.772	216	11.79	.000
	Total	24.173	219		

Discussion and Conclusions

The topic of online learning has received a great deal of attention in the past decade because of its importance as a key factor in improving the quality of higher education, thus leading to competitiveness, innovation, and social and economic development. Locally, research studies concerning faculty attitudes toward online learning is quite limited and to the researchers' best knowledge, no studies were identified that addressed this topic. Therefore, the primary purpose of this study was to determine the attitudes of faculty members at the Hashemite University in Jordan toward online learning. Secondary purposes of the study were to test for significant differences in faculty members' attitudes toward online learning based on exploratory selected demographics including gender, years of experience, type of faculty, and academic rank.

This study is extremely important to researchers and practitioners in Jordan as well as to the international education community. To elaborate, Jordanian economy will be nurtured if universities utilize advanced online learning technologies in the teaching-learning process, which ultimately may lead to improvements in the national economy because of the quality of graduates produced. On the other hand, the international community may have a clear picture of the attitudes of faculty members in Jordan toward online learning, which may help in decisions of partnership and exchange services.

Faculty Members' Attitudes Toward Online Learning

This study utilized a descriptive research methodology were a questionnaire was developed and validated in Jordan to better fit the purpose of the study. A random sample of 220 faculty members participated in the study. The findings of this study revealed that faculty members at the Hashemite University have positive attitudes toward online learning technologies in the university classrooms. These results are consistent with the studies of Alshehri (2005) and Alghoneim (2005) who found that university faculty members in Suadi Arabia have positive attitudes toward online learning technologies in the university classrooms.

According to results, faculty members are receptive and interested in using online learning technologies in the university classroom because they feel comfortable with using such technology and have knowledge and experience with these technologies.

Huyer (2003) emphasized that notion in that the interest and comfort level of instructors may provide a positive learning experience for them. Moreover, faculty members percieve that the university has provided training, resources, technical support, team effort, and an infrastructure to support the use of online learning technologies in the classrooms. These results may be one of the factors that formed a positive attitudes about online learning, which is consistent with the fact support received from the institution may be a key factor in the forming of the attitude (Roger, 1995). Further, faculty members believe that online learning has a great impact on the quality of education; online learning is better than traditional learning; and that online learning improves students' learning and performance. These results are consistent with the study of Oder (2001).

Demographic Variables and Group Differences

The second research question was to determine if significant differences exist in the faculty members' attitudes towards online learning based on the following demographics: gender, years of experience, type of faculty, and academic rank. The results of the study indicated that there were no significant differences at the 0.05 alpha level due to gender, years of experience, and type of faculty. These results might be justified. With regard to gender, there is an equal opportunity for both male and female faculty members. Moreover, years of experience had no impact on the results of the study because there is an established culture within the system of the Hashemite university that encourage all faculties regardless of their experience to engage in many forms of online learning to improve students' learning and performance and the reputation of the university as a whole. Furthermore, by the same token, the culture of the university has encouraged all faculties regardless of their major to engage in this process of online learning.

With regard to the academic rank faculty members, significant differences were detected. Assistant professors, associate professors, and professors at the Hashemite University had more positive attitudes than did instructors (earned only a masters' degree). This result might be justified with the assumption that they are more involved with online learning for promotional purposes than do instructors. These results open the door for more demographic variables to be included in further research.

Recommendations

This study adds up to the growing field of literature on online learning and the following theoretical and practical recommendations can be suggested.

Theoretical Recommendations
- More research is needed with a larger sample of universities in Jordan.
- There is a need to explore the attitudes toward online learning between private and public universities in Jordan.

- A mixed-method research design of both quantitative and qualitative research should be used to gain a deeper understanding of individual, institutional, and environmental factors that may influence faculty members' attitudes toward online learning.

Practical Recommendations
- Leaders of higher education should establish a university-based center in all public and private universities in Jordan to training all their faculty members to integrate online learning technologies in all university courses.
- Jordanian universities should seek to partner with international universities to delivery online instructions to students.
- The Ministry of Higher Education should provide incentives for universities who deliver instruction via online.

References

Akdemir, O (2008) Teaching in online course: Experience of Instructional Technology Faculty Members, *Journal of distance Education – TOJDE April 2008 ISSN 1302-1302, 9(2), 97-107*

Al-Ghamdi, A A (1982) Action research and the dynamics of organizational endearment in the Kingdom of Saudi Arabia. Unpublished doctoral dissertaion of the graduate schoo. University of Southern California, Los Angeles

Alghonaim, H (2005) Attitudes, barriers and incentives of Saudi College instructors and administrators toward impolication of online instruction. Doctoral dissertaion, University of Kansas

Alreck, P L & Settle, R B (1995) *The survey research handbook (2nd ed)* Boston, MA: Irwin McGraw Hill

Alsherhri, A. (2005). *Assessing faculty attitudes toward the significant factors for facilitating the incorporation of online courses at the institute of public administration in Suadi Arabia*. Doctoral Dissertation, Missipie State University.

Anderson, L E & Falsa, J (2002) Factors that make faculty and student relationships effective. *College Teaching, 50(4), 134-139*

Brian, C, Donohue, E & Steiger, L (2008) Faculty and Administrators collaborating for e-learning courseware. *Journal of Education Statically Quarterly, 4(1), 20-32*

Cole, R A (2000). *Issues in web-based pedagogy: A critical primer.* Wesport, CT: Greenwood Press

Gaddis, S. E. (1998). How to design online surveys? *Training and Development Journal, 52*(6), 67-71.

Ginsburg, L. (1999). Educational technology: Searching for the value added. *Adult Learning*, *12*, 122-133.

Hass,A. (2007). Administrator Attitudes Toward Online Teacher Preparation Programs: Are Principals Logging On—or Logging Off? *International Electronic Journal For Leadership in Learning.11* (3), 1-7.

Huyer, S. (2003). *ICTs, globalisation, povert reduction: Gender dimensions of the knowledge society.* Gender Advisory Board, UNCSTD.

Innes, R. B. (2004).*Reconstructing undergraduate education: Using learning science to design effective courses*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Irma, Y., & Schmida, M. (1998).*The educational system of Israel*. Westport, CT: Greenwood Press.

Kay, R. (1999). Understanding gender differences in computer attitudes, aptitude and use: An innovation to computers. *The Computer Attitude Measure (CAM), Computer in Human Behavior, 9*, 31-386.

Keenan, C. (2007). Different perspectives on distance education: Faculty vs. administrator. M*agna Publications Faculty Focus.* Retrieved January 14,   2008 from http://www.magnapubs.com/issues/magnapubs_ff/4_1/news/599779-

Lee, J. (2002). Faculty and administrator perceptions of instructional support for distance education. *International Journal of Instructional Media, 29*(1), 27-45.

Leedy, P. D., & Armrod, J. E. (2001). *Practical research* (7th ed.). Upper Saddle River, NJ: Prentice-Hall.

Long, L. (1998). *Surveys from start to finish*. Alexandria, VA: American Society for Training and Development.

Lumumba, N. T. (2004). *Cyberspace, distance learning, and higher education in developing countries: Old and emergent issues of access, pedagogy, and knowledge production* Koninklijke.Brill,Nv,Leiden.The Netherlands, Annual meeting of the American Educational Research Association, San Francisco.

Mehlinger, H. D., & Powers, S. M. (2002). *Technology & teacher education: A guide for educators and policymakers*. Boston, MA: Houghton Mifflin Co.

Neal, E (1999) Distance Education. National Forum: *Phi Kappa Phi Journal V(79), 40-43*

Nichols, A R (1996) Computer anxiety in a distance learning course. *Unpublished Dissertaion, University of Southern California, December 1996*

Oder, E. (1995). LIS distance education: Moving ahead. *Library Journal, 126*(16), 54-56.

Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). Criteria for scale selection and evaluation. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds). *Measures of personality and social psychological attitudes* (pp. 1-6). New York: Academic Press.

Roger, E. (1995). *Diffusion of Innovation* (4th ed.). New York: The free Press.

Selani, R. J., & Harrington, W. (2002). Addressing administrator/faculty conflict in an academic online environment. Internet & Higher Education 5(2),131-145.

Sharma, C. B. (2001). Globalizing education in an unequal world. *Indian Journal of Open Learning, 10*(3), 309-317.

Wilson, J., & Mosher, D. (1994). The prototype of the virtual studio classroom. *Journal of Instruction Delivery Systems*, *8*(3), 28-33.

"The Online Learning Questionnaire"

1. I value a student-centered approach more than a teacher-centered approach to learning.

2. Online learning has a great impact on the quality of higher education.

3. Online learning requires a team-effort to be successful (e.g., faculty, administrators).

4. Online learning is better than traditional learning.

5. My university has a good infrastructure to support online learning.

6. Online learning can be used with all types of university courses.

7. I have a good knowledge about online learning technology.

8. The use of online learning technology will improve students' learning and performance.

9. I am receptive to the value of online learning in education.

10. I feel comfortable dealing with online learning technology.

11. My university supports faculty members to teach online courses.

12. I am interested in dealing with online learning technology.

13. My university provides training related to utilizing online learning technology in my course.

14. My university provides help when needed to deal with the technical difficulties of online learning technology.