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EDITORIAL

Greetings and welcome to the first edition of JIRSEA for 2013.

An interesting and eclectic collection of topics feature in this edition of JIRSEA. Although we normally have six papers published in each edition, this time around we are only having four substantial papers coming from Thailand, The Philippines, Jordan and Malaysia. There is however an *Opinion Page* about higher education in Malaysia which focuses on the need for a serious quality uptake by Malaysian academics.

Walaipun from Chulalongkorn University, Thailand, discusses the English language writing competence of Thai students' which she considers to be still under-developed. At a time when the world is either learning or revising English, learning improvements and communication effectiveness generally, Ms Walaipun's paper brings us back to reality. Estimates put about one billion people around the world are currently learning English with something like 300 million in China alone. This is about a quarter of the country's population learning the language. To put this in better perspectives as far as South East Asia is concerned that number is more than the whole population in Indonesia or twelve times the population of Malaysia. Knowing how serious Chinese learners are, it is a good bet that their English competence is going to be so much more superior to learners' from their country's neighbours. Coupled with their numbers in comparison to their neighbours', not only is China dominating commerce in the area but will also be flooding the region with competent English speakers. The *Opinion Page* in this issue of JIRSEA is cautioning Malaysia about its academics' English competence and if she does not take urgent actions on it, it is most likely that in a decade her dream of being a higher education hub in the region will be shattered as higher education students from around the region and elsewhere would attend Chinese universities in China even to learn English rather than to come to Malaysia.

Ni Lar Win and Khin Maung Win investigated women in engineering disciplines and professions and found that while women are expected to fit in well in engineering, the number and percentage are still miniscule. We know that quite a percentage of women engineers have made it to the top in their professions. The current (2013) President of Australia's engineering peak body for example is a successful practicing engineer and is a woman. Several years ago the Institution was headed by another woman engineer who was an Air Vice-Marshall at the Royal Australian Air Force. Anecdotal evidence shows agreement by engineering lecturers that woman engineering students on average perform better than their male counterparts and that engineering classes that have woman students normally perform better overall in comparison to those that only have male students. This paper contends that in terms of working conditions, female engineering academics do not experience discrimination in Malaysia and that could be used to attract more females to enroll in engineering programs.

Keeping ourselves to professional women Brian Vasquez explored reasons for nurses in a part of The Philippines pursued non-nursing doctoral programs. Despite their taxing work, these nurses continued to improve their qualifications and even embarked on demanding doctoral programs. And although faced with hurdles in their quest for higher qualifications, they

continued. Vasquez also found that these qualified nurses are able to turn those challenges into advantages as they used their new knowledge in their nursing practice.

Keeping on with cognitive chase above, Al-Awan presented correlations between epistemological beliefs in students and their academic achievements. He concluded that students who believe that the ability to learn can be improved over time, that learning occurs gradually, and that knowledge is an organized structure and is not absolute or unambiguous, are those who achieve most academic success.

The *Opinion Page* is a cautionary note to Malaysian academics and their institutions' management. Failure to adopt Quality in every aspect of their jobs and failure to replace *rote-learning* with active learning will surely undo Malaysia's dream of becoming a hub for higher education in the region.

Finally, a little reminder. As JIRSEA is indexed in the Directory of Online Journals it undertakes to allow readers to download any part of the contents without breaching copyright provisions. However, please quote the source of the article you downloaded.

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Happy reading!

Nirwan Idrus

Editor

ASSESSMENT OF THAI EFL UNDERGRADUATES' WRITING COMPETENCE THROUGH INTEGRATED FEEDBACK

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Abstract

Despite Thailand's anticipation of the ASEAN Economic Community (AEC) open market in 2015, Thai learners' English-writing skills are still underdeveloped. Corrective feedback is believed to be an indispensable means to develop writing competence in language learners.

This study investigated the extent to which integrated feedback influenced Thai undergraduates' writing competence and their opinion on this applied feedback method.

This triangulated research design was used to collect undergraduates' English scores of pre-and-post-writing tests and of 12 mixed genre texts as well as their opinions on integrated feedback of questionnaires and semi-structured interviews. The findings show that the integrated feedback had a significant effect on participants' English-writing skills and that the participants generally had positive opinions about this process. Despite its provision, socio-psychological and educational variations including inter-language issues were highlighted as influencing writing skills development.

Keywords: L2 writing errors, integrated feedback, socio-psychological and educational variations, inter-language, Thailand

Introduction

In Thailand, all English-language teaching communities are currently facing the challenge of making Thai EFL learners capable of meeting the requirements for communicative skills in English. In order to prepare the Thai workforce for Thailand's ASEAN Economic Community (AEC) integration in 2015, universities in Thailand are mostly required to re-develop existing English-language courses and design new English-language curricula to be more outcome-oriented by the academic year 2012.

Of the four communicative skills, writing has been considered the most complex skill to master for first language (L1) and second language (L2) learners in both ESL and EFL settings (Krashen, 1984; Nunan, 1990; Makalela, 2004). In the Thai EFL setting, studies over the last decade on English language teaching and learning have stressed that writing skills among learners in basic and higher education remain undeveloped (ONEC, 2002; Ministry of Education, 2002; Wongsothorn et al., 2002; Prapphal, 2003; Bhangananda, 2007). These deficiencies in English writing skills have placed in doubt the Thai government's goal of producing graduates that qualify as global citizens.

Pedagogy in English-Language Writing

Competence in the skill of writing requires a mastery of the skill of writing (Richards et al., 1999: 69). Such writing-skill mastery can be achieved through learning and practicing in formal instructional settings (Myles, 2002; Leech et al., 2006). Approaches to English language teaching have ranged from Grammar Translation to Communicative Language Teaching in a 25 year cycle (Brown, 2007). Concurrently, there has been a changing focus not only on product-oriented but also process-oriented approaches to writing instruction. The product-oriented approach emphasizes form or linguistic accuracy in writing (Ferris, 1999; Vickers and Ene, 2006), while the process approach focuses on meaning or idea-generated fluency in writing (Oshima and Hogue, 2007; Pritchard and Honeycutt, 2007).

The Basic Education Curriculum Standards require Thai learners to have communicative competence (ONEC, 2002). This implies that EFL teachers are expected to equip their learners with knowledge of linguistic form (i.e. linguistic accuracy), semantic meaning (i.e. meaningfulness) and pragmatic use (i.e. appropriateness) (Purpura, 2005; Larsen-Freeman, 2008). In written communication, grammar relates the system of meaning (i.e. semantics) and the system of writing in a language (Leech et al., 2006). At some levels, a writer of a language must know grammatical rules; otherwise, the quality of the content of writing can be distorted by grammatical errors (Roehampton, 2008). In addition to having the ability to use correct forms to express literal and intended meanings, the writer should possess the ability to use the forms appropriately in a given context (Leech et al., 2006; Larsen-Freeman, 2008).

When teaching English-language writing skills to non-native English-speakers, particularly EFL learners, teachers need to provide not only English-language teaching strategies but also writing strategies to improve writing competence. Which pedagogical tool should be utilized to enhance learner writing competence? One possible solution is for teachers to utilize corrective feedback, namely the teacher integrated feedback (TIF) discussed in this study, as an intermediate teaching tool to improve the English-language writing competence of Thai EFL learners.

Teacher Integrated Feedback (TIF)

Individual language learners progress differently in language learning competence and outcome. In writing, the complexity of L2 linguistic forms frequently results in competence 'deviations' or 'errors' which occur when learners do not completely master the language in their learning process (Corder, 1975; Brown, 2007). To develop learners' learning process, the provision of written feedback in ESL or EFL teaching is an essential part of English language writing (Williams, 2003), language acquisition in classroom learning situations (Corder, 1975; Osborne, 2005), and successful inter-language development (Brown, 2007).

'Feedback' is defined as "*all responses that a teacher makes on a student's draft including shorthand symbols, punctuation markers, grade earned, and in-text as well as end comments*" (Lee and Schallert, 2008: 507). Feedback can address the deviations from the correct form (i.e. accuracy-based) in grammar and vocabulary at the sentence level, and of content (i.e. fluency-based) in message at global meanings beyond the sentence level in written communication (Williams, 2003; Mahmoud, 2006). The deviations of form or linguistic errors can be specifically categorized as treatable and untreatable. The treatable errors cover wrong forms of verb tense and form, subject-verb agreement, article usage, plural and possessive noun endings, and sentence fragments, while the untreatable ones cover wrong forms of word choice, some pronoun exceptions, prepositions, and unidiomatic sentence structure (Ferris, 1999).

Feedback can be provided in terms of both negative and positive responses to the deviations of form and content in written communication (Williams, 2003; Mahmoud, 2006).

- **Negative** or **corrective feedback** is composed of '*direct*' feedback (i.e. the identification of an error and the subsequent provision of the correct form) and '*indirect*' or *'coded'* (Bitchener et al., 2005) or '*metalinguistic*' (Sheen, 2007) feedback (i.e. the provision of a written correction code or symbol at an error including its type without giving the correct form).
- Since the corrective feedback itself may disappoint students (Mahmoud, 2006) or create anxiety (Larsen-Freeman, 2008) about their writing competence, **positive feedback** is then used to encourage the students to put effort into revising their writing. Teacher positive feedback appears in various forms of written comments (e.g. imperatives, questions and statements) or symbols (e.g. ✓ and ☺).

Teachers can make productive use of both direct and coded corrective feedback for different purposes. The former is for idiomatic errors, collocations with wrongly used prepositions, and remaining errors in the final-draft tasks, while the latter is for training learners to become autonomous at self-correcting their own tasks (Ferris and Hedgcock, 2005).

The issues of the provision of corrective feedback, investigated in both ESL and EFL contexts are summarized in Appendix 1. The studies conducted on corrective feedback for more than three decades reveal several positive issues of the provision of corrective feedback. However, teacher corrective feedback on learners' errors sometimes hinders and demotivates (Truscott, 1996) or even fossilizes (Selinker, 1992) learners' L2 learning progress and creates a feeling of incompetence to learners' writing (Shaaban, 2001).

TIF was originally derived from a combination of corrective and positive feedback. The TIF was utilised to suit writing practicality in the Thai EFL context by means of promoting the

implementation of process-oriented writing approach throughout the writing process (Figure 1) to facilitate and enhance learners' learning outcome (i.e. product-oriented approach).

Application of Process-oriented Approach

English-language learners have found the writing process painful and difficult since their school years (Oshima and Hogue, 2007). To alleviate the problem, it is thus essential for the learners to have a teacher who guides and is involved in the writing process. Explicit instruction in academic writing classes has highlighted the need for the implementation of process writing pedagogies in the writing process (Myles, 2002). Since 'process writing' assists a writer to generate, formulate and refine ideas (Zamel, 1982), a teacher is supposed to adopt the process approach for the composing process in English-language writing (Myles, 2002).

Writing entails the act of composing which requires the ability to tell, describe, narrate, express ideas, or transform pieces of information into new pieces of written texts (Myles, 2002). In an academic setting, expressing a new idea is generally more difficult and more complex than narrating a story in that an EFL non-native English speaking writer needs to interact with both English language knowledge and new text composition.

The writing process consists of the chronological steps of creating (prewriting), organizing (planning or outlining and drafting), writing, and polishing (editing and revising) as shown in Figure 1.

The sequences of process writing (Figure 1) enforced teaching the learners how to write a complex process because they are involved in the act of prewriting (including composing and drafting), writing, and rewriting in the writing process (Zamel, 1982; Myles, 2002). It is believed that TIF on learners' writing in relation to choices of content, organization, mechanics, and grammar acts as an evaluating tool for the learners' writing competence.

Assessing the Effects of TIF

This triangulated research design (Altrichter et al., 2008) was implemented in four action-research processes (adapted from Freeman, 1998; Burns, 1999) namely: planning, acting, observing and reflecting as the following.

1. Planning Process

- ***Inquiry/Question***

This study employed TIF to investigate its potential for improving the writing competence in English of 31 first-year undergraduates from the Faculty of Engineering at a university in Thailand. The investigation was guided by three research questions:

1. Does TIF have a significant effect on Thai university undergraduate students' English-language writing competence? If so, to what extent does TIF affect the writing competence?
2. Does TIF have a significant effect on competent and less competent groups' writing competence? If so, to what extent does TIF affect the writing competence of each group?
3. What are the students' opinions about TIF on their writing competence?

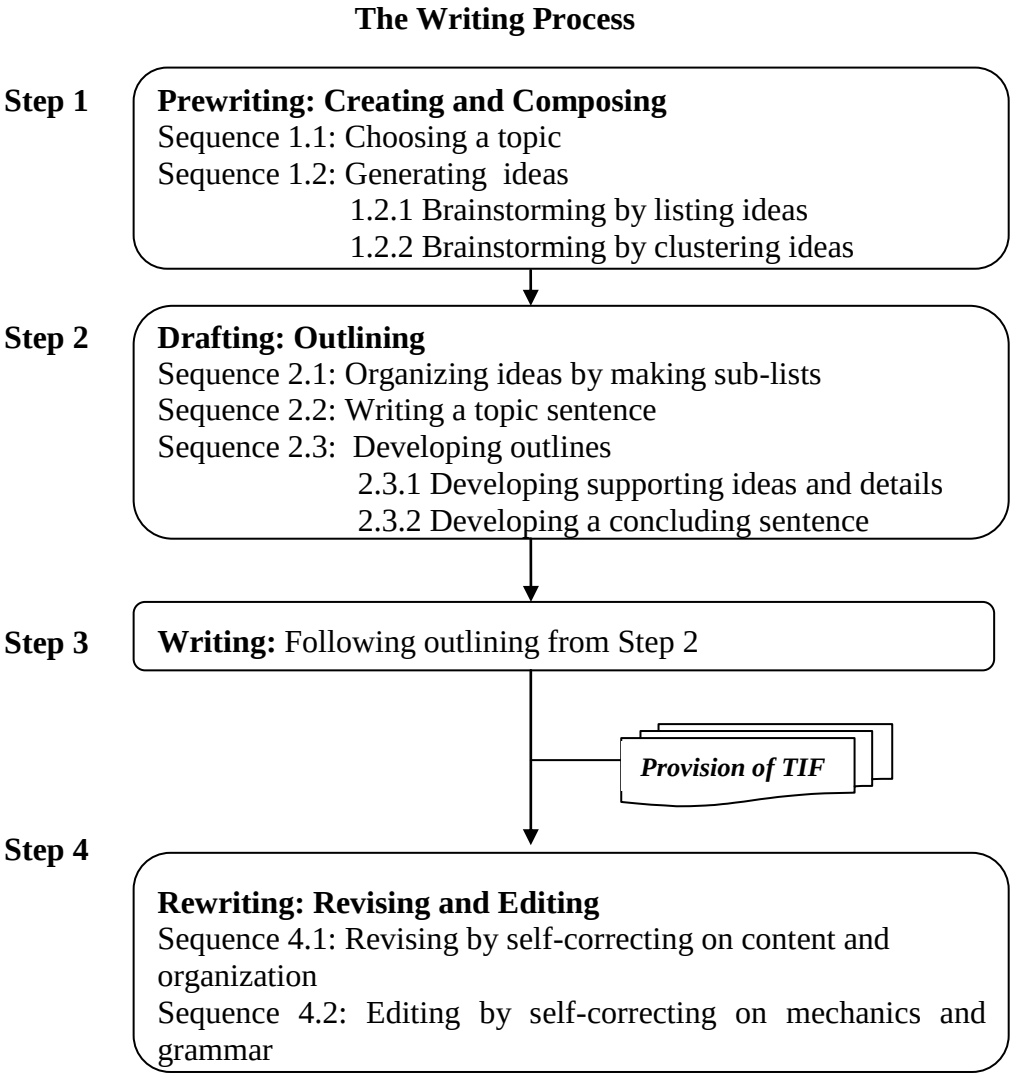


Figure 1: Sequences of Process Writing In the Writing Process (adapted from Richards & Lockhart, 1995; Oshima & Hogue, 2006)

- ***Planning Action: Research Procedure***

Participants

The study commenced at the beginning of the first semester of the 2011 academic year. Concerning the ethical issues in conducting research, all participants submitted their consent forms agreeing to keep their names anonymous and share their useful information in the study. All the 31 first-year Engineering undergraduate participants, comprising 5 females (16%) and 26 males (84%), were provided with equal opportunities to practice writing and

receive TIF in the writing process (Figure 1) on their written tasks. None of the participants had prior writing experience in any academic writing genres used in this study.

To answer Research Question 2, the participants were divided into two groups of 12 with seven being excluded on the basis of their CU-TEP (Chulalongkorn University Test of English Proficiency) scores. This test is the required measure of participants' English-language proficiency as from their enrollment at the university. The two groups are classifies as Competent (C) and Less Competent (LC) users. The former were those who obtained CU-TEP (TOEFL Equated) scores equal to or greater than 500, and the latter did less than 500. The 12 C and 12 LC were purposively sampled for quantitative analysis of TIF. Within each group, eight participants (ca. 67%) were randomly given semi-structured interviews and their responses were qualitatively analysed. The excluded seven out of 31 participants, had proficiency scores falling into the moderate-user group.

Instruments

The research instruments were the students' 12 three-genre (i.e. narratives, pros and cons, and expressing opinions) written tasks, the writing pre-test and post-test, a five-point Likert's scale questionnaire (Appendix 3), and a semi-structured interview (Appendix 4). These instruments were used to collect the quantitative and qualitative data to answer the three research questions.

2. Acting Process: Data Collection and Analysis

To answer the three research questions, quantitative and qualitative data, which consisted of the participants' scores of written tasks, scores for the writing pre-test and post-test (inter-rater reliability r of . 938, $p < .01$), questionnaire responses (reliability index α of .88), and semi-structured interview responses, were collected over ten weeks from June to September 2011.

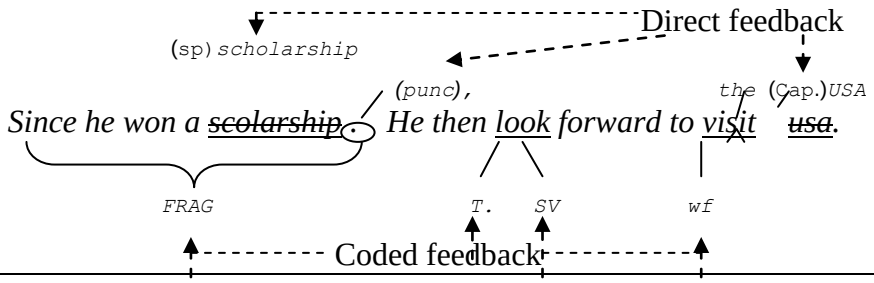
The three-genre writing tasks were assigned in parallel with the course lessons. A total of six-week writing process involved three writing genres: narratives, pros and cons, and expressing opinions, each of which equally lasted for two weeks. In a week, there were approximately two pieces of the participants' written tasks per topic (i.e. the first piece prior to TIF and the revised piece after TIF). Prior to the first writing piece submission in the weekly class session (i.e. once a week), the participants were required to do self-correction in accordance with individual writing genres' rubrics (Appendix 2).

The levels of writing complexity are increased across the three genres of writing: narratives, pros and cons, and expressing opinions respectively. The assessment of the three-genre writing was based on individual writing rubrics that were designed by the course committee and adapted based upon the course syllabus (see Appendix 2). Owing to the complexity levels previously mentioned, the writing test, selected from one of the course mock tests, was under the genre of expressing an opinion. To avoid questions of the equivalent levels of difficulties, probably affecting the test results, the pre-test and the post-test were identical.

The utilization of TIF on the participants' writing tasks and tests was implemented through a combination of direct feedback and indirect feedback. Teacher direct feedback was given to students' minor errors in mechanics such as capitalization, punctuation, and spelling.

Regarding the spelling errors, the researcher had to make sure that they would not affect the meaning of a sentence in the same context; otherwise, teacher indirect feedback would be utilized instead. Teacher indirect feedback was provided in the form of feedback codes or symbols to students' major errors affecting the meaning of a sentence such as tenses, subject-verb agreement, and fragments.

How TIF is implemented can be illustrated in an excerpt of a participant's narrative as follows.

Original Version	*Since he won a scolarship. He then look forward to visit usa.*
TIF Implementation	
Alternative Version	*Since he won a sc**h**olarship**,** he then **looked** forward to **visiting** the **USA**.*

3. Observing Process: Results and Discussion

The results of the study can be summarized as follows.

3.1 The Effect of TIF on Participants' Writing Competence

TIF had a significant effect on the participants' English-language writing competence (t = 11.58, p < .05). After the provision of TIF, the participants' writing competence improved significantly as is shown by Cohen's 'very large' effect level (d = .75) determined in the analysis. The very large effect produced by TIF on the participants' writing competence suggests a strong relationship between TIF and learners' writing competence.

3.2 The Effect of TIF on Competent and Less Competent Groups' Writing Competence

No significant difference was observed on writing competence after TIF between competent and less competent groups. In addition to the small number of the 12 participants probably influencing the t-test value, the non-significant effect of TIF on both groups may be due to the groups' L2 learning stages and roots of L2 writing errors.

3.2.1 L2 Learning Stages

The quantitative analysis results for both groups' writing competence using the pre-test and the post-test scores demonstrated no significant difference in English-language writing competence after the provision of TIF. However, after taking into consideration their writing competence in terms of the average scores for the three writing genres, some additional insights were obtained. The assessment of the average scores from the three writing genres and the writing test is shown in Table 1.

Table 1: Both Groups' Scores from Written Tasks and the Writing Test

Participant Group	Writing Score	Narratives (10)		Pros & Cons (20)		Expressing Opinions (25)		Writing Pre-test (25)	Writing Post-test (25)
		Topic 1	Topic 2	Topic 1	Topic 2	Topic 1	Topic 2		
Competent Group (n = 12)	Average Score	7.63	7.96	15.73	16.67	14.54	19.48	10.54	21.38
	Score Movement from Topic 1 to 2	+ (≈ 4%)		+ (≈ 6%)		+ (≈ 34%)		+ (102.8%)	
Less Competent Group (n = 12)	Average Score	6.67	7.52	13.60	14.21	9.83	16.90	7.15	15.52
	Score Movement from Topic 1 to 2	+ (≈ 13%)		+ (≈ 5%)		+ (≈ 72%)		+ (117.1%)	

The average written task scores of the participants in competent and less competent groups in Table 1 are shown in bar graphs in Figure 2 and Figure 3, respectively.

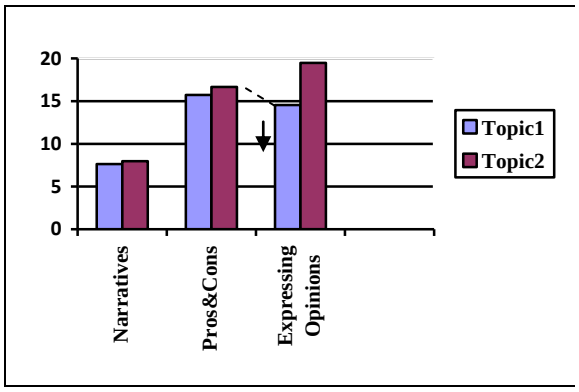


Figure 2: Average Written Task Scores forthe Competent Group

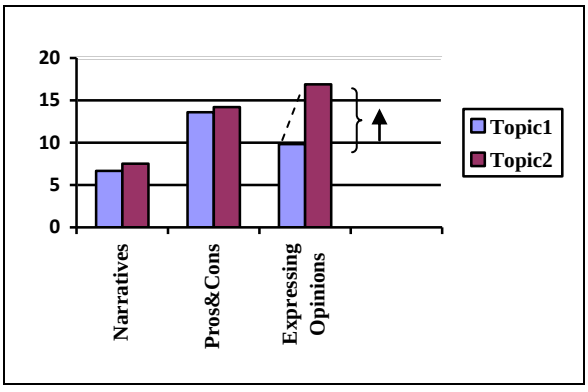


Figure 3: Average Written Task Scores for the Less Competent Group

From Table 1 (see also Figures 2 and 3), both groups showed improvement in all three writing genres after TIF was provided in the first piece of each writing genre. Before the provision of TIF, the participants in the competent group were good at writing fluency and accuracy, while those in the less competent group had neither fluency nor accuracy. However, when the TIF

was implemented for a longer time taken from the first to the third writing genres, it was apparent that the participants of both groups had undergone some development in their individual writing competence. The upward pattern of writing competence improvement of both groups is consistent with their opinion from questionnaire responses regarding their agreement with the necessity of writing revision helping them improve their writing competence. The positive results from the scores of the three writing genres and questionnaire responses showed the usefulness of writing revision (Silva, 1993).

When considering the increase in writing competence for the three-genre written tasks for the two groups (see Table 1), both groups' writing demonstrated a higher initial level of competence for the second writing genre—pros and cons—that for the first writing piece for the third genre—expressing opinions (see Figures 2 and 3). This may parallel the results of the studies by Smith and Truscott (2005), Brown (2007), and Gass and Selinker (2008) on progress in L2 learning stages. It is possible that the learning progress appears sometimes to be non-linear along the development process, especially when new forms are introduced (Doughty and Williams, 1998).

However, when learners comprehend the input forms, their competence will improve over time (Lightbown and Spada, 2003; Brown, 2007; Gass and Selinker, 2008).

In regard to L2 linguistic accuracy, L2 learners experience similar developmental stages of grammatical acquisition as do L1 learners (Lightbown and Spada, 2003). It is believed that L2 learners acquire grammatical rules or structures through a sequence of learning stages (Ellis, 1994; Smith and Truscott, 2005) as shown in Figures 4 and 5.

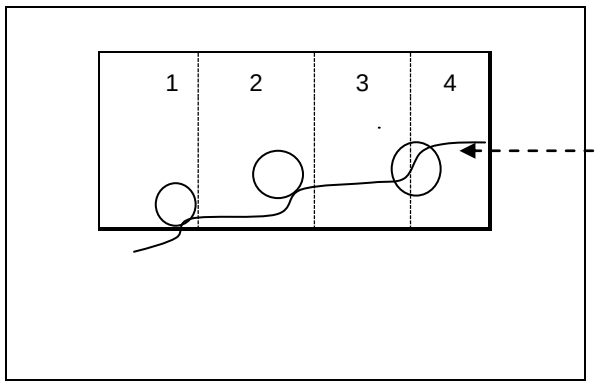


Figure 4: A sequence of progress stages (adapted from Smith and Truscott, 2005: 222)

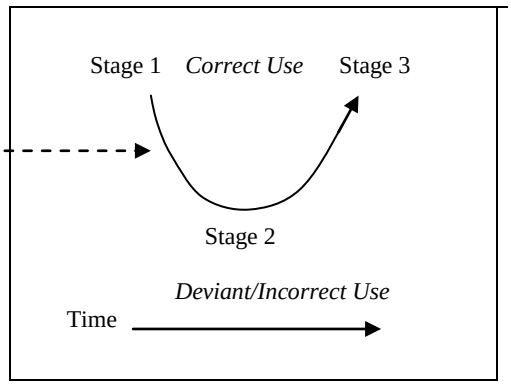


Figure 5: U-shaped patterns (Gass and Selinker, 2008: 237)

In Figure 4, L2 learning progress normally moves from inefficient to efficient (Doughty and Williams, 1998; Gass and Selinker, 2008). This change occurred when a learner internalized L2 as a result of new learning. L2 learners' learning progress can be developed over time.

The stage-by-stage transition of L2 learning can be depicted as 'U-Shaped' learning patterns (Gass and Selinker, 2008) as in Figure 5. U-shaped learning patterns reflect learners' rule-based learning. The patterns can be adjusted in the process of error monitoring in the L2

writing process (Lightbown and Spada, 2003) since they support learners' cognitive development (Saville-Troike, 2007).

Despite the progress in L2 learning stages, the roots of L2 writing errors, derived from socio-psychological and educational variations, could influence the retarding writing competence of both groups.

3.2.2 Roots of L2 Writing Errors

- **Socio-Psychological Variations**

As an internal learner variable, the cultural backgrounds of both groups influenced their perceptions of language learning and possibly constrained their language learning development (Makalela, 2004; Kobayashi and Rinnert, 2006). Owing to Thai cultural constraints about the need to avoid criticism and the traditional belief that "silence denotes wisdom", Thai learners are reluctant to express opinions on some subjects, or to express opinions that might deviate from the existing "group think" of their friends, family, social "class", or even society. Even when they do express opinions, they find it difficult to support their views with evidence due to lack of knowledge and lack of critical thinking experience. This therefore results in a decrease in the writing scores. Another problem found in this study is the impact of the learners' cultural backgrounds on their target-language usage. To illustrate, a less competent participant made a written error on the word usage (e.g. '*freshy*' instead of 'freshman') in a narrative writing. This is consistent with the study by Makalela (2004) where students accepted cultural expressions and use them in spoken communication and also adopted '*interlanguage*' or '*leaner language'* writing patterns in their written communication (Lightbown and Spada, 2003; Brown, 2007; Saville-Troike, 2007; Gass and Selinker, 2008). The results of his study suggested that when a teacher teaches writing, it should be linked to other communicative skills since "the teaching of writing is an integral part of the whole communication skills" (Makalela, 2004: 382).

- **Educational Variations**

The influence of external learner variables such as financial or family situation (Puengpipattrakul, 2009) appeared important for some less competent participants. In the interview, a less competent participant reported that his attitudes towards English finally changed due to his role-model brother. Below is the excerpt of his response:

> LC1: *"... I actually don't like English but believe as my elder brother said changing dislike to be necessity. My brother, also graduating in Engineering, neither liked English but he found it necessary for his work. He forced himself to practice English till he is now good at English and got promoted".*

Most of the participants revealed in their questionnaire responses that money matters were really important to them and they influenced their study performance and preferences. They thought that taking additional English course/s was costly and a poor investment. Furthermore, they revealed that they would not choose to study more English course/s unless there was time available for them to take additional course/s such as tutored course/s for their other compulsory course/s in the Faculty of Engineering. Most of them regarded their

Engineering courses as their first priority. Thus, the participants did not choose to learn or develop their English language skills if their basic needs such as money are unfilled (Williams and Burden, 1997, in Dörnyei, 2002; Huddleston and Unwin, 2008).

3.3 Opinions on TIF and Writing Competence

The participants' opinions toward the effects of TIF on their writing competence in the questionnaire were positive with an overall mean of 3.73 (SD = .36). They agreed that TIF affected their competence in English language writing. Noticeably, they strongly agreed with the necessity for TIF to improve their writing competence and they showed a preference for TIF in the future; both had an equally high mean score of 4.45 (SD = .62 and .89, respectively). Moreover, they strongly agreed with the necessity of writing revision for improving their writing competence (mean = 4.39; SD = .67).

In reference to competent and less competent groups' opinions toward the effects of TIF on their writing competence, a significant difference was found in both groups' opinions concerning the necessity of writing revision to improve their writing competence (t = 2.01, $p < .05$) and about the usefulness of TIF in helping to improve their writing competence (t = 2.13, $p < .05$). These mean that the participants in both groups strongly agreed with the notion that TIF did help to improve their writing competence and with the notion that writing revision was necessary for improving writing competence.

The questionnaire and interview responses regarding TIF on writing competence supported the findings of several scholars' studies in both EFL and ESL contexts. The questionnaire responses in the present study support the studies of Lalande (1982), Ellis (1994; cited in Ellis et al., 2008), Ferris (1999), Ferris and Roberts (2001), Bitchener et al. (2005), Ferris and Hedgcock (2005), and Lee and Schallert (2008) in that teacher corrective feedback helped to improve grammar or linguistic accuracy.

In terms of interview responses, the learners had positive opinions toward direct and indirect TIF. Some learners regarded direct feedback as a time-saver in the writing process. In regard to indirect feedback, learners' self-correction prior to submission of their written tasks could promote the language learning process by making them aware of linguistic accuracy in communicative writing. This result implies that TIF, particularly indirect feedback, enhanced the learners' ability to recheck carefully, reflect on, self-correct their coded errors (Lalande, 1982; Ellis et al., 2008), and decide freely in the writing process. Additionally, they also gained more knowledge of English while looking up relevant vocabulary. This process automatically trained and helped the learners develop metacognitive awareness of their own learning and writing processes (Halliday, 1975, cited in Burton and Carroll, 2001; Freeman, 1998).

The learners' interview responses also showed the influences of not only socio-psychological and educational variations on English language learning and achievement (Dörnyei, 2002; Brown, 2007; Puengpipattrakul, 2009) but also the learners' inter-language transfer (Brown, 2007; Larsen-Freeman, 2008; Gass and Selinker, 2008). Most learners admitted the causes of their repeated writing errors derived from their carelessness, laziness, dislike of English, attitude toward perfection in any writing piece, lack of knowledge of vocabulary, grammar, writing and English, L1 (Thai mother tongue) interference, and misunderstanding TIF.

4 Reflecting Process: Conclusions and Implications

In the ESL and EFL formal classroom settings, teacher's corrective feedback on students' writing errors through the provision of an explicit writing pedagogy in which the teaching of grammar is explicitly provided is helpful to enhance non-native language students' learning process and writing competence (Doughty and Williams, 1998; Brown, 2007). In the Thai setting, this present study employed the integration of teacher direct and indirect corrective feedback through TIF on three writing genres to improve English-language learners' writing competence. The indicators for writing competence were well-balanced between fluency (process-oriented writing approach) and accuracy (product-oriented writing approach).

In terms of accuracy, the writing competence of all the participants significantly improved after the provision of TIF. In regard to fluency, despite their being no significant difference in English-language writing competence as shown by the pre- and post-test scores, both C and LC groups showed writing improvement in all three writing genres—narratives, pros and cons, and expressing opinions. When comparing across the group, it appears that the LC group's writing competence in the three writing genres improved more than that of the C group. The participants' positive opinions, based on the questionnaire responses, mostly agree with the usefulness of TIF in helping to improve writing competence. Moreover, both groups agreed with the necessity of writing revision to improve their writing competence. Furthermore, in the interview responses, both groups agreed that TIF assisted them to develop metacognitive awareness of their own English-language learning and writing processes through TIF and student self-correction.

As the skill of writing needs to be learned and practiced, the provision of TIF allowed learners to expose themselves to their own writing and helped to raise the learners' awareness of the writing process. Based on the responses from the questionnaire and the interview in this study, TIF could satisfy most of the learners' needs. Nevertheless, the provision of TIF could result in a temporary improvement in some learners' language accuracy in the writing revision of the same writing topic or in the next writing topic after an immediate revision of a previous task. When they were assigned to write in the post-test, they repeated the same types of language errors. This temporary improvement in their language accuracy raises the issues of inter-language development or progress in L2 learning stages, and of roots of L2 writing errors in terms of socio-psychological and educational factors.

Since it is unclear why the participants' writing improved during the writing process, the issue of the types of teacher comment on students' written tasks during the writing revision process would be worthwhile to investigate. In this study, positive feedback in terms of teacher comments was also provided together with corrective feedback in the between-draft writing process. The learners were required to revise and self-edit their written tasks before submission. However, in the writing process, learners' revision strategies were not taught in the class. Thus, it would be also helpful to examine learners' revising and self-editing skills along the writing process to see which writing strategies they choose to implement.

Based on the results of this study, there will be a need for the implementation of process-oriented pedagogies in academic writing classes together with the provision of teacher corrective feedback as long as writing difficulties still exist in academic contexts. Therefore, the product-oriented approach to writing focusing on the students' writing scores is not a complete solution; however, process-oriented writing instruction through the provision of

teacher corrective feedback is still a worthwhile tool to develop and extend to be suited to writing courses in the EFL context like Thailand.

The findings of the study cannot be generalized to all first-year Thai undergraduates due to the statistically small-sample size. However, in practice, a writing class with up to thirty students is considered large. It is, in fact, time-and energy-consuming for sole teachers to equally provide sufficient corrective feedback on the written tasks of individual learners who have different levels of English language proficiency and who tend to generate varied types of writing errors. Technological aids may be a possible solution; however, those aids require human operators. A technological solution (e.g. a grammar checking program) can only check certain errors. Additionally, there was limited time in the course per semester with the short duration of each writing genre to be practiced by the learners. On account of these delimitations of the study, cooperative and collaborative activities, in the form of a teacher-learner group conference and student peer feedback, are suggested to be implemented in writing pedagogy for further studies.

Learners are often expected to learn all what the teacher teaches. Owing to learners' individual variations, the rates of their language progress are different: "*Some students progress rapidly through the initial stages of learning a new language while others struggle along making very slow progress*." (Lightbown and Spada, 2003: 50). The provision of TIF, English-language learning progress and writing-skill mastery consume teachers' and learners' time. Hence, pedagogical challenges on whether Thai learners' English-language communicative competence, particularly in writing, will be competitive by the 2015 integration of AEC community.

Acknowledgement

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Appendix 1: Issues of Corrective Feedback

Issues of Corrective Feedback	Examples of ESL and EFL Studies
▪ Improve learners' writing accuracy and fluency	Lalande (1982); Rob et al. (1986); Ferris (1999); Ferris and Roberts (2001); Bitchener et al. (2005); Ferris and Hedgcock (2005); Ellis et al. (2008); Larsen-Freeman (2008)
▪ Help learners realize their writing progress and weaknesses	Tran (2007)
▪ Assist learners to comprehend the misuse of language rules	Brown (2007); Ho (2008)
▪ Soften the issue of learners' individual variations (e.g. anxiety, face-saving conditions)	Van Lier (1988); Mahmoud (2006)
▪ Encourage learners to self-correct and discover their own linguistic rules	Lalande (1982); Doughty and Williams (1998); Ferris and Roberts (2001); Brown (2007); Ellis et al. (2008); Larsen-Freeman (2008)
▪ Stimulate learners' explicit knowledge to understand the nature of the errors ▪ Increase the use of memorization strategies (e.g. identifying, remembering, storing, and retrieving words, or other aspects of the L2, in grammatical acquisition)	Oxford (1996); Duong and Nguyen (2006)
▪ Create trust as the 'catalyst' to build the teacher-student relationship	Lee and Schallert (2008)

Appendix 2: Three-genre Writing Rubrics

<table>
<tr><th colspan="2" rowspan="2">Narratives (10)</th><th colspan="6">Pros and Cons (P&C) (20)
Expressing Opinions (EO) (25)</th></tr>
<tr><th colspan="6"></th></tr>
<tr><td>Scores</td><td>Descriptions</td><td>Rubrics</td><td>Total Scores</td><td colspan="4">Descriptions</td></tr>
<tr><td rowspan="3">9-10</td><td rowspan="3">Completes the task required (with three paragraphs), shows original effort in doing the task, and produces very good work</td><td rowspan="3">Content</td><td>P&C (4)</td><td colspan="4">Reason1=(2) → 1 main idea; 1 supporting detail
Reason2=(2) → 1 main idea; 1 supporting detail } 2 sources from the sources provided.</td></tr>
<tr><td>EO (6)</td><td colspan="4">Reason1=(2) → 1 main idea; 1 supporting detail
Reason2=(2) → 1 main idea; 1 supporting detail
Reason3=(2) →1 main idea; 1 supporting detail } 2 sources from the sources provided + 1 from Ss' own reason</td></tr>
<tr><td colspan="4">Notes: -If students' content score is 0, their maximum grammar score will be 3.
-If students' content score is 1-2, their maximum grammar score will be 5.</td></tr>
<tr><td>7-8</td><td>Completes the task required (with three paragraphs), shows original effort in doing the task, and produces good work</td><td>Organization</td><td>P&C (2)</td><td colspan="4">Topic sentence (1); Paragraph coherence (e.g. transitions) (1)</td></tr>
<tr><td></td><td></td><td></td><td>EO (3)</td><td colspan="4">Topic sentence(1); Paragraph coherence (e.g.transitions)(1); Concluding sentence(1)</td></tr>
<tr><td>5-6</td><td>Does not complete the task required (one missing paragraph), show original effort in doing the task, and produces good work</td><td>Mechanics</td><td>P&C (1)
EO (1)</td><td colspan="4">Spelling(0.5); Punctuation(0.25); Capitalization(0.25)</td></tr>
<tr><td rowspan="6">1-4</td><td rowspan="6">Does not complete the task (two missing paragraphs) and/or copies the task</td><td rowspan="6">Grammar</td><td rowspan="3">P&C (9)</td><td>9</td><td colspan="3">-shows excellent language use (e.g. a variety of sentence structures and appropriate word choices)
-contains no major but a few minor grammatical errors</td></tr>
<tr><td>7-8</td><td colspan="3">-demonstrates the ability to vary sentence structures
-contains a few major and minor grammatical errors
-contains a few inappropriate word choices</td></tr>
<tr><td>5-6</td><td colspan="3">-contains a moderate number of major and minor grammatical errors
-contains some inappropriate word choices</td></tr>
<tr><td rowspan="2">EO (9)</td><td>3-4</td><td colspan="3">-contains many major and minor grammatical errors
-contains some wrong word choices</td></tr>
<tr><td>1-2</td><td colspan="3">-contains a lot of major and minor grammatical errors
-contains a limited range of vocabulary and many wrong word choices</td></tr>
<tr><td colspan="5">Notes: -Major errors (tense, voice, s-v agreement, fragments, run on sentences);
-Minor errors (article, preposition, etc.--> Not causing communication breakdown)</td></tr>
<tr><td rowspan="12">0</td><td rowspan="12">Does not do the task</td><td rowspan="12">Paraphrasing</td><td rowspan="6">P&C (4)</td><td rowspan="6">Paraphrase per source</td><td></td><td>Paraphrase</td><td>Citation</td></tr>
<tr><td>2</td><td>✓ (synonym + change in sentence structure)</td><td>x</td></tr>
<tr><td>1.5</td><td>✓ (change in sentence structure)</td><td>✓</td></tr>
<tr><td>1</td><td>✓ (synonym)</td><td>x</td></tr>
<tr><td>0.5</td><td>x</td><td>✓</td></tr>
<tr><td>0</td><td>x</td><td>x</td></tr>
<tr><td rowspan="6">EO (6)</td><td rowspan="6">Paraphrase per source</td><td>3</td><td>✓ (synonym + change in sentence structure)</td><td>✓</td></tr>
<tr><td>2.5</td><td>✓ (change in sentence structure)</td><td>✓</td></tr>
<tr><td>2</td><td>✓ (change in sentence structure)</td><td>x</td></tr>
<tr><td>1.5</td><td>✓ (synonym)</td><td>✓</td></tr>
<tr><td>1</td><td>✓ (synonym)</td><td>x</td></tr>
<tr><td>0.5</td><td>x</td><td>✓</td></tr>
<tr><td>0</td><td>x</td><td>x</td></tr>
<tr><td colspan="8"><u>Remarks</u>: -If students' content score is 0, their maximum grammar score will be 3;
-If students' content score is 1-2, their maximum grammar score will be 5.</td></tr>
</table>

Appendix 3: Questionnaire

PART I: General Information

Directions: Please tick (✓) in the appropriate box and give a written answer for the information below that describes yourself.

1. Gender ..... Male ..... Female
2. Faculty ..... Year of study .....
3. CU-TEP score ....

4. At present, I am studying additional English-language course/s besides the university compulsory English I or doing self-study:

❑ Yes. Course/s .....
.....

Which skill/s (Please circle):

Listening, Speaking, Reading, Writing, Grammar, Vocabulary, Others

.....

❑ No, (Reason/s) .....
.....
.....
.....
.....

PART II: Opinions towards Teacher Integrated Feedback on Students' Writing Competence

Directions: Please tick (✓) in the appropriate box and give a written answer for the information below that describes yourself.

		Levels				
		5	**4**	**3**	**2**	**1**
		Strongly agree	**Agree**	**Not Sure**	**Disagree**	**Strongly disagree**
5.	In general, the level of my English-language writing competence is ……..	Very Good	Good	Neutral	Weak	Very Weak
6.	Teacher IF does not help to improve my writing competence in general.					
7.	Teacher IF is necessary for the improvement of my writing competence.					
8.	Teacher IF generally helps to improve my writing competence.					
9.	Teacher IF helps to improve my English-language grammar.					
10.	Teacher IF helps to improve my English-language vocabulary.					
11.	Teacher IF helps to improve my English-language writing content.					

		Levels				
		5	4	3	2	1
		Strongly agree	Agree	Not Sure	Disagree	Strongly disagree
12.	Teacher IF helps to improve my English-language writing organization.					
13.	Teacher IF helps to improve my English-language writing mechanics.					
14.	Teacher IF helps to improve my English-language paraphrasing.					
15.	A revision of a writing piece is not necessary for the improvement of my writing competence in general.					
16.	A revision of a writing piece is necessary for the improvement of my writing competence in general.					
17.	I understand teacher IF provided in my written tasks.					
18.	I like the English-language writing more after the provision of teacher IF.					
19.	I feel more confident about my English-language writing after the provision of teacher IF.					
20.	Teacher IF makes me aware of the writing purposes of those writing pieces.					
21.	In the future, I still would like to have teacher IF.					
22.	In the future, I will be still confident about my writing competence though a teacher does not provide me any written feedback in my written tasks.					

23. Other comment/s or suggestion/s (on teacher integrated feedback to students' writing competence)

……
……
……
……
……
……

Thank you for your cooperation.

Appendix 4: A Semi-Structured Interview

1. How do you think or feel about direct feedback and indirect feedback in teacher integrated feedback in your written tasks?
2. What do you think is the cause of your repeated errors in your written task/s?
3. Can teacher integrated feedback make you aware of their writing errors affecting your writing competence?
4. Do you have any further comment/s on the provision of teacher integrated feedback?

****

PERCEPTIONS OF ACADEMICS ON WOMEN IN ENGINEERING EDUCATION AND WORK PLACE

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Abstract

The under-representation of women in engineering has been observed at the faculty of engineering in a private university in Malaysia. The number of women academics in the faculty does not show any significant variation over the past thirteen years while the enrolment of female students has shown a decreasing trend. Currently, 35% of academics in the faculty are female and only 8% of the total students studying in engineering programs are female. The aim of this study is to explore the perceptions of academics on women in engineering education and engineering workplace. Based on the survey conducted at the faculty, all academics perceive that female students are as good as, if not better than, those of their male peers in academic preparation and study habits. About 70% of academics of both genders feel that female and male students are equally favourable in engineering programmes at the faculty. About half of academics believe that men receive more favour than women in the engineering workplace. However, female academics responded that there is no discrimination between male and female academics regarding salary, workload and career advancement at the faculty. A majority of academics feel that a special effort should be made to recruit female students in engineering programmes and about half of the respondents agree that the university should have special programmes to address female students' needs. The results from this study can be used in finding the ways to attract a larger number of women in engineering in the future.

Keywords - perceptions of academics, women in engineering education, engineering workplace.

Introduction

The under-representation of women in engineering has been observed not only at the faculty of engineering in a private university in Malaysia but also in other universities around the world. There are so few women engineers at the work force compared to other professions like medicine, law and business. Bureau of Labor Statistics, United States Department of Labor (2012) reported that female architects and engineers represent 13.6% of work force while female lawyers are 31.9% in 2011. It is important to find out the reasons why women do not choose engineering as a profession. Nguyen (2000) gave her opinion that capability and aptitudes are not important issues because women engineers have demonstrated that they are just as capable as their male counterparts. However, as the statistics confirm, engineering is predominantly a male occupation, and women, who are in the minority, will always have difficulties fitting into the male-dominated and oriented structure.

The enrolment of female engineering students in Canada is about 2.5% in 2008-2009 while there is about 10% in health professions (Research Council of Canada, 2010). Society of Women Engineers (SWE) (2006) reported that the enrolment of female engineering students in US is 20% in 2004. Since gender imbalance in engineering exists around the world, special efforts are being made by institutions, governments and professional organizations to promote women engineers, recruit and retain female engineering students. Societies such as Society of Women Engineers (SWE), IEEE Women in Engineering (WIE), Women in Science and Engineering (WISE) and the Institution of Engineer, Malaysia, Women Engineers (IEMWE) have been established to support women in engineering.

The American Association of University Women (AAUW) (2010) has identified three areas to look into: cultivating girls' achievements, interest, and persistence in science and engineering, creating college environments that support women in science and engineering, and counteracting bias.

The aim of this study is to explore the perceptions of academics on women in engineering education and engineering workplace. This study analyzes the trend in women participation (female academic staff and female students) at the faculty of engineering in a private university in Malaysia. This study also involves the perception of academics (both male and female) on women in engineering education and engineering workplace. Moreover, female academics are asked to express their experiences regarding relationship with male colleagues, faculty and the perception on salary and workload compared to their peer male colleagues in the faculty.

Methodology

This study consists of three parts: analysis of gender balance of academics and students in the faculty; perceptions of female and male academics regarding women in engineering education and engineering work place; and perception of female academics at their workplace over their male counterparts in the faculty. The statistics, academic qualification and positions of female academics in the faculty are collected for the period of December 1999 to January 2013 semester and the enrolment of female students in different engineering disciplines from the period of December 2004 to January 2013 are also taken for analysis.

In this study, two questionnaires are used as instruments. The first questionnaire is designed to analyze the perceptions of male and female academics on women in engineering education and engineering workplace. It consists of 5 questions and takes about 5-10 minutes to complete. The second questionnaire is designed for female academics only. It also consists of 5 questions. It is designed to explore the perception of female academics over their male counterparts in the faculty. Questions are extracted from the report written by Goodman et al. (2002) and Alvarez and Blazquez (2007) and modified appropriately for this study. Although 7-point scales are used to measure the perception of academics in the questionnaires, the analysis of the responses is carried out by taking percentage for agree (combining strongly agree, moderately agree and slightly agree), neither agree nor disagree and disagree (combining strongly disagree, moderately disagree and slightly disagree).

Results

Women academics in engineering

The involvement of women academics in the faculty is shown in Fig. 1. It does not show any significant variation over thirteen years. The percentage of women academics in the faculty is currently around 35% which is comparable to some universities in Malaysia. Azizan (2009) mentioned that the ratio of women to men faculty members at Universiti Teknologi Petronas is approximately 1:4.

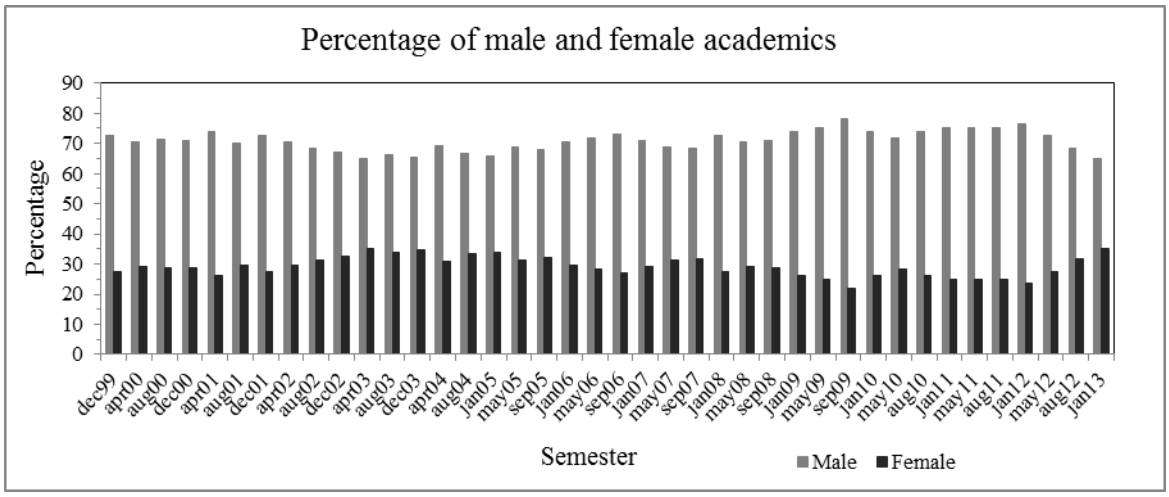

Figure 1. Percentage of male and female academics in engineering faculty

The significant variation of female academics in Civil (CE), Mechanical (ME) and Electrical and Electronics (EE) engineering disciplines can be seen in Figs. 2(a) and 2(b). From the figures shown, the involvement of female lecturers is the highest in EE in every semester. Gender balance is achieved in EE engineering discipline in January 2005 semester and then slowly declined to 38% at present. It is observed that the number of female academics in ME has been increased from 7% to 35% since 2012.

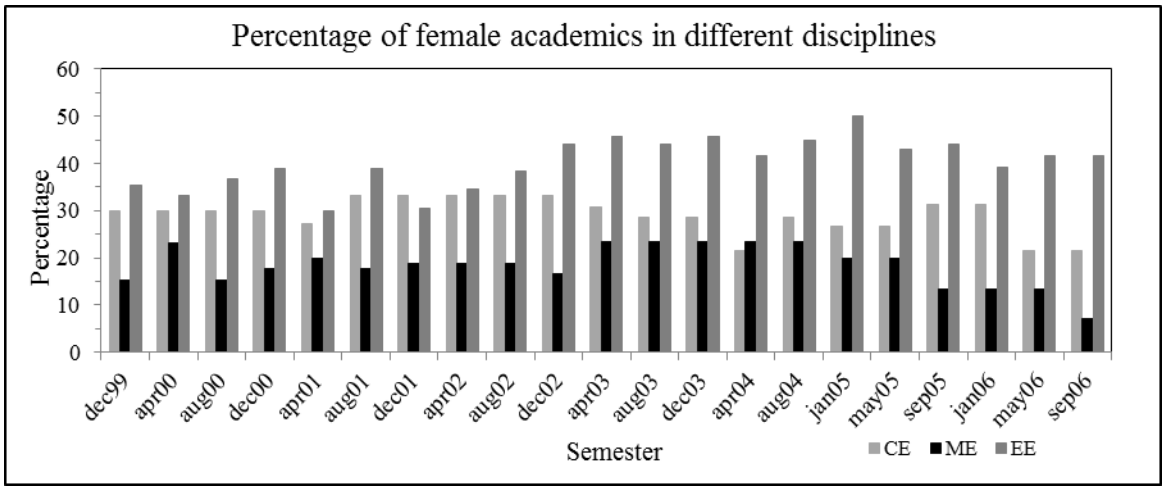

Figure 2(a). Percentage of female academics in different disciplines

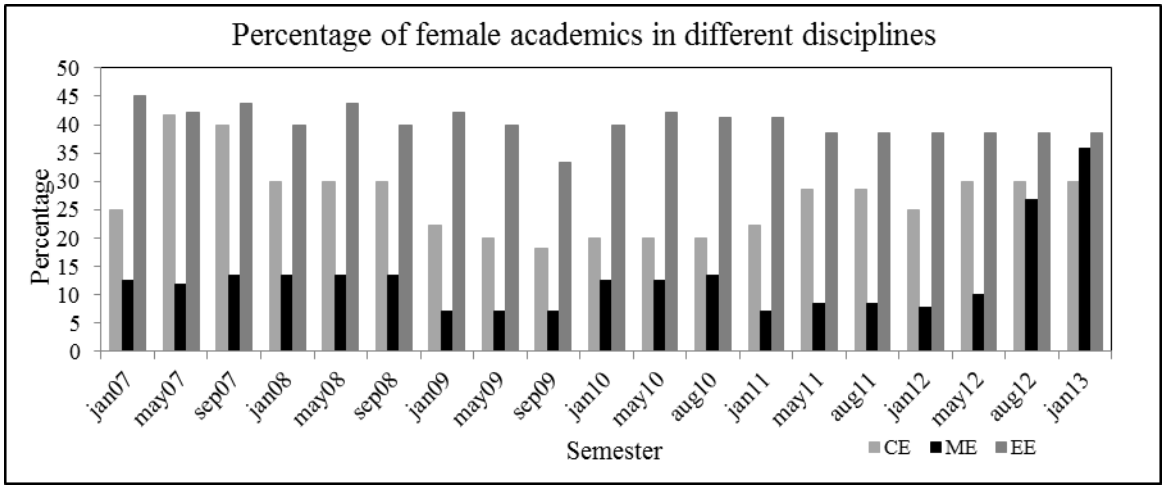

Figure 2(b). Percentage of female academics in different disciplines

Fig. 3 shows gender distribution across academic qualification and various levels of seniority from lecturer to full professor. The data in Fig. 3 shows that there are significant gender imbalances at all levels (except in associate professor level) especially in professor level. Kennedy (2005) pointed out that there is significant gender imbalance at all levels of the career ladder in Dublin City University. The gender imbalance worsens as progress is made along the career ladder to positions of greater power and decision-making.

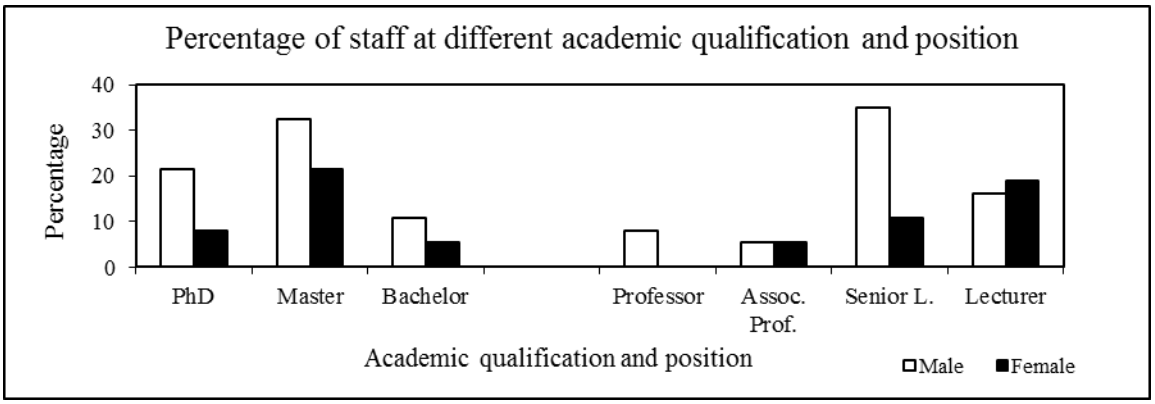

Figure 3. Percentage of staff at different academic qualification and position in the faculty

Enrolment of female students in engineering

Enrolment of female students in degree and diploma in engineering programmes offered in the faculty is shown in Fig. 4. It can be seen that the enrolment of female students in degree programme is higher than that in diploma programmes. However, the percentage of female students declined from 15% to 9% in degree programmes and from 12% to 6% in diploma programmes. Currently the overall enrolment of female students in the faculty is about 8%. This shows the declined trend of female enrolment in the faculty since 2009.

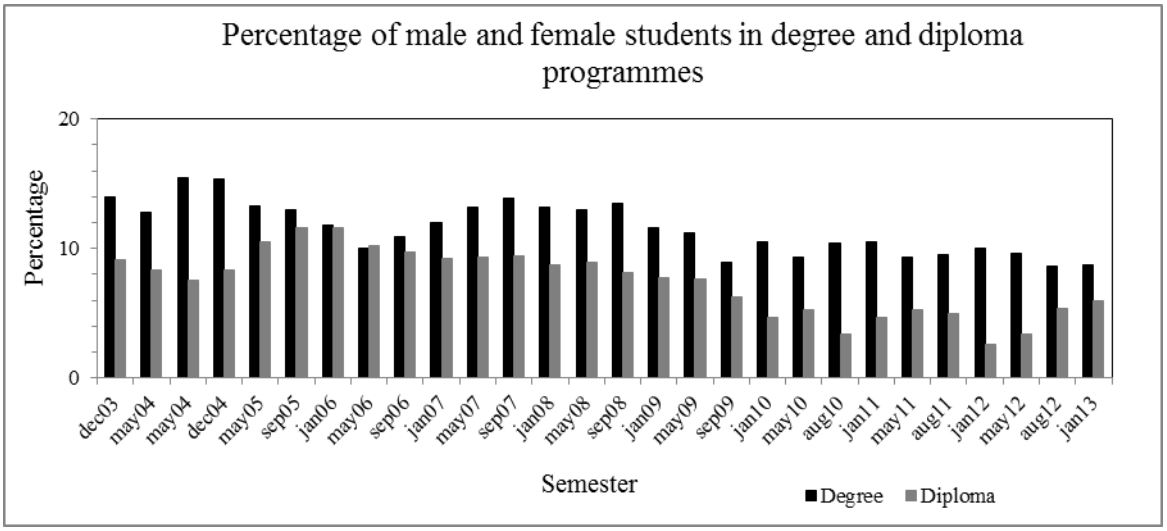

Figure 4. Percentage of male and female students in engineering faculty

The faculty offers three disciplines: civil, electrical and electronic and mechanical engineering. From Figs. 5(a) and 5(b), it is observed that the percentage of female students in civil engineering has increased slowly since August 2010 while female students in electrical and electronic engineering has declined significantly from 15% to 4% since September 2008 semester. The percentage of female students in mechanical engineering is about 4% and it seems there is no significant variation over recent years.

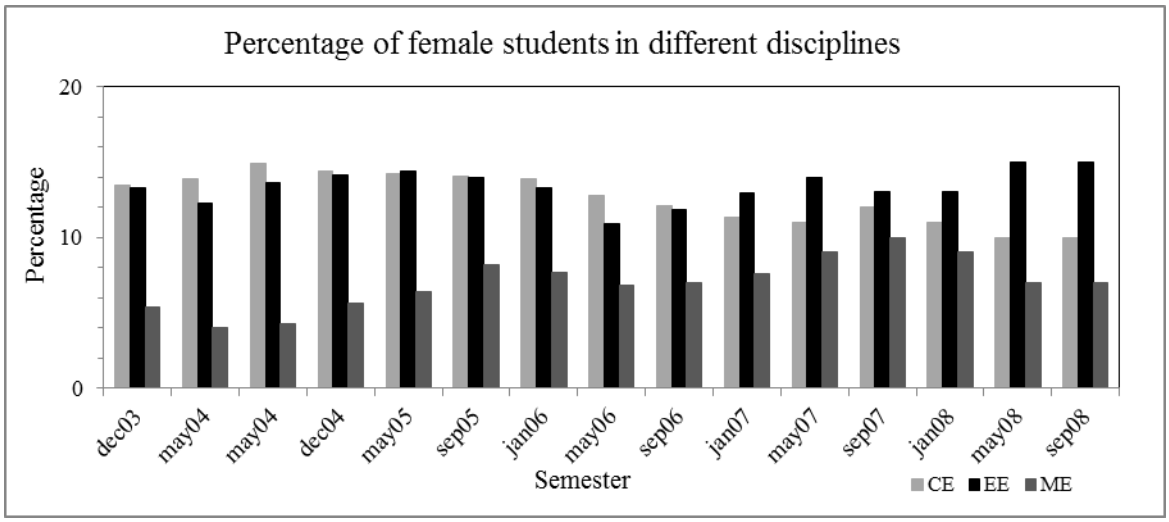

Figure 5(a). Percentage of female students in different disciplines

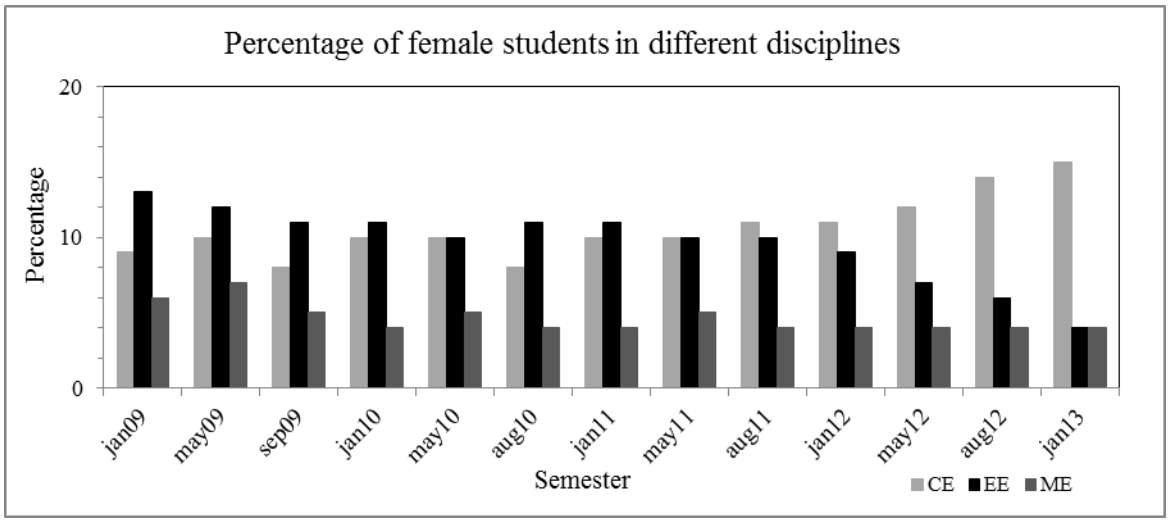

Figure 5(b). Percentage of female students in different disciplines

Perceptions of academics on women in engineering

The questionnaires are given to female and male academics in the faculty to explore the perceptions of academics on women in engineering education and engineering workplace. A total of 42 academics (28 male and 14 female academics) from civil, electrical and electronic and mechanical engineering disciplines responded to the survey. The majority of respondents are Malaysians (86%). Sixty percent of male and 43% of female respondents hold the position of senior lecturers (inclusive of full and associate professors). About 17% of the respondents have worked more than 15 years with the university while 38% have 10 – 15 years and 26% have 3 to 5 years. Based on the findings obtained from the questionnaires, the study reveals the following:

Perceptions of academics on women in engineering education

Academics are asked to compare the academic preparation, study habits, laboratory skills, engineering abilities and mathematical abilities of female engineering students to those of male students. Fig. 6 shows the comparisons of academic skills of female and male students. Academics of both genders responded that female students are as good as, if not better than, those of their male peers in academic preparation, study habits and mathematical abilities. Ni Lar Win and Khin Maung Win (2007) reported in the previous study that female engineering students in the faculty do as good as or better than their counterparts. However, female academics have better opinion of female students on laboratory skill and engineering skill than male academics have.

Academics are asked to give their opinion on conditions for male and female engineering students in the faculty. Both female (F) and male (M) academics gave similar responses to the question; 20% of female academics and 32% of male academics believed that conditions favour men and about 80% of female academics and 68% of male academics believed that conditions are equal for male and female students in the faculty. Besides, academics are also asked whether they have heard students' complaints about female students being treated unfairly by lab assistants or faculty members or their peer male students.

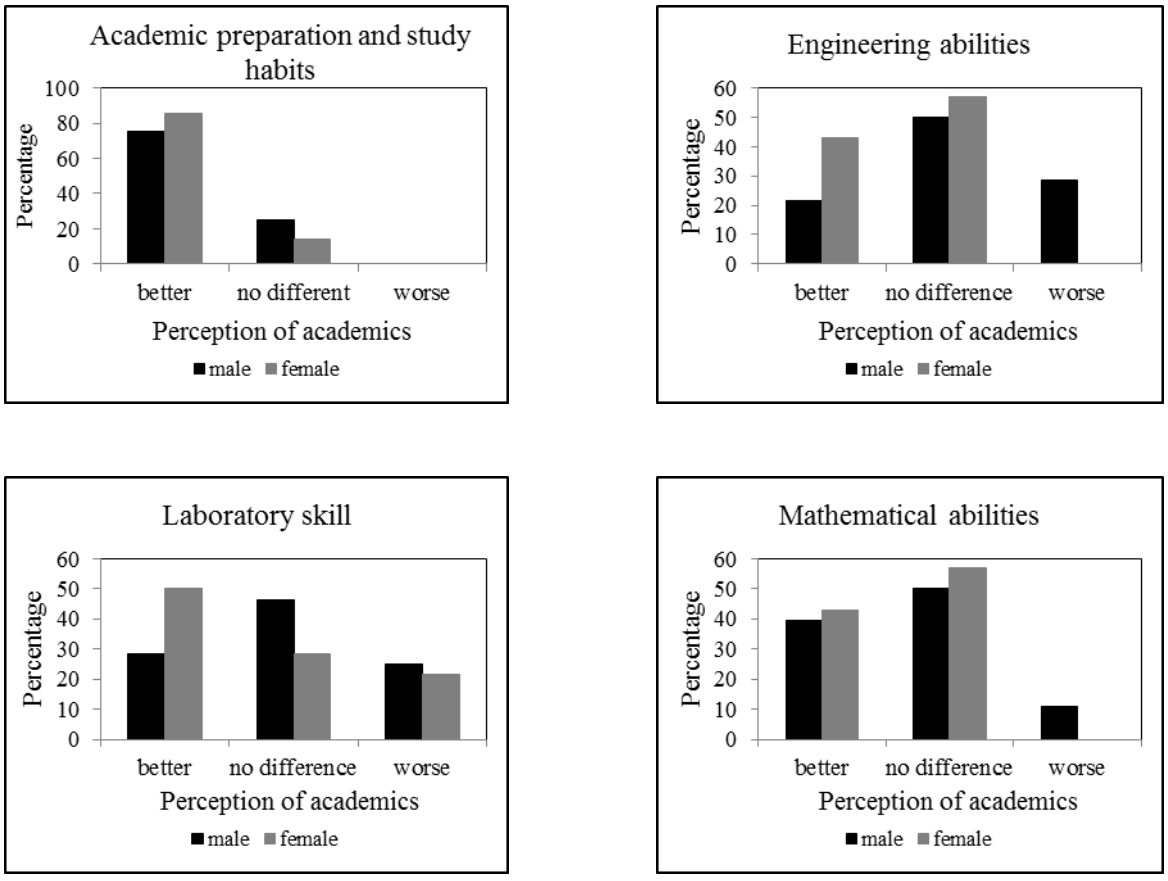

Figure 6. Perception of academics on academic preparation and skills of male and female students

Almost all academics responded that they have never heard of such complaints about unfair treatment to female students.

Perceptions of academics on student–faculty interaction

Academics are asked to express the degree of their agreement regarding the support for female students in their faculty. It can be seen from Table 1 that 60% of academics agreed that the faculty is supportive of female students and 55% believed that the faculty is genuinely committed to helping female students to complete their engineering degree. However the responses of males and female academics on engineering climate are different. About 64% of female academics disagreed that the engineering climate at the faculty favours male students.

Table 1. Perceptions for support for female students

	Agree		Neither		Disagree	
	F	M	F	M	F	M
My faculty is supportive of female students.	50%	68%	29%	32%	21%	0%
The engineering climate at my university favours male students.	7%	25%	29%	50%	64%	25%
I believe my faculty is genuinely committed to helping female students complete their engineering degree.	50%	57%	36%	43%	14%	0%

Perceptions on support programmes for female students

Academics are asked to give their opinion on having support programmes for female students. The analysis is focused on the sample as a whole since the differences between the responses of male and female academics are not significant. It can be seen from Fig. 7 that a majority of academics (62%) felt that university should have a special effort to recruit female students in engineering programmes.

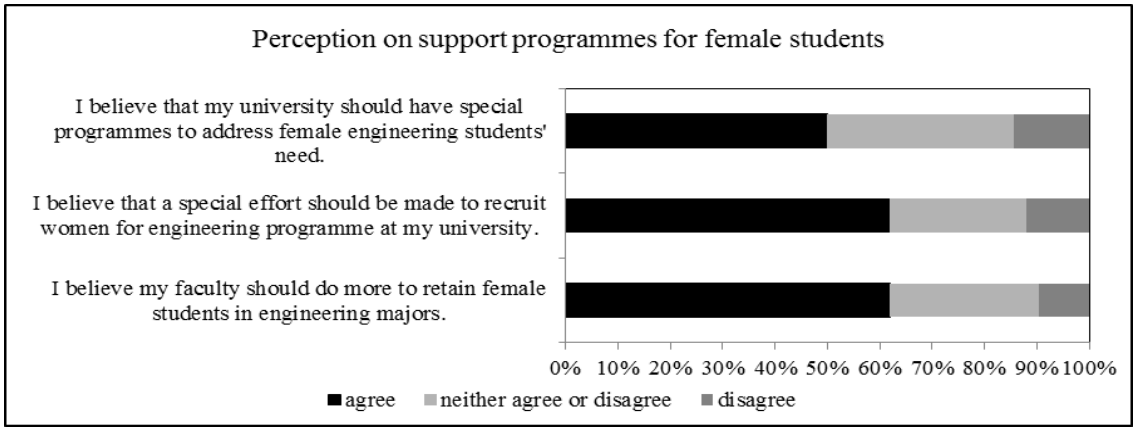

Figure 7. Perception on support programmes for female students

About half of the respondents agreed that the university should have special programmes to address female engineering students' need. About one-third is neutral and 15% of academics did not believe to have such programmes to address female students' needs.

Perceptions of academics on women in the engineering workplace

Academics are asked to respond to the statement given in Table 2 regarding women in the engineering workplace. About 60% of both female and male academics gave similar responses to the question that it is more difficult for a woman to balance between a career and a family in engineering than in other fields. Female academics are more likely to disagree that young women engineers are generally offered higher paying jobs at the beginning of their careers. Male academics tended to agree that some fields of engineering are easier for women.

Table 2. Perceptions on women in engineering workplace

	Agree		Neither		Disagree	
	F	M	F	M	F	M
It is more difficult for a woman to balance a career and family in engineering than in most other fields.	64%	54%	7%	21%	29%	25%
I believe women who are beginning their engineering careers are generally offered higher paying jobs than are men.	15%	25%	15%	25%	70%	50%
I believe it is easier for women to go into some fields of engineering than other engineering fields.	50%	79%	21%	7%	29%	14%

Academics are asked to give their opinion on conditions for male and female engineers in the engineering workplace. About half of both female and male academics believed that conditions favour men and the other half was neutral (see Fig. 8).

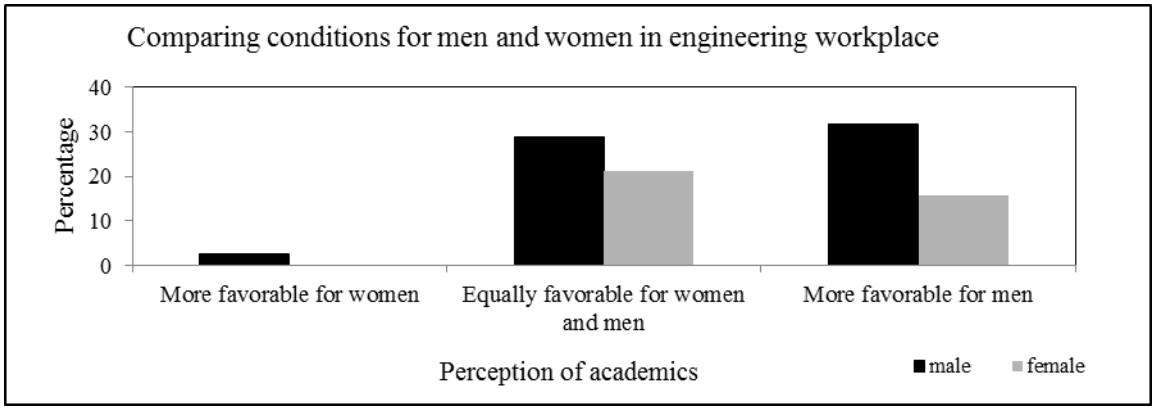

Figure 8. Comparing conditions for men and women in the engineering workplace

Experience of female academics with their male colleagues

Only female academics are asked to respond to the statements given in Fig. 9 regarding relationship with their male counterparts. Majority of female academics have positive experiences with their male colleagues since they disagreed to all the statements that senior colleagues prefer working with men, male colleagues perceive women not as productive, work environment with male colleagues is affected for being a woman and male colleagues exclude me from important activities. Minority of the respondents were neutral.

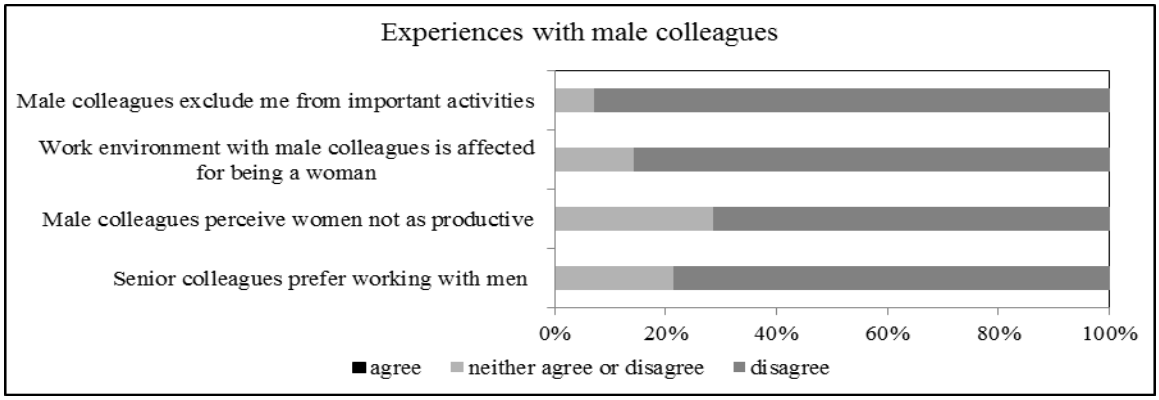

Figure 9. Experiences with male colleagues

Experiences of female academics with the faculty

Female academics are asked to respond to five statements about conditions with the faculty as given in Fig. 10. About one-third of respondents agreed that women academics are involved in decision making. Majority of respondents agreed that they are encouraged to participate and publish in scientific journals. Most female academics also acknowledged that they are given credit for their achievement. About half of the respondents disagreed that there are salary differences between men and women within the faculty while 30% are neutral. Almost all disagreed that women have less space and resources within the faculty.

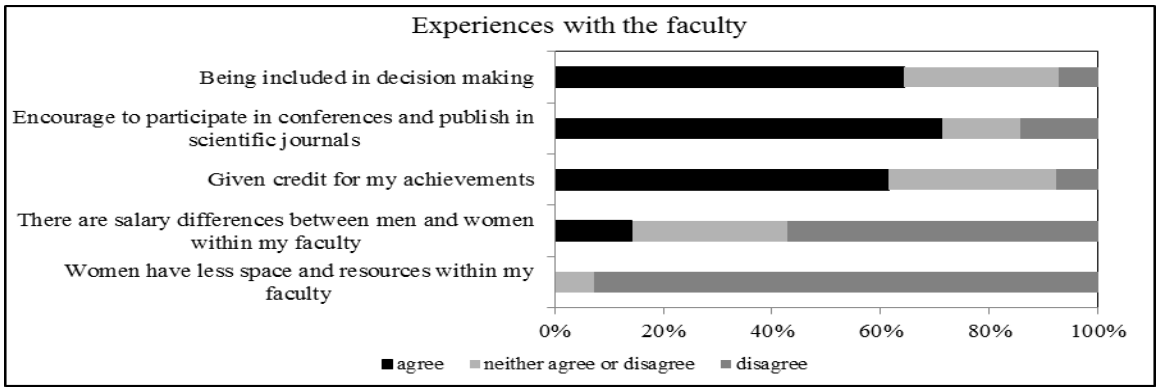

Figure 10. Experiences with the faculty

Perceptions on academic workload

Based on the responses to the statements given in Fig. 11, female academics perceived that academic workload is fair, consistent and appropriate compared with male collegues.

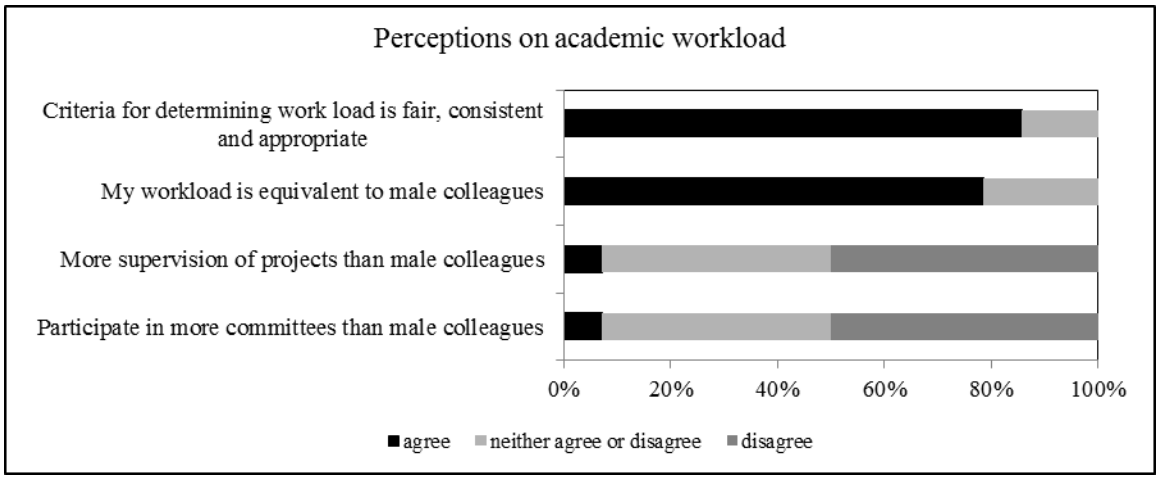

Figure 11. Perceptions on academic workload

Perceptions on academic career advancement

Majority of female academics responded that there are equal opportunity for advancement and the criteria for advancement are fair and consistent (see Fig. 12). However, respondents have different perceptions on the statement that female academics need more work and time to attain high academic ranks than male colleagues. About three quarter of the respondents disagreed with the statement that male colleagues believe that women do not possess skills to become leaders.

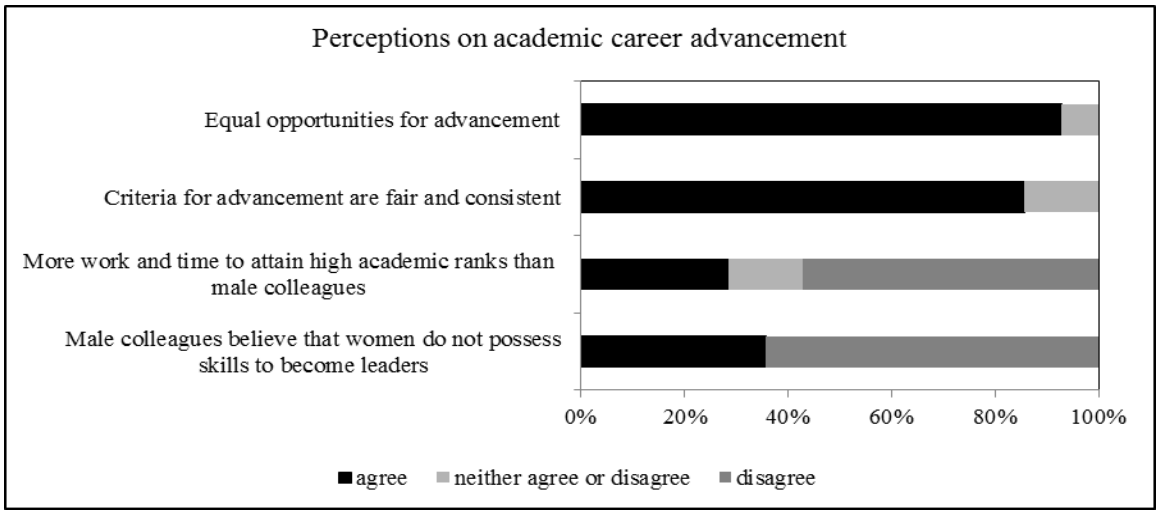

Figure 12. Perceptions on academic career advancement

Private life and career

As shown in Fig. 13, almost all respondents receive support from their family for their career as academics. Only 30% responded that they have more dedication to their family than their career. Female academics are more likely to say they disagreed that the faculty provides flexibility for family needs and advancement in their career.

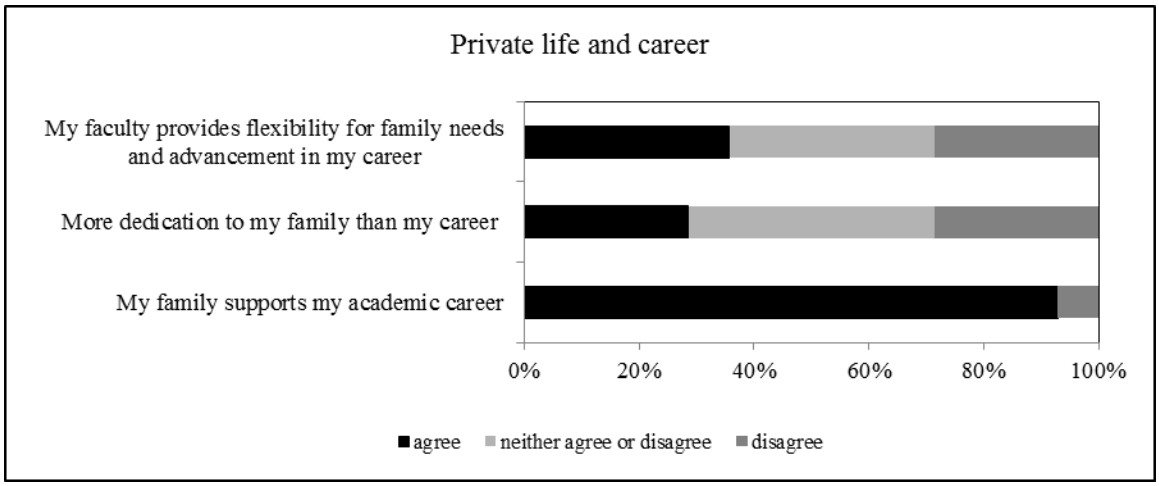

Figure 13. Private life and career

Conclusion

This study has attempted to reveal the involvement of women in engineering and perceptions of academics on women in engineering education and engineering workplace as follows:

Academics of both genders responded that female students are as good as, if not better than, those of their male peers in academic preparation, study habits and mathematical abilities. However, female academics have a better opinion of female students on laboratory skill and engineering skill than male academics have. Male academics are more likely than female academics to say that conditions favour men in engineering education. Almost all academics responded that they have never heard of complaints about unfair treatment to female students in the faculty.

A majority of academics feel that a special effort should be made to recruit female students in engineering programmes and the university should have special programmes to address female students' needs.

About half of both male and female academics generally perceived that conditions in the engineering workplace favour men and the other half is neutral. Female academics are more likely to disagree that young women engineers are generally offered higher paying jobs at the beginning of their careers.

Majority of female academics have positive experiences with their male colleagues and with the faculty. Female academics felt that there is no discrimination on salary, academic workload, academic career advancement compared to male academics in the faculty.

The results from this study can be used in finding ways to attract a larger number of women in engineering in the future.

Acknowledgement

We would like to thank our colleagues for participating in the survey.

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CEBUANO NURSES IN NON-NURSING DOCTORAL DEGREES

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Abstract

Historically, a number of famous nurses finished non-nursing doctoral programs. The melting of different body of knowledge into the paradigms of nursing helped into the development of its own innovative frameworks. Inasmuch as these learnt concepts borrowed and shared from other discipline helped in the development of nursing theories, there is a need to recognize that doctoral education for nursing should be in nursing science. In Cebu City, Philippines, it was observed that nurses were taking doctoral programs that are not in the mainstream of nursing. It was the intention of this research to explore the lived-in experiences of these nurses and the reasons behind their choices utilizing Collaizi's seven steps data analysis. Furthermore, it attempted to identify the weaknesses, demands and scenario of the doctoral nursing offering in the area. Results revealed that: (1) nurses are forced to take non-nursing programs because of inaccessibility; (2) only one nursing school is offering a doctoral program and Gerontology is the sole major; (3) they tend to look for alternative programs that is related to their field of interest; (4) less access to scholarships for schooling in other places; and (5) there is a conflict in matching specific nursing interest with the non-nursing programs they are taking. With the call for transformation and advancement in nursing and its practice, nurses must grow professionally by taking doctoral program in different nursing concentrations and not with other or related disciplines.

Key Words: *Nursing Education, Doctoral Nursing Program, Advance Studies, Professional Growth in Nursing*

Introduction

Feeg and Nickitas (2011) claimed that there are less than one percent of nurses having doctoral degrees. This highlighted the critical need for doctorate prepared nurses that will educate future nurses. They are the workforces in generating evidence for practice that will meet the complex health needs of the clientele (Cronenwett, 2010). In America, some agencies advocate in multiplying the number of doctorate prepared nurses that will be part of the pool of faculty and researchers (Institute of Medicine, 2010). In Asia, during the East Asian Forum on Nursing Scholars held last February 22 and 23, 2012 in Singapore, scholars conversed about the issue on advancing the doctoral nursing programs in East Asia. They significantly recognize its importance in contributing knowledge and evidence for the nursing profession. In the Philippines, this issue is not much talked about and much more in Cebu City. Currently, only few literature talks about taking doctoral nursing degrees in the country. With not enough literature, there is a need to document the phenomenon, as this can be a virtuous source of reference.

The awareness required to deliver headship in the discipline of nursing is so multifaceted and swiftly moving that doctoral level education is necessary to prepare nurses in response to the emerging health care necessities (American Association of Colleges of Nursing, 2004). With this call for the transformation and advancement of nursing and its practice, nurses aspired to grow professionally by taking doctoral program in various nursing specializations. According to Romero (2011a), nurses with the highest educational attainment of a doctorate degree in nursing are prepared to be nurse scientists engaging massive knowledge in their field whether clinical, academe or administrative and most importantly research. Romero further added that they are expected to contribute in policy making and in shaping the healthcare system. However, the Philippine Nursing Act of 2002 (RA 9173) only requires a master's degree from middle to top nursing management level. The only position requiring a doctoral degree in nursing is doctorate-nursing professorship. With the current demand in work and competition in the field of nursing, Filipino nurses are increasingly expected to ascend the highest nursing educational preparation.

In Cebu City, The Philippines, it was observed that nurses were taking doctoral programs that are not in the nursing mainstream. Given this scenario, there appears to be a conflict in matching specific nursing interest with the non-nursing doctoral programs they are taking. It is the intention of this research to explore the lived-in experiences of these nurses and the reasons behind their choices. Furthermore, it attempted to identify the weaknesses, demands and scenario of the doctoral nursing offerings in the area.

Historically, a number of famous nurses around the world finished non-nursing doctoral programs. Faye Glenn Adbellah, Imogen King and Hildegard Peplau finished Doctor of Education, Jean Watson finished PhD in Educational Psychology and Counseling, Betty Neuman received a Doctoral Degree in Clinical Psychology, Patricia Benner received a PhD in Stress, Coping and Health, Sister Calista Roy finished PhD in Sociology (Tomey & Alligood, 2002), and Madeleine Leininger finished PhD in Cultural and Social

Anthropology (George, 2002). The melting of different body of knowledge into the paradigms of Nursing helped into the development of its own innovative frameworks. According to Romero (2011a):

> "Nursing as a science has its goal of developing a body of knowledge to be used as basis for nursing practice in a variety of settings. Nursing knowledge, however, is not isolated or exclusive, but rather encompasses the selection, integration, and expansion of knowledge from nursing and other disciplines and the application of this knowledge to the understanding of health and illness and to the analysis and improvement of nursing practice."

Inasmuch as these learnt concepts borrowed and shared (Polit & Beck, 2008) from other discipline helped in the development of nursing theories, there is a necessity to be aware of that doctoral tutelage for nursing should be in nursing science (Tomey & Alligood, 2002) and not based on other-disciplines. This will help differentiate nursing from other professions (Sitzman & Eichelberger, 2004).

> "Nursing theory defines and enriches the practice of nursing. It focuses attention on issues essential to providing care. It implies criteria with which to evaluate what nurses do. It presents concepts capable of supporting research most useful to nurses. Thereby it helps create knowledge unique to nursing, thus augmenting the status of nursing as a profession. In fostering research, nursing theory upholds nursing education, maintaining it on a par with other academic disciplines (Drwiega, n.d.)."

The theory-building development was instigated in the late 1970's (Winters & Lee, 2010). Insofar as nursing education targets principally to train competent nurses, it depends on theory. In structuring doctoral nursing education, nursing theory will be drawn from the essential elements of nursing, including the: (1) patient; (2) environment; (3) provision of nursing care; and (4) health. Elements in nursing education, according to NCSBN (2006), also focus on: (1) Curriculum; (2) Characteristics of Faculty; and (3) Program characteristics. Specifically, curriculum elements comprise clinical, didactic and interdisciplinary activities. Theory-based way of approaching the problems with which nurses typically deal structures the standard. In nursing's journey as a profession, it needs a body of knowledge unique to itself from other discipline. Developing nursing theory and supporting theory-based research contributes to building that body of knowledge (Drwiega, n.d.).

Romero (2011a) claimed that:

> "While there are different program and title offerings, it is a fact that doctoral study in nursing is built upon and expands the doctoral student's knowledge acquired in baccalaureate and master's degree programs in nursing. Doctoral nursing programs are based on nursing's **distinct** body

> of knowledge, which can and must be verified using methods of scholarly inquiry — research. This prepares intellectual leaders with analytical skills to contribute to the development of nursing science. Students bring to doctoral study unique combinations of experiences, knowledge and capabilities that help facilitate an emphasizes on the interchange among clinical practice, research, and teaching based on the belief that research informs practice, practice informs research and both inform teaching."

In The Philippines, as cited by Romero (2011b), not many nurses, including nursing leaders hold a doctoral degree in nursing. There are a number of identified factors that was attributed to such phenomena. However, Romero further highlighted that the inadequate number of nursing schools offering a doctorate degree in nursing could be the prime factor. Herewith, many nurses have decided on to expand their scope by taking up alternative doctoral programs such as Doctor of Management, Doctor of Public Health, Doctor of Philosophy in Educational, Doctor of Psychology and Doctor of Education.

There is a need to document the existing scenario of the doctoral nursing program in Cebu City. Documenting the sentiments of nurses on their felt need to expedite doctoral nursing offerings in the area must be transcribed. This literature will be useful for nursing leaders and nursing schools in their plan to improve and act on the current need for advance nursing education. This manuscript attempts to stimulate a fruitful action in revolutionizing doctoral nursing education in the area.

Related to the concerns enumerated above, other relevant and debatable issues can be raised. What if nurses are taking doctoral degrees that are not specific for the nursing profession? Can this improve the poor percentage of nurses with doctorate degrees? Is it necessary to take vertical degrees in nursing? This paper does not attempt to answer any of these questions. But it will provide germane descriptions on nurses in Cebu city taking non-nursing doctorate degrees. These descriptions will stimulate insights that may indirectly provide answers to the questions that I enumerated, allowing the reader to formulate personal and subjective understanding on the current situation in the doctoral nursing education in Cebu city.

Domain of Inquiry

The purpose of the study was to explore the lived-experiences of nurses taking non-nursing doctoral programs and the reasons behind their choices. Furthermore, it attempted to identify the weaknesses, demands and scenario of the doctoral nursing offering in the area.

Atheoretical Stance

I employed a naturalistic approach (Royse, 1999) and follow an atheoretical stance (theoretical framework in abeyance) *vis-à-vis* the phenomenon of interest. Utilizing a highly inductive process (Thomas, 2003; Schriver, 2001), I did not anchor my study in any frameworks and suspended *a priori* conceptualization (Luckerhoff & Guillemette,

2011), otherwise known as substantive theory – that might bias the collection and analysis of data (Polit & Beck, 2008). With this assumption, I also suspended the review of related literature and studies (Polit & Beck, 2008; Berg, 2001).

Furthermore, since I am utilizing Descriptive Husserlian Phenomenology as a research tradition, I did not identify a theory that will support the study and neither did I interpret the results. Descriptive Phenomenology emphasized the description of data only without interpretation: letting the fact speak for itself or of knowledge independent from interpretation (McCance & Mcilfatrick, 2008). Literature review to support the claim may be done to substantiate the description of the phenomenon. However, for this study, I find difficulty in looking for available published articles on doctorate in nursing.

Philosophical Stance

I trailed the naturalistic paradigm observing the following assumptions (Creswell, 2007; Polit & Beck, 2008): (1) ontologically, reality is multiple and subjective relative to each actor and must be measured from the actor's lenses – this means that I, as the main instrument, need to bracket out my personal interpretations (Walters, 1995; Paley, 1997; Ray, 1985); (2) epistemologically, I and the informants are dependent on each other where interaction is required to gather relevant information; (3) axiologically, values are inevitable and desired providing thick description; and (4) rhetorically, personalistic style of writing required reflexivity and positioning of myself. This explains why I utilize the first person's voice in this article to emphasize the positioning system. Webb (2009) in Wiley-Blackwell's *Writing for publication* booklet, and the APA's (2010) *Publication manual*, preferred the use of personal pronoun to circumvent vagueness particularly in describing activities. The directness in the approach of personal noun eludes puzzlement. The use of personal pronouns hitherto was uniquely for qualitative research (Polit & Beck, 2008), however contemporary journals advocate its use even with quantitative methodologies.

Method

Design. I followed the phenomenological tradition (Creswell, 2007). I trailed an inductive method (Berg, 2001). Instead of transforming it into operationally defined behavior, it described the phenomenon as experienced by the nurses taking non-nursing doctoral degrees. In descriptive Husserlian phenomenology (McCance & Mcilfatrick, 2008), authenticity is closeness to the phenomenon under investigation. It only focused on description and explanation (Ray, 1985). Phenomenological reduction (Annells, 1999) and bracketing (Wall, Glenn, Mitchinson & Poole, 2004) was deliberately observed.

Sampling of Informants. The criterion-based purposive sample included 10 nurses from Cebu City taking non-doctoral nursing programs. Exclusion criteria in the sample were nurses who had taken doctoral units in nursing. Directions for the study and informed consent were obtained. Data saturation was reached with 10 informants and with my judgment, considering the concept of the researcher as the main instrument (Jackson, Daly & Davidson, 2008); I decided to stop recruiting to avoid data contamination.

Each participant was asked to describe their experience as a nurse pursuing a non-nursing doctoral degree program in as much details as possible. Preliminary findings were validated and the final results were reviewed.

Procedure. I obtained approval from the Research, Planning, Development Department of the University of the Visayas. Data collection extended for a year through personal interviews, group discussions, phone calls, chat rooms and emails.

I interviewed each participant for 20-60 minutes and all interviews were tape-recorded. The interviews were transcribed and coded to manage the data systematically. Recorded interviews were destroyed after transcription. To avoid any possible bias, I tried to collect the data precisely from those participants yielding authentic data. Data were confirmed using different triangulation techniques. Trustworthiness was enhanced through (Polit& Beck, 2008): (1) prolonged engagement; (2) persistent observation and reflection; (3) member checking from participants; and (4) audit trail by external experts.

Spending a considerable amount of time with the informants until trust was gained ensured the authenticity of the data collected. Persistent observation and reflection ensured credibility and dependability of the data being gathered. Member checking from participants and audit trail by external experts confirmed the results.

Asking the same question at different time-points warranted time triangulation. Data saturation of a certain phenomenon from different informants enabled person triangulation. Interviews, observation and reflection were observed to facilitate method triangulation.

Data Analysis. I utilized the Colaizzi's (1978) approach by carefully questioning presuppositions about the phenomenon under investigation. I started by asking general leading questions and once such questions were answered, I then scrutinized and examined these presuppositions. The method for data analysis consisted of seven stages: (1) read and reread all the participants' verbatim transcripts of the phenomena in order to acquire a feeling of them; (2) significant statements or phrases were extracted from the participants' transcripts pertaining directly to the research phenomena; (3) formulated meanings were constructed from the significant statements; (4) formulated meanings were arranged into clusters and themes which evolved into emergent themes; (5) results were incorporated into a rich and exhaustive description of the lived-experience; (6) exhaustive description for the participants involved in the research were validated; and (7) any new or pertinent data obtained from the participants' validation were incorporated and adapted to attain congruence with the lived experience of the participants studied.

Results

Profile of Doctoral Program in Nursing in the Area. Doctoral nursing program in Cebu City had just started recently with one graduate up-to-date. Only one school is offering the program Doctor of Science in Nursing with the major of Gerontology. There

is no other school available in the area. However, in Region VII – Central Visayas, two other schools are offering doctoral nursing program namely: (1) Doctor of Philosophy, Major in Nursing; and (2) Doctor of Nursing Science. However, one must travel across water or by air to attend classes and finish the degree.

Limited Offering. Testimonies of nurses taking non-doctoral nursing programs reported that there are only limited offerings for doctoral programs in nursing. In fact, there is only one school in Cebu City offering the program of Doctor of Science in Nursing, Major in Gerontology. Most nurses who wanted to pursue a doctoral degree were not interested with the major offered. Given this scenario, nurses opted to take doctoral programs that are more or less in line with their interest. Doctoral degree such as: (1) Doctor in Education, Major in Science Education; (2) Doctor in Management, Major in Human Resource Management; and (3) Doctor of Philosophy in Education, Major in Research and Evaluation.

The enumerated majors were identified because these are in-line with their current practices and majors in their master degrees. Parallelism in practice and verticalization of majors were issues identified by the informants. However, this undertaking is not feasible by the current situation in the area.

> "… I wanted to take a doctoral degree in line with nursing leadership and management but there is no offering … I would rather take a doctoral degree in management than taking a major in Gerontology…" (DM HRM student)

> "… Had there been a doctoral degree in psychiatric nursing, I would gladly enroll in the program … But I am not very interested with the care for the elderly … I would rather choose a major second to my heart … nursing research is my second choice that is why I took up a major similar to it …" (PhD RE student)

> "… I am in nursing education for most of my life … since I am in the nursing academe – I am taking Doctor of Education … there is no doctoral program for nursing education major …" (EdD student)

Though there are few offerings in the region, it was observed that ***there is only one doctoral nursing program in the city.*** There are only few in the region because ***there are only few qualified professors***. In addition to that, the sole professor in the city is only a visiting professor from the northern part of the country.

In order for one to take a doctoral degree that is aligned to nursing aside from Gerontology as a major, one has to be educated outside Cebu City (regionally, nationally or internationally). Most nurses cannot afford this considering the remuneration they are currently receiving.

> "… How I wish I can get a grant to get a doctoral degree in nursing in the field that I love… this remains a dream … after applying competitive-based international scholarship… **the chances is more than super slim**… after considering personal funding… the idea seems to be a joke… that would mean I will not eat at all just to get a degree…"

Nurses do not make much money in Cebu City compared to the remuneration nurses receive overseas. Educational grants are near to impossible and most grants, if not all, oblige grantees to be full time students – and nurses in the area cannot afford not to work since they have a family to support.

Educational financial support is difficult especially when these nurses are using their personal funds. Nurses confided their interest to take doctoral degree in nursing when the privilege is at reach. However, matching their interest and specialization to non-nursing doctoral degree program that is readily available is the best option they can think of for the mean time.

The Need to Take Non-Nursing Doctoral Degree. Though all of the informants are interested in taking a doctoral degree in nursing, interest as a motivation in taking doctoral degree in nursing was constrained by internal and external factors that pushed them to take non-nursing doctoral programs. The following were identified push factors:

Retention and Competition. Currently, the career in nursing education is very competitive. With the surplus of nurses, nursing schools are closing and some schools have very low enrolment. With this scenario, most schools had employee retrenchment. With the fear of being retrenched, a good number of nurse educators are currently taking a doctoral program for retention purposes. Educational qualification is usually the first criteria to be considered for retention. The priority is to take any doctoral degree. The area of concentration is just a secondary priority. Any doctoral degree is a need for survival.

> "There is a great need for continuing education … the competition is high and I should be ahead from the rest in order to survive ... the major does not matter … I should have a doctoral degree … whatever degree it is as long as its doctoral …"

It is not only about competing for retention; it is also ammunition for the competitive world. In order for one to stay in the position, one must be equipped with the degree. For those who are aspiring for the position, one must be armed for the spot.

> "… because of my managerial position I need to have the doctoral degree in management … I need to be competitive … I need to stay in the position … I must be academically ahead from the rest … To stay in this competitive word one must be prepared … It would had been better if there is a doctoral degree for nursing administration and management …" (Dean)

> "… I am aspiring for a higher position … I need to have a doctoral degree in management … I was planning to take a doctoral degree for nursing administration and management … but it is not offered here in Cebu City" (aspiring Dean)

This is not only the case for those nurses currently working. It was also observed that nurses who had never landed into a nursing job are currently taking graduate studies to be competitive. They are taking master and even doctoral degree to be ahead from the rest.

> "… I am an unemployed registered nurse… I have to take advance studies to widen my chances of getting hired…"

Personal and Professional Growth. The doctoral program is a good avenue for professional growth experience: (1) familiarity with the important theories; (2) development of a set of research skills; and (3) relationships with professors and fellow doctoral students.

> "Even though I am not taking a doctoral program in nursing … the degree I am taking right now enriched my familiarity with diverse theoretical frameworks that can be adapted to the nursing discipline … my exposure to different research methodologies and procedures is of great help … my mentors have outstanding inputs that can be applied to nursing … the exchanges of experience with my classmates are worth learning … However, it would had been better if the program I am currently taking is aligned to the nursing field since some applications discussed were really not related to nursing … the experiences and example were not in nursing, thus processing them were more difficult than when these things were nursing-related …"

Inasmuch as there is a lot to learn in non-nursing doctoral program, nurses are still conveying the need to have aligned degrees in nursing to facilitate a better learning experience. When the program is into nursing, the doctoral student will be able to ground himself/herself to the program and will be able to apply these things effectively into practice.

Career Pathing. Though most nurses are taking their doctoral program that is more or less nearer to their chosen nursing career paths, some nurses are realigning or preparing themselves to work outside of the nursing discipline. This is still related to the effects of the surplus of nurses in the country. Vacancies are no longer available and competitions are getting tougher.

> "With the trend now that most nursing schools are cutting off employees, I need to be prepared for the future… I need to have a fall back in my career... in case it would be difficult to land in a job in nursing … then maybe I can work in another field …"

When other countries are experiencing shortage of nurses, the Philippines, especially in Cebu City is experiencing surplus of nurses. With this scenario, most nurses are realigning their career path either: (1) to land in a job; or (2) preparing to land in a non-nursing-related job in the near future.

Few Scholarship for Doctoral Education Outside Cebu City. Problems in taking a doctoral degree in nursing can be solved when funding is available. However, funding nurses to study abroad or in any part of the Philippines is remotely possible. Nurses cannot identify scholarship programs. If any, it is highly competitive among nations.

> "I wanted to be educated outside of the country so that I can bring back things that I have learnt to my country. But applying for a scholarship is really difficult especially for a doctoral program in nursing… How I wish I had enough resources to support myself… It is really my dream… but not my priority… I have a family to feed…"

Nurses would rather work than grabbing the opportunity for scholarships since they have a family to feed. This is another reality considered by nurses. To get educated in a doctoral program in another country remains to be a dream and not a priority.

Practicality and Convenience that Leads to In-breeding. Most nurse educators are taking the doctoral degree program offerings of their school for practical reasons. Most schools are giving free tuition fees for their employees. Most nurses are grabbing this opportunity for professional growth. But these nurses are forced to take the doctoral programs offered by the institution. They have to match their nursing interest with the most similar program offered.

> "Actually I do not have a choice; it is not offered in my school … so I just decided to enroll in a different program offered by my institution since we are given free tuition fee for 9 units per semester... I hope my school can offer a doctoral program in nursing soon."

> "I do not have a choice. If I have to enroll in another school … I have to pay the entire amount …"

In-breeding is one of the disadvantages in taking a doctoral program offered by the institution the nurse is working. This hinders the nurse's opportunity in seeing the broad outlook necessary for academic achievement. They cannot bring new ideas into their institution. Their inputs are limited since it is already existent in their institution. Therefore, advancements in both the institution and individual are compromised.

> "… I am taking a non-nursing doctorate degree in the institution that I am working. I feel that I do not learn much and that things tackled about are those that I already know. What is new to learn? I am beginning to question myself …"

Potential Danger in Taking Non-Nursing Doctoral Program. Though it is recognized that taking non-nursing theoretical preparations broadened and improved the practice of nursing, this can also lead to some perilous effects. Although it is also possible that solution to nursing concerns may be addressed by theories from other discipline, it is also equally conceivable that nurses may utilize solutions that are not germane to nursing. Directing answers to the problem may be masked by interventions that are not appropriate to nursing and eventually jeopardize the system. It is also possible that the demarcation between the shared (borrowed from other discipline) and the pure nursing concept may lead to an overlap of responsibilities. Overlapping of responsibilities that may eventually cause conflicts in the near future.

> "… I am not really sure if what I am taking right now is useful in nursing. Maybe not now … maybe in the near future … and maybe never …"

There are always two sides in every coin and there is no definite formula for each action. But this argument is necessary to provide awareness to certain possibilities. This will help remind nurses to be extra careful in their nursing career actions and decisions.

> "… One thing I have recognized in my decision is that nurses must take conscientious and deliberate time in choosing what to take for a doctorate degree… You might just regret the consequences and maybe you will realize that it was a waste of time, money and effort …"

Reasons for the Constraints in Taking the Program. The following reasons were identified: (1) the need to have qualified professors; (2) majority of the schools are not interested to invest; (3) financial constraints; and (4) familial consideration.

Need to Have Qualified Professors. The prime reason for the few offerings is brought about by the few qualified professors to teach doctoral courses in nursing. This need is identified among informants with the following expressed solutions: (1) inviting qualified professors to teach in the city; and (2) sending doctoral students to study in other places. Graduates of doctoral degree in nursing from any of these expressed solutions can contribute to the pool of qualified professors in the area. Either ways, institutions can potentially open doctoral nursing degrees. However, this alone cannot warrant its viability. In fact, solution number 1 was pioneered by one of the state universities in the area. However, there are only few takers due to the offering – nurses chose not to take Geriatrics as the Major. Hopefully, solution number 2 can be explored in the near future and/or solution number 1 can still be done with a more viable offering.

> "There are only few qualified professors that is why there is only one offering…"

Majority of the Schools are Not Interested to Invest. Schools are not interested in offering the program. Hiring qualified professors from outside Cebu and sending students abroad is an investment – it is currently not the priority. Viability of the program was one

of the considerations for the disinterest. Currently, no studies were conducted to determine its viability. Though one school is interested to invest, they have a problem in recruiting qualified professors for the more appealing offering.

> "… With the current trend in the Philippines where there are pool of untapped nurses either displaced or unemployed, I think colleges and universities are not interested in opening doctorate programs in nursing… They are afraid if there are no takers… Education is business and school owners are also businessmen… I think you know what I mean…"

Financial Constraints. Getting a degree outside Cebu is an option. But for most, this is not the priority due to financial reasons. Most of those interested have families to support. The need of the family is the top most priority and getting the doctoral degree is only secondary. Though getting a scholarship is an option, it is highly competitive. Most of the time, they do not get picked and the majority does not even get to try to apply.

> "… I am a mother with studying kids. I need to prioritize their needs…"

> "… I wanted to study abroad… It is sad that my resources cannot allow me to fulfill that dream. I also tried applying scholarships… it is also very sad that I do not get short-listed…"

Familial Consideration. Among Cebuanos, the family is a treasure. It is cogitated as very important and it is always prioritized. Aside from economic consideration, familial protection and preservation is highly embellished by being together. Studying away from home is a sacrifice. Most cannot afford to disharmonize a protected treasure not unless they get income out from it. Income itself is for the family.

> "… I am a mother with studying kids… I also need to be at their side. They are still growing and it is my responsibility to take care of them."

> "It is good to finish a doctorate degree. Here or abroad, it does not matter. This will give me an opportunity to climb up the ladder… this means more income for my family."

Viability of Opening Doctoral Programs in Nursing. As previously reported, the interest of nurses in taking doctoral degree in nursing was constrained due to the limited offerings in the area. Multiple reasons were identified in the selection of alternatives. Though transferability (equivalent to generalizability in quantitative studies) of results can be claimed, not enough evidence can warrant statistical generalizability due to the weakness in sampling – just like any other qualitative researches. However, this does not mean that the results are of poor quality. The intention of this research is only to describe and provide a conceptual underpinning that can be utilized as a foundation in conducting a quantitative research with good statistical sampling representativeness. It is not the intention to statistically prove generalized results. Furthermore, it was not the intention to determine the feasibility in opening doctoral nursing programs in the area. However, it is

a noble jump-start in conducting highly methodological investigation with the objective of determining its viability.

The possibility of opening other majors can only be realized if the four enumerated constraints can be addressed. Though the opened major in Gerontology is not an appetitive offering in the area, it is a good start to provide access to a doctoral degree in nursing. It was identified that there are only few takers and that they took the program because it was the only rational choice. Lucidly, the opening of the sole major is a: (1) good indicator that other majors can be offered in the near future; and (2) precursor in identifying the need of offering more desirable programs with good number of interested takers.

Wrapping-Up

Nurses confessed the need to open doctoral majors in nursing that are aligned to their current career, practice and master majors. The dearth of qualified professors and a disinterest by institutions to invest constrained the opening of other majors. Furthermore, financial constraints, inaccessibility of scholarships and familial considerations hindered nurses to take offerings from other places.

It is also sad to note that nurses are slowly realigning their vocations to non-nursing career-paths. This is another issue that nursing leaders and the government should take into deliberate consideration. If this persists, the nurses' potential skills will not be realized – adding them to the count of untapped human resource in nursing. Their capabilities could have been utilized to upgrade the current developing nursing system.

Conclusion and Recommendation

The core phenomenon raises the need to develop doctoral nursing education in the region and in the country. This move does not only call for attaining personal interests but to uplift the standard of the profession beyond the need of the self. With the challenge for the development of needed highly developed competencies for progressively more complex clinical, faculty and leadership roles, nurses are challenged to enhance nursing knowledge to improve nursing practice. Provision of an advanced educational credential for those who require advanced practice knowledge requires educational training and exposure aligned to their field and practice. With the call for transformation and advancement in nursing and its practice, nurses must grow professionally by taking doctoral program in different nursing concentrations and not in other or related disciplines.

I will recommend that universities and nursing faculties provide agendas to advocate the advancement of doctoral nursing degree in the region and the country. This advocacy must focus on transforming the profession away from individual welfares. Further studies will be conducted to: (1) validate the results utilizing quantitative research methodology with good sampling technique; and (2) identify the viability of opening other doctoral

programs in nursing in the area. Nursing schools and associations should provide options and access to national and international scholarships to deserving candidates.

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UNIVERSITY STUDENTS' EPISTEMOLOGICAL BELIEFS, LEARNING APPROACHES, ACADEMIC SELF-EFFICACY, AND ACADEMIC ACHIEVEMENT.

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Abstract

This study investigated whether each subscale of epistemological beliefs (fixed ability, simple knowledge, certainty knowledge, and quick learning) is correlated with and significantly predict academic self-efficacy, learning approaches, and academic achievement. Epistemological Beliefs Questionnaire, Learning approaches Questionnaire, and Academic Self-Efficacy Scale were completed by (282) students in the Hashemite University. The results revealed that three dimensions of epistemological beliefs (fixed ability, simple knowledge, and quick learning) contributed significantly to academic self-efficacy, deep approach learning, and academic achievement.

Keywords: Epistemological beliefs, Learning approaches, Self efficacy, Academic achievement.

Introduction

In recent years, higher education faced increasing accountability to assure the effectiveness of teaching and learning outcomes (Biggs, Kemper, &Leung, 2001). The increased level of accountability in higher education also introduced concerns related to low retention and achievement rates among college students (Marsh, 2007). Therefore, a large body of research examined how different variables of learning contributed to students' achievement. Collectively, these studies used a wide range of cognitive and motivational variables such as prior knowledge, attitude, and approaches to learning, self-efficacy, goal orientation, and epistemological beliefs (Paulsen &Feldman, 2005; Buehl, 2003; Schommer, 1998). As such, investigation of the factors that contributed to students' success or failure is essential. Epistemological research has recently linked student's

beliefs about knowledge and learning to their learning approaches and academic performance (Cano, 2005; Phillips, 2001).

Epistemological beliefs, or students' beliefs and theories about learning and knowledge, received a considerable amount of attention from researchers (Schraw & Sinatra, 2004; Hofer & Pintrich, 1997). The focus of epistemological beliefs in learning and academic development originated from the work of Perry (1970), but has emerged as an active research topic during the past 15-20 years (Muis, 2004; Schraw & Sinatra, 2004).

The term "epistemology" is a discipline that explores the origin, nature, limits, methods, and justification of human knowledge (Hofer, 2002). Epistemological beliefs refer to specific beliefs that people hold about the nature of knowledge (Schraw & Olafson, 2002). A Person holds several epistemological beliefs at the same time, and those beliefs shape that person's epistemology. In Educational Psychology literature, epistemological beliefs have been broadly defined as learners' beliefs about the nature of knowledge and the nature of knowing (Hofer & Pintrich, 1997). Research in this area is based on the assumption that learners have identifiable conceptions about knowledge and learning and that these conceptions affect learners' interpretations of, and engagement in learning tasks (Schommer, 1990).

According to Schommer (1990), personal epistemology may be described as a system of more or less independent beliefs. Therefore, she developed a 63- item questionnaire to examine this system. Factor analysis reported by Schommer and colleagues (e.g., Schommer,1990; Schommer, Crouse, & Rhodes,1992) have consistently yielded four factors, ranging from naïve to sophisticated, namely: Simple knowledge (ranging from the belief that Knowledge is simple and organized as a series of isolated facts to the belief that Knowledge is complex and organized as interrelated concepts), Certain knowledge (ranging from the belief that Knowledge is absolute and unchanging to the belief that Knowledge is constantly evolving), Fixed ability (ranging from the belief that ability to learn is fixed to the belief that ability to learn can be improved over time), and Quick learning (ranging from the belief that learning must take place quickly or cannot happen at all to the belief that learning is a gradual process).

Epistemological beliefs are considered one of the significant factors related to students' academic achievement (Schommer-Aikins & Easter, 2006). The advancement of research inquiry is based on schommer (1993) assertion that students' epistemological beliefs might influence their selection of learning approaches. She also asserted that epistemological beliefs could in fact influence students' academic performance directly and indirectly. Some theoretical models have emerged to suggest that students' academic performance may be dependent on their learning approaches and these in-turns are influenced by other related factors, including beliefs about knowledge and learning (Biggs, 1991; Ramsden, 1988). Educational research indicates that students' epistemological beliefs influence learning approaches and subsequent learning outcomes (Schommer, 1990). Supporting this proposition, Tsai (1998) claimed that learners' scientific epistemological beliefs may shape their metalearning and hence affect their learning approaches. Researchers have explored the relationship between learning

approaches and epistemological beliefs (Barned, Lan, Crooks, & Paton, 2008; Dahl, Bals, & Turi, 2005). Learning approaches are significant factors in this area of study. Learning approaches are cognitive and behavioral methods and techniques used by students to generate learning outcomes (Biggs, et al., 2001). Students' learning approaches include processes such as developing a study plan, executing the plan, and monitoring the effectiveness of the plan (Baker, 1984). Past research had identified two approaches to learning: meaningful approaches (deep approaches to learning) and rote approaches (surface approaches to learning). Learners' choice of using rote memorization as a model of learning is called surface or rote-learning orientation (Cavallo & Schaffer, 1994). On the other hand, when students choose to deal with a learning task and attempt to relate newly learned and previously learned concepts students' learning approach is known as deep or meaningful. Research indicated that students employing deep learning approaches tend to use learning strategies that enhance the meaning and transform of information; in contrast, surface learning approaches tend to force reproducing of information.

Academic achievement is also highly correlated to learning approaches employed by students. Research focusing on the relationship between learning approaches has connected the use of effective learning approaches with enhanced academic achievement, illustrating that higher-achieving students select appropriate learning approaches, set high standards, and are able to assess their own achievement levels (Biggs, Kemper & Leung, 2001). Students' learning approaches have also been connected to the sophistication level of epistemological beliefs (Rodriguez & Cano, 2006). In fact, research has revealed that epistemological beliefs and learning approaches predict and influence academic achievement (Rodriguez & Cano, 2007). Moreover, (Schommer, Crouse & Rhodes, 1992), (Paulsen & Feldman, 2007), (Phan, 2008) found relationship between the sophistication level of epistemological beliefs and academic achievement. Specifically, students with more sophisticated epistemological beliefs usually have higher achievement levels (Schommer, 1990; Buehl & Alexander, 2005; Phan, 2008). Rodriguez and Cano (2006) identified a relation between epistemological beliefs and academic achievement in relation to learning approaches employed by students in their study of Spanish. They concluded that learning approaches and epistemological beliefs serve as predictors of academic performance. In an empirical study, Chan (2003) investigated the relation between learning approaches and epistemological beliefs, with a sample of 299 teacher education students. He found a positive correlation between innate-fixed ability and surface approach. No relation was reported between innate-fixed ability and deep approach. Authority knowledge, although negatively associated with deep approach, was positively associated with surface approach. However, certainty knowledge was found to be associated positively only with surface approach. Cano (2005) explored the effects of secondary school students' (N=1600) epistemological beliefs on their learning approaches. The results showed that epistemological beliefs affected academic achievement directly and indirectly through students' learning approaches.

Another important area of study related to learning approaches and epistemological belief is academic self-efficacy. Self-efficacy is a key component of Bandura's social cognitive theory (Bandura, 1995). It is one's belief in their ability to organize and execute a course

of action required to produce a given goal. More specifically, academic self-efficacy is student's belief in their ability to activate and regulate motivation and cognitive resources needed to attain a desired educational goal. The focus is not on the academic skills an individual possesses, but on an individual's beliefs of their ability to use those skills within a given task (Zimmerman & Schunk, 2003; Schunk, 2003). Academic self-efficacy is influenced by past successes and failures, self-regulatory strategy, and self-monitoring (Zimmerman & Bandura 1994). It has been shown to be an effective predictor of students' choice of academic activities (Pintrich & Schunk, 2002, Pajares, 2002) and an accurate predictor for academic achievement (Chimers, Hu, & Garcia, 2001). In Multon, Brown, and Lent (1991) meta-analysis of self–efficacy to academic performance they reported that self-efficacy beliefs account for approximately 14% of the variance in academic performance. When self-efficacy is low, students will underestimate their performance abilities. They will select tasks that do not challenge them, whereas, when self-efficacy is high, students will challenge themselves to engage in tasks that develop their skills and knowledge (Greene & Miller, 1996). Then, students will feel confident in their performance and ability to succeed which in turn promotes competency for further tasks.

Altogether, researchers who have examined students' learning experiences have usually focused on epistemological beliefs, learning approaches, academic self-efficacy, and academic achievement (e.g. Meyer, 2000; Chan,2003;Cano,2005), and seldom in an integrated manner. In addition, although epistemological beliefs have been the subject of extensive research for many years in western countries, less has been done in non-western countries. Jordan, in this respect, has a special position. Jordan has a sociocultural background that differs from other western countries. Thus, the present study extends research in this area by identifying the relations among university students' epistemological beliefs, learning approaches, self-efficacy, and academic achievement in a Jordanian cultural context.

Specifically, the main purpose of the present study was to provide an in-depth analysis of the links between epistemological beliefs, learning approaches, academic self-efficacy, and academic achievement. More specifically, the present study addressed two questions: (1) what is the relationship between epistemological beliefs, learning approaches, academic self - efficacy, and academic achievement? (2) What is the relative contribution of dimensions of personal epistemological beliefs to students' academic self-efficacy, learning approaches, and academic achievement?

METHOD

Participants

A total number of 282 undergraduate students (150 female, 132 male) aged from (18 to 24) years, participated in the study. They were enrolled in five classes in the Introduction to Educational Psychology course in the Hashemite University during academic year (2011/2012). This course is required for all majors at the university.

Instruments

Three sets of data were collected from students**:** responses to the epistemological beliefs questionnaire, responses to the learning approaches questionnaire, and responses to the academic self-efficacy scale. Students responded to the instruments during regular class hours under the supervision of the researcher. Students' final grades in an introduction to educational psychology course were used as measure for academic achievement.

Epistemological beliefs Questionnaire

To measure epistemological beliefs, the researcher utilized the Epistemological Beliefs Questionnaire (EBQ)(Appendix A) (Schommer, 1990). The EBQ is a 63-item, self-report, paper- and-pencil instrument designed to evaluate four dimensions of students' beliefs about learning by Five- point Likert-type response format with values ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument contains four dimensions: simple knowledge includes 28 items, describes knowledge as compartmentalized to highly integrated and interwoven. Fixed ability, consisting of 16 items, describes the ability to learn along a continuum that ranges from genetically predetermined to acquired through experience.

Quick learning had 13 items, indicates along a continuum, whether a student believes that learning is quick or takes a great deal of time. certainty knowledge, with 6 items ranges from "knowledge is absolute" to" knowledge is constantly evolving" and indicates whether a student tends to believe that knowledge is fixed. Higher scores on this instrument indicate more sophisticated epistemological beliefs, while lower scores indicate less sophisticated, more naïve epistemological beliefs.

The data from the questionnaire have a test-retest reliability of 0.74 and inter-item correlations of 0.63 to 0.85 within each belief factor (Duell & Schommer-Aikins, 2001). For the current study, cronbach's alpha reliabilities were calculated as 0.78, 0.74, 0.65, and 0.76 for the simple knowledge, fixed ability, quick learning, and, certainty knowledge, respectively. To ensure the applicability of this questionnaire to current study, exploratory factor analysis was carried out. The exploratory factor analysis using the principal - components method and varimax rotation, revealed the presence of four factors with eigenvalues greater than 1 and explained 51% of variance. These factors represent the following dimensions: (1) beliefs in quick, effortless learning (quick learning) ;(2) beliefs in simple knowledge (simple knowledge); (3) beliefs in certain knowledge (certain knowledge); (4): belief that the ability to learn is unchangeable (fixed ability). Inter-item reliabilities for items composing each factor, measured by means of cronbach's alpha were .59 for quick learning, .54 for simple knowledge, 0.56 for certain knowledge, and 0.51 for fixed ability. The structure largely resembles that obtained by (Schommer, 1990; Phillips, 2001).

Learning Approaches Questionnaire

Learning approaches were measured using the Biggs et al., (2000) Study Strategies Questionnaire (Appendix B).This questionnaire has two subscales with ten items in each. Participants responded on a five- point Likert – type scale, from 1(strongly disagree) to 5

(strongly agree).This instrument measured the students' approach to learning, and classified them as deep or surface. A deep approach entailed learning through analyzing, comparing, and contrasting and yield better comprehension, which contains the items :1,2,5,6,9,10,13,14,17,18. A surface approach incorporated more rote memorization strategies and tends to be associated with outcomes goals rather learning goals, which contains the items :3,4,7,8,11,12,15,16,19,20. The Biggs et al.,(2001) learning approaches questionnaire has been evaluated for internal consistency reliability and has acceptable Cronbach alpha values of 0.73 for deep approaches and 0.64 for surface approaches(Biggs etal.,2001). For the present study, cronbach's alpha coefficients for the whole questionnaire were 0.72, 0.70 for deep approach, and .73 for surface approach. Additionally, a confirmatory factor analysis indicated a good fit to the intended two-factor structure with both the deep and surface approach. In the current study, the subscales were subjected to exploratory factorial analysis. Exploratory factor analysis, using the principal – components method, followed by oblique rotation of the factor loading matrix, indicated the presence of two factors or components with eigenvalues greater than1, explained 76% of the variance. Deep approach subscale loaded on factor1 (deep), surface approach subscale loaded on factor 2(surface).

Academic self-Efficacy Scale

Academic self-efficacy scale (Green, Miller, Crowson, Duke, & Akey, 2004) was used to assess academic self-efficacy. Academic self-efficacy scale is 7-items likert –type rating scale, from 1(strongly disagree) to 4(strongly agree). Validity was established with factor analysis, path analysis, and regression (Green, et al., 2004). The reliability for the self-efficacy scale is 0.91 Cronbach alpha. In the current study, cronbach's alpha coefficients for the whole scale was 0.86.

Procedures

The questionnaires were administered collectively during classes. All students agreed to participate voluntarily, and no remuneration was provided. Students were also instructed to write down their student numbers for the purpose of collecting their overall performance marks. Participants were given around 50 minutes to answer the three questionnaires. They were also informed that there was no right or wrong answers. Participants were assured that their responses will be treated with confidentiality and will be solely used for the purpose of the study. Clarifications provided when needed. Debriefing also took place at the end, after all participants were finished answering the questionnaires. At the end of academic year, students' final grades in introduction to educational psychology course were noted, and used as a measure of academic performance.

Results

In order to answer the first question, zero–order correlations of the epistemological beliefs (fixed ability, quick learning, certain knowledge, and simple knowledge), learning approaches (deep, surface), academic self-efficacy, and academic achievement were computed and reported in table 1.

Table 1: Zero–order correlations of the epistemological beliefs, learning approaches, academic self-efficacy, and academic achievement.

Variable	Fixed ability	Certain knowledge	Simple knowledge	Quick learning	Deep approach	Surface approach	Academic self-efficacy	Academic achievement
Fixed ability		0.215*	0.230*	0.274*	0.22*	0.10	0.35*	0.36*
Certain knowledge			0.285*	0.12	0.105	0.24*	-0.29*	-0.31*
Simple knowledge				0.313*	0.315*	0.113	0.194*	0.264*
Quick learning					0.394*	0.09	0.341*	0.425*
Deep approach						0.21*	0.415*	0.504*
Surface approach							-0.305*	0.080
Academic self-efficacy								0.498*
Academic achievement								

*significant at $p \leq 0.05$

As shown in Table 1, fixed ability had significant positive correlations with certain knowledge (r=0.215), simple knowledge (r=0.230), quick learning (r=0.274), deep approach (r=0.22), academic self-efficacy (r=0.35) and academic achievement (r=0.36). Also, Fixed ability hadn't showed any significant correlations with surface approach (r=0.10).

Certain knowledge had significant positive correlations with surface approach (r=0.24). Also, certain knowledge had significant negative correlations with academic self-efficacy(r=-0.29) and academic achievement (r=-0.31).

Simple knowledge had significant positive correlations with deep approach (r=0.315), academic self-efficacy(r=0.19), and academic achievement(r=0.264).

Quick learning had significant positive correlations with deep approach (r=0.39), academic self-efficacy (r=0.341), and academic achievement (r=0.425).

Deep approach had significant positive correlations with academic self-efficacy (r=0.415), and academic achievement (r=0.504). Also, deep approach had negative significant correlation with surface approach (r=-0.21).

Surface approach had significant negative correlation with academic self-efficacy (r=-0.305), and didn't show any significant correlation with academic achievement(r=0.080). Finally, academic self - efficacy had strong correlation with academic achievement(r=0.498).

To examine the relative contribution of dimensions of epistemological beliefs to students' academic self-efficacy, learning approaches, and academic achievement. Three regression equations with students' academic self-efficacy, learning approaches, and academic achievement, were computed as outcomes measures. The four predictors were simultaneously entered into each regression equation.

Standardized regression coefficients for predicting students' academic self-efficacy beliefs, Learning approaches, and Academic achievement are shown in table 2.

Table 2: Standardized regression coefficients for simultaneous regression analysis predicting students' academic self-efficacy beliefs, learning approaches, and academic achievement.

Predictor	Academic self-efficacy beliefs	Learning approaches		Academic achievement
		Deep approach	Surface approach	
Fixed ability	0.15*	0.15*	0.07	0.19*
Certain knowledge	0.03	0.05	0.06	0.07
Simple knowledge	0.17*	0.16*	0.06	0.22*
Quick learning	0.18*	0.18*	0.07	0.19*
R^2	0.505*	0.43*	0.09	0.476*

Note:*p≤.05

As shown in table 2, the four predictors together explained a significant amount 50.5% of the variance in students' academic self-efficacy beliefs, F (4,277) =6.48,*p≤.05. Furthermore, the regression results revealed that the fixed ability (β=0.15, p≤.05), simple

knowledge (β=0.17, p≤.05), and quick learning (β=0.18, p≤.05) positively predicted academic self-efficacy, whereas certain knowledge didn't explain a significant portion of the variance in students' academic self-efficacy beliefs. This means we can predict students' self- efficacy from the level of sophistication in fixed ability, simple knowledge, and quick learning. For example, students with more sophisticated beliefs about fixed ability, Simple knowledge, and Quick learning tend to have strong self – efficacy.

Also, shown in Table 2, the four predictors together explained a significant amount 43% of the variance in deep approach, F (4,277) =7.12,:*p≤.05. Furthermore, the regression of the students' deep approach measure revealed that the Fixed ability (β=-0.15, p≤.05), simple knowledge (β=0.16, p≤.05), and quick learning (β=0.18, p≤.05) positively predicted deep approach. In addition, certain knowledge didn't explain a significant portion of the variance in students' deep approach.

In regard to surface approach, the four predictors together didn't explain a significant portion of the variance in surface approach.

In addition, as can be seen in table 4, the four predictors together explained a significant amount 0.476% of the variance in academic achievement, F (4, 277) =7.85,:*p≤.05. Furthermore, the regression of the students' academic achievement revealed that the Fixed ability (β=0.19, p≤.05), simple knowledge (β=0.22, p≤.05), quick learning (β=0.19, p≤.05), positively predicted academic achievement. In addition, certain knowledge didn't explain a significant portion of the variance in students' academic achievement.

Discussion and conclusions

Results indicated that students who believe knowledge is complex and organized as interrelated concepts, the ability to learn can be improved over time and learning occurs gradually tend to possess high self-efficacy and are more likely to be successful academically compared to those who believe knowledge is simple and organized as a series of isolated facts, and learning must take place quickly or cannot happen at all. Students appeared to believe that they have the necessary ability to learn and perform effectively in academic settings and tend to study for reasons of showing their abilities to others, as well as learning and understanding.

Also, the present study showed that a student who had a strong belief in the role of evidence and supported the idea that knowledge is absolute and unchangeable was less self-efficacious in their learning.

Moreover, students who believe that ability is changeable and can be improved by effort tend to have more adaptive motivational beliefs. These students appear to attribute their successes and failure to effort, which is under their own control. As proposed by self-determination theory (Deci, Vallerand, Pelletier,& Ryan,1991), students having a sense of control over their learning tend to be more intrinsically motivated. Supporting this preposition in their study with college students, Paulsen and Feldman (1999) reported a significant association between students' epistemological beliefs and their motivation to

learn. More specifically, Paulsen and Feldman found that students who had the naïve belief that knowledge is simple were less likely to (a) perceive an internal control over learning,(b) feel efficacious about their capacity to learn, and(c) appreciate the value of learning tasks. Moreover, in their later study, Paulsen and Feldman (2005) reported that learners with belief that ability to learn can change over time through effort and experience were more likely to (a) perceive an internal locus of control over their learning compared with learners having the belief that ability to learn is fixed,(b) fell confident about their ability to learn, and(c) appreciate the value of learning tasks. The result of the current study is consistent with previous study (Multon, Brown, and Lent, 1991) that revealed self-efficacy beliefs accounted for approximately 14% of the variance in academic performance.

The results indicated that the following dimensions of epistemological beliefs (simple knowledge, fixed ability, and quick learning) related to deep approaches. This means that students who believe knowledge is complex and organized as interrelated concepts, the ability to learn can be improved over time and learning occurs gradually tend to engage in deep processing approaches and to expend meaningful effort in their learning. In particular, students who are more sophisticated in their epistemological beliefs are more likely to orientate towards effort expenditure, persistence and engagement in deep approach. This evidence reflects the importance of mediating process of epistemological beliefs and suggests that epistemological beliefs affect cognitive processing such as the usage of deep approach to learning which, in-turn, contribute to the prediction of academic success. Students, who believe that the ability to learn can improve, are more likely to compare and contrast information than students who believe that ability is fixed. These students tend to search out information, compare and contrast information, and evaluate and organize concepts. Also, students who believe that the ability to learn can improve tend to process information in a more serial fashion. Students who believe that ability to learn as unchangeable were less likely to process information deeply, such as by comparing and contrasting information. More specifically, epistemological beliefs and learning approaches were not independent but generally consistent and logically interrelated constructs; this relationship might be due to the underlying cognition and metacognition shared by the two constructs.

In addition, deep processors tend to do a great deal of thinking and taking time to learn material, while surface processors may tend to see learning as a first time event and do not take extra time. Deep processing indicates that student's tendency to extrapolate beyond the specific information. These students tend to search out information, compare and contrast information, and evaluate and organize concepts.

In conclusion, results from the current study supported the view that epistemological beliefs exert a significant effect on academic achievement. This result is consistent with results reported by Schommer(1993), which suggests that students who believe that the ability to learn can be improved over time, learning occurs gradually, and knowledge is an organized structure and is not absolute or unambiguous, are those who achieve most academic success. This means that epistemological beliefs might affect the selection of

study strategies and employed by students, and that these strategies might in consequences influence academic achievement. This is consistent with (Rodriguez and Cano, 2006; Paulsen and Feldman, 2007; Phan, 2008) studies that found relationship between the sophistication level of epistemological beliefs and academic achievement.

On the other hand, this result may be explained in terms of the course (an introduction to educational psychology) that students are studying; this course is considered both a theoretical and a practical course. This means that most facts and concepts of this course are interrelated concepts and learning them take a great deal of time. In addition, methods of teaching of the course; such as, role playing, discussing, group work, workshops, and homework encourage deep processing of information. Therefore, students taking this course may be more sophisticated in their beliefs about fixed ability, simple knowledge, and quick learning.

Implications for practice

Understanding students' beliefs has become an important component of academic performance. The most important aspect of this relationship is the idea that epistemological beliefs may drive the type of information processor the student is and may subsequently impact how the student engages in an activity. When we plan for courses, it is necessary to take into account students' epistemological beliefs and learning approaches. We should work directly to try to enhance the depth of learning approaches, and the complexity of epistemological beliefs, as a way to improve academic achievement.

Finally, it is necessary for educators to help students to be aware of their epistemological beliefs.

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Opinion Page

SHOULD QUALITY BE PART OF LECTURERS' *TOOL-KIT* IN MALAYSIA?

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In the beginning…

In 1987 the then Malaysian Prime Minister Mahathir declared in front of excited foreign higher educators and higher education marketers that foreign universities were welcome to *sell their wares* in Malaysia and attract Malaysians to take up university studies in their respective countries. But he also delivered a cautionary note that within 20 years Malaysia would become the 'hub of higher education in the region'.

The foreigners were excited because henceforth they could drag home many Malaysian students paying lots of money to their quality-recognized universities. To be sure of course there have been lots of Asian students in UK's or Australian or New Zealand's or US' universities. But until that time most if not all of these students studying in their countries were supported by scholarships either from the universities themselves or from international agencies such as the Colombo Plan, Ford Foundation, Rhodes Scholar program and the like. Little if any of the proceeds benefited the universities financially. From about this time though, it was understood that university fees from overseas students would benefit individual universities directly as they could then charge what is termed "full fees".

However, what happened in those destination countries is not the subject of this paper. Here I would like to discuss some of the impacts of that policy on the local universities, both state's and private. The Malaysian state universities however have been enjoying a

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prestige that made them first choices of Malaysian high school graduates'. Due to the limited number of public universities in the country and available student places in them, private colleges and universities proliferated in Malaysia since about the middle of the 1980's. Using various mechanisms and agencies, the Malaysian government was able to *control* the quality of these private entities.

The question is what sort of control had this been and whether such control was actually effective?

How do we measure Quality…?

If the government was keen to realize its objective of making Malaysia a higher education hub in the region, then its private higher education institutions' (HEIs') quality should be measured by their *effective management, effective teaching, effective learning, effective value for money* and so on that ensures full satisfaction to their potential students and sponsors.

Governance with regards to business and business management is not the purview of the education side of private HEIs and its ethics is controlled by established laws and acts.

In the education side of all HEIs, public and private, the typical missions are made up of *teaching, learning, assessment, research and community service*. While they are supposed to and ideally be integrated, it is not uncommon that HEIs both in and outside Malaysia separate these missions into (*teaching, learning, assessment*) + (*research*) + (*community service*). Although the quality and standard of all these three major elements of 'education' need to fully satisfy the students' and sponsors' requirements, we will only look at the first group in this paper.

There are three distinct sub-elements within this major element. If we apply the so called *multiplicative* notion of quality, that is, the total quality of any product or service is the *product* of the quality of each of its elements, then we have here to consider the quality of teaching, the quality of learning and the quality of assessment, in order to establish the quality only of this mission of an HEI. In turn, the quality of education as defined earlier is then the product of the qualities of all the three missions mentioned above.

It is therefore not difficult to see that the overall quality of the HEI is significantly influenced by the number of elements involved and the quality levels of each of those elements. In the end the element with the lowest quality level will determine the overall quality of the whole.

Ensuring Quality of *Mission 1*

Mission 1 of teaching, learning and assessment is basic to education and have been lumped together because they all feed each other naturally. If separated, sub-optimization may occur to the detriment of the overall quality of the mission's.

We therefore need a measure for these three elements. *Effective Learning* appears to encapsulate the three elements. It is also appropriate because the end recipients of this mission are the students and the learning or lack of is experienced by them.

For various reasons, *rote learning* is predominant in Malaysian education generally. The main disadvantage of this is the fact that students particularly those who are interested only in gaining their results and qualifications, will simply memorize what they got from their lecturers just before the exams. Very little if any understanding of what they regurgitated in exams remained after their exams.

At one Malaysian private university an audit of exam questions found that 96% of the time the exam questions were testing memory and not testing understanding or knowledge, obvious evidence that the teaching and learning are by rote. While one logically expects this apparent match between teaching and learning would produce high students' success rates, the failure rates across all faculties in the same year the audit was carried out at the same university, averaged 40% which is double what the university tolerates according to its policies. It is clear evidence that rote learning is ineffective. One or more alternative learning styles are therefore required.

The Malaysian government through the Malaysian Qualifications Agency (MQA) advocated a move away from *rote learning* as early as 2006 in its Code of Practice for Programme Accreditation (COPPA) and its Code of Practice for Institutional Accreditation (COPIA) (MQA, 2008). Progress in this area appears to be muffled for various reasons not least of which is the fact that a lot of the MQA auditors themselves are products of the *rote learning* tradition. So who should and could lead the change?

As early as 1996 a Canadian study showed that the top two important items in quality criteria in higher education are **teaching staff**. *Teaching competence of staff* and *Teaching staff have effective communication* being equal firsts and *Teaching Staff up to date in subject matter* is second. While in University of Central England *the academic and professional understanding of the subject matter by teaching staff* topped the list, with *Approachable Teaching Staff*, *Enthusiasm of teaching staff* and *Reliability of teaching staff (do not cancel classes*) ranked equal thirds after the services of the Library in second (Harvey & Knight, 1996).

Interestingly, 16 years later in 2012, an analysis of a Customer Service Index (CSI) at a Malaysian private university found that *Teaching Staff* topped all other items for *Effective Learning* or lack of it. Typical elaborations given by respondents (students) include poor *communication skills*, poor *Teaching competence*, lack of *Enthusiasm*, Un*approachable*, and Un*reliable*. In 2013 the same university carried out an exercise with a small number of teaching staff from various faculties and the analysis showed that 91% of them independently articulated (using Ishikawa diagrams) that teaching staff are responsible for ineffective learning. Similar reasons to that observed by students in the CSI were advanced by the teaching staff.

Here are early findings of congruence between students and their lecturers in regards to reasons of ineffective learning. I contend that we should seriously explore this further.

Taken as a whole however, the five criticisms of lecturers in the CSI above are not dissimilar to those mentioned by Harvey and Knight (1996) sixteen years ago. Teaching staff in developed countries however, have moved on (*v. Innovate.info; TED.com; eschool.com*). These are also in the hands of teaching staff in Malaysia to redeem.

How should teaching staff improve themselves?

In a word, ***Quality***. Let us explore each of the five criticisms above:

a. Poor *communication skills*

Essentially this is euphemism for poor English language competence. Most if not all of private HEIs in Malaysia uses English as the language of instruction. This seems logical given the desire expressed over 25 years ago of Malaysia becoming a hub for higher education in the region. The region is punctuated by different languages and ethnic groups. A *common* language in this case English would facilitate matters. In addition as has transpired, Malaysia's international students also come from the Middle East, Africa and independent ex-Soviet states.

However, since the early 1970's when a national language based on the Malay language was introduced as the language of instruction in schools and public universities, Malaysians' competence in the English language waned. Thirty over years later the impacts are observable in Malaysia's teaching staff as a whole.

It appears that this fading competence is linked to poor reading habits generally. To be sure, in fact this challenge does not only exist in Malaysia. The Southwest Education Development Laboratories (SEDL) in Austin, Texas, declared that reading is subject to what they called 'the Matthew Effects'. That is:

> "*For unto everyone that hath shall be given, and he shall have abundance. But from him that hath not shall be taken away even that which he hath"*
>
> Matthew 25:29

as they showed that those who at Grade 3 are unable to read well will have a permanent shortfall in their reading skills while those who read well at that same level will only improve (Idrus, 2008). This conclusion is ominous to the teaching profession in Malaysia. On average current teachers and lecturers are the products of Malaysia's National Language era. Without diminishing the importance of a national language in other respects, the policy's impacts on English language are indelible.

In the same reference I reported on a survey in a couple of South East Asian countries of teaching staff and students on their reading habits. What I found was that both teaching staff and students have very poor reading habits. By and large it appears that students do a little bit more reading than their lecturers. The surveys were not limited to English books only.

As long as this is not rectified, the poor state of affairs regarding English and reading will continue.

b. Poor *teaching competence*

Given the poor reading habits, and that new knowledge is only gained by reading (whether from hardcopy or softcopy resources) it is no wonder that the lecturers' teaching competence is also poor. After all most if not all of them had not been through an *education* or pedagogy course or training. They are thrown at the deep end when they become lecturers, knowing something about their core subjects but little more.

Even in disciplines such as engineering, the percentage of engineering lecturers with industrial experience is significantly low in Malaysia. How could they teach effectively?

Underlying this is their own lack of determination and willingness to improve themselves. Continuous improvement is another characteristic of Quality.

c. Lack of *enthusiasm*

There normally is a reason for the loss of enthusiasm. In this case we could speculate that frustrations contribute to this in lecturers in Malaysia. Frustration because they are not instantly a good and loved lecturer by students. Frustration because they don't know how to improve themselves, since they don't read and thus don't gain any new knowledge about what they do. Frustration because their students are unable to fend for themselves and need a holding hand to learn the little bit that the lecturers teach them. Frustration because their English and their students' English are unable to create useful and intellectual communication. So, instead of fighting a losing battle, it is easier to be less enthusiastic and devote more time and effort to something else for personal benefits.

d. These lead to the other two characteristics quoted above namely Un*approachable* and Un*reliable*. Again to avoid frustrations it is logical to expect lecturers feeling better to be unavailable to students and to cancel their lectures than facing them.

The brief analysis above shows the gross lack of *Quality consciousness* in the teaching staff. Those who are aware of Quality will behave considerably differently towards their *customers*. After all, when we talk about Quality we are talking about the ability of the product or service providers to satisfy their customers.

If we talk about Quality we are talking about preparing, updating and spending our effort in self-improvement, self-efficacy and self-effectiveness. These need a lot of reading, a lot of improving in technology and a lot of self-analysis to define and then plug the generational gaps that teaching staff may have in relation to their more technology-savvy students (Idrus, 2011).

When we talk about Quality, especially in education and higher education, we are talking about helping our students helping themselves to learn how to learn because only in this way will we graduate useful people who are critical thinkers, creative, self-directing and able to top up their knowledge and skills in a world that is constantly changing.

Recommendations

- HEIs in Malaysia establish a policy and an implementation program on inducting all their teaching staff to an in-depth awareness of Quality in Higher Education then implement them
- The implementation program should include appropriate monitoring, reporting and a continuous quality improvement program
- The same to all their administrative staff
- Establish a Quality Audit Group, train Quality Auditors from among academics as well as from among the administrative staff
- Develop a Quality Audit Plan for all units, academic programs and courses
- Implement the Quality Audit Plan which should include appropriate monitoring, reporting and continuous quality improvement program
- In addressing Quality shortfalls, environmental scanning and research be instituted to explore the latest teaching and learning methods that had made learning effective
- Pilot programs be instigated to test the efficacy of the various new (at least to the HEI) teaching methods. Proper documentation be kept and disseminated as appropriate so that all academic units within the HEI may experiment with and implement the new methods.

Conclusion

While Malaysia had been fortunate in fulfilling its dream of becoming the hub for higher education in its geographical region, its continuing status is in jeopardy unless effective learning is achieved. Both students and lecturers in separate surveys point to teaching staff being a principal quality factor in achieving effective learning. Adopting Quality mindset by teaching staff in particular and implementing Quality practices is a highly potential solution to this serious challenge.

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INNOVATE – see http://www.innovate.info (Note: *This website contains the e-journal "Innovate" which publishes many articles on innovations in education and higher education in North America particularly on the so called network-generations or net-gens*)

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TED – see http://www.TED.com (Note: *This website is a repository of many video clips of speeches and lectures by experts in technology in education (TED). Notable among contributors in creativity and flipped learning are Sir Ken Robinson and Professor Eric Mazur respectively. You can also access their websites.*)