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Preface

In November, 2011, Faculty of Educational studies, Universiti Putra Malaysia, initiated a research retreat to encourage its academic staff to publish their recent research projects. The result was a total of 17 papers which were selected out of about 30 papers after being reviewed by two or three readers. These research papers covered a variety of areas in education, including foundations of education, physical education, language and humanities education, science and technical education, professional development and continuing education, counselor education, and counseling psychology. *Pertanika* JSSH accepted to publish these papers in a special issue, entitled 'Issues in Education'.

The issue would not have been completed if it had not been for the endless support of the reviewers who examined the papers for their quality, clarity and scientific soundness. We appreciate their invaluable time and critical comments. We also extend our gratitude to all *Pertanika* staff for their consistent and meticulous support.

We expect that the papers in 'Issues in Education' will provide a useful source for researchers, practitioners, and students in the related areas.

Ab. Rahim Bakar
Zaidatol Akmaliah Lope Pihie
Jayakaran Mukundan
Vahid Nimehchisalem

Guest Editors

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Selected Articles from the Research Retreat on 'Issues in Education'

SOCIAL SCIENCES & HUMANITIES

Demographic Analysis on Academic Staff's Job Satisfaction in Malaysian Research Universities

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ABSTRACT

Academic staff's performance plays a vital role in higher education institutions to enjoy high quality research and excellent teaching. It can be stated that academic staff's job satisfaction has influence on their quality of performance. Hence, the factors which may affect their level of job satisfaction is critical to higher education institutions. This research is an attempt to examine the differences in the job satisfaction among academic staff in terms of their demographic characteristics. The total population was 3430 academic staff working at three Malaysian Research Universities, whereby out of this number, 400 were surveyed, making up a response rate of 74.5%. Using Wood Faculty Job Satisfaction/ Dissatisfaction Scale, results are revealed in terms of intrinsic, extrinsic, and overall job satisfactions, whereby the academic staffs were found to be at the moderate satisfaction level. Gender, academic rank, and age were identified as the influencing factors for academic staff job satisfaction, while their level of education was not.

Keywords: Job satisfaction, Research University, demographic characteristics, Malaysia

INTRODUCTION

Establishing Research Universities (RUs) is the milestone of the Ministry of Higher

Education in Malaysia. In line with the country's vision, the vision of the government for higher education sector is to transform Malaysia into an international centre of higher education excellence by 2020 and beyond (Malaysia Ministry of Education, 2008; Malaysia National Higher Education Action Plan, 2007). In order to arrive at this destination, the Malaysian

Ministry of Higher Education selected four Malaysian public universities as Research Universities from 2006 onward. This indicates the outstanding position of higher education as a fundamental section that cultivates human resources in the country to meet developmental needs.

In relation to the pivotal role of the institutions of higher education in the development of the country, Mohd Najib (2006) stated that "the government has always considered higher education as one of the strong embodiments to the development of our nation towards a truly learned society". Therefore, in order to fulfil the expectations of the government and the society, the institutions of higher education must contribute in quality research, help to improve the knowledge industry, and be competent to fulfil human capital for confronting with the 21st century's demands (Musa, 2007).

The academic staff's performance plays a vital role in higher education institutions to enjoy high quality research and excellent teaching. It can be stated that academic staff's job satisfaction has influence on their quality of performance. Hence, the factors which may affect the level of job satisfaction is critical to higher education institutions. Accordingly, in their movement towards outstanding situation, Malaysian RUs are expected to consider academic staff's job satisfaction.

WHAT ARE THE GOVERNMENT'S EXPECTATIONS OF THE RESEARCH UNIVERSITIES?

In order to facilitate the forward movement of higher education sector, four Malaysian public universities, namely, Universiti Kebangsaan Malaysia, Universiti Malaya, Universiti Putra Malaysia, and Universiti Sains Malaysia, were chosen as Research University by the Ministry of Higher Education. They are responsible for obtaining the characteristics of world-class university and to be rated among 100 universities in the world. RUs must be the pioneer of quality research, enjoy excellent teaching and commercialize their research products so as to increase the institutions' revenue (Nik Mustapha, 2008).

Research Universities are an important connection between science, scholarship, and new knowledge economies (Altbach, 2009). Preparing professionals with creative capability, as well as enhancing progressive movement in science/technology and transmitting national culture are some of their main duties (Wang, 2001). Similarly, the missions of the Malaysian RUs are being as research intensive universities, improving human capital, empowering future talents, and contributing to socio-economic development through quality research and dissemination of knowledge. In this regard, RU administrators and academic staff are expected to make and increase tremendous strides to achieve the mission. As Nik Mustapha (2008) notes, they would pay more attention to three major areas of their responsibility, which are in

terms of "consultancy, research contracts, and training contracts" (p. 32). In addition, they should also have the ability to attain financial support on an acceptable and reliable level so as to assist their research.

Meanwhile, the qualification of the academic staff and turnover can be considered as two common concerns of higher education institutions around the world (Altbach, 2009; Wong & Heng, 2009; Reamah & Rosli, 2011). Besides the qualification of academic staff, the universities should try to keep their academic staff connected with the universities effectively. Research Universities, as public institutions of higher education, have also been involved with these concerns. In their article, Morris *et al*. (2004) refer to these concerns in the Malaysian institutions as the real fact which has been considered by the Malaysian government as the issues of concern. Reamah and Rosli (2011) refer to academicians' turnover as having an alarming rate in Malaysian institutions when they stated that there is "an acute shortage of qualified academicians and a high turnover of academic staff as well" (p. 16).

JOB SATISFACTION OF ACADEMIC STAFF

What can be stated about the importance of job satisfaction in RUs generally relies on the role of the academic staff's performance in universities. This is because the academic staff's performance has an essential role in facilitating the forward movement of universities. Nevertheless, academic staff are also knowledge workers (Arokiasamy *et al.*, 2011) who have to work harder in order to satisfy the progressively escalating universities' expectations (Eyupoglu & Saner, 2009; Bilge, 2006). Hence, a motivated and satisfied academic staff would be more effective in promoting futuristic movement of university. Job satisfaction is a prerequisite factor to the quality of academic staff's performance (Wood, 1976). In fact, it is the measure of individuals' attitude about their jobs (Dessler, 2004) that positively affects their performance, commitment, morale, and reduces their absenteeism, turnover, and attrition (Okpara *et al.*, 2005; Lambert *et al.*, 2005; Lambert & Paoline, 2008; Schroder, 2008; Fauziah & Kamaruzaman, 2009). Consequently, these outcomes lead to organizational effectiveness and goal achievement.

A common idea in research literature is that job satisfaction has influence on efficiency, productivity, and employee happiness, and it plays a role in reducing absenteeism, turnover, and psychological distress (Chen *et al.*, 2006; Koustelios, 2001; Oshagbemi, 1999; Wong & Heng, 2009). Therefore, job satisfaction of academic staff cannot be underestimated by universities. Higher education administrators are dependent on the information on job satisfaction of academicians in order to hire, keep, and reward academic staff (Okpara *et al.*, 2005). Notwithstanding, a review of the literature indicates that few research studies have been devoted to academic staff's job satisfaction in Malaysia (Wong & Heng, 2009; Santhapparja & Seyed, 2005).

Looking specifically at Malaysian RUs, it seems no research article has focused on academic staff's job satisfaction in these universities. Therefore, academic staff's job satisfaction needs to be addressed by investigators as a key research area (Kusku, 2003; Koustelios, 2001; Oshagbemi, 1999) in order to help authorities to achieve more success in obtaining organizational goal.

CONCEPTUAL FRAMEWORK

Herzberg's two factor theory was selected as the conceptual framework of this study. Herzberg (1960) developed the two-factor theory. The premise of Herzberg's theory is that satisfaction and dissatisfaction represent two separate dimensions rather than opposite ends of a single dimension. Herzberg believes that the resulting two factors, namely, hygiene (which is also called extrinsic), and motivation (which is also called intrinsic) have different effects on motivation (Francesco & Gold, 2005; Andrew *et al.*, 2002). He also believes that the causes of satisfaction and dissatisfaction are distinct (Hagedorn, 2000). Dissatisfaction is derived from hygiene or extrinsic factor such as working conditions, interpersonal relations, supervision, policy and administration, and salary (Kinicki & Kreitner, 2008; Scheroder, 2008). Satisfaction is extracted from motivator or intrinsic factors consist of the work itself, achievement, growth, responsibility, and recognition (Smerek & Peterson, 2006; Sachau, 2007). The two-factor theory has received numerous empirical supports and criticism from different studies (Smerek & Peterson, 2006; Sachau, 2007; Rollinson, 2005; Bassett-Jones & Lloyd, 2005).

In terms of demographic variables and their relations with job satisfaction, contradictory proof was also found (Scheroder, 2008). Although Herzberg believes that demographic variables do not have influence on job satisfaction (Herzberg, 1966), different studies have found that these variables are associated with job satisfaction

Independent Variables   Dependent Variable
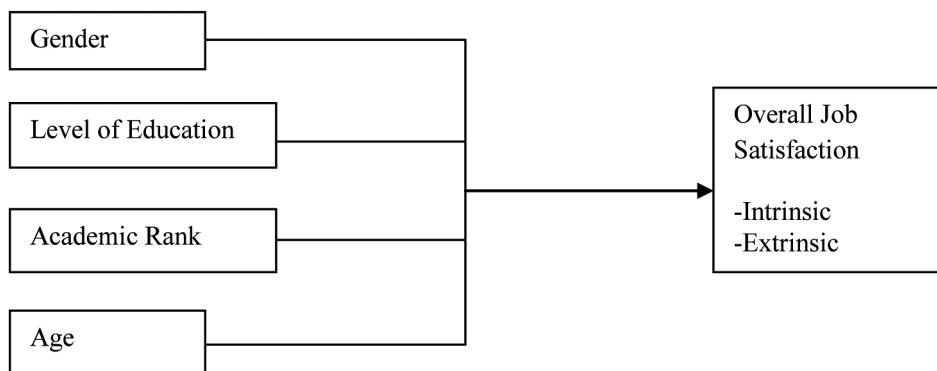
Fig.1 Conceptual Framework

(Hickson & Oshagbemi, 1999; Okpara, 2005; Oshagbemi, 2000, Oshagbemi & Hickson, 2003; Scheroder, 2008; Worrell *et al.*, 2006). In this study, job satisfaction is the dependent variable, while demographic characteristics are the independent variables (Fig.1).

REVIEW OF LITERATURE

In the recent years, there has been a raising tendency towards the study of job satisfaction in higher education (Eyupoglu & Saner, 2009; Kusku, 2003; Okpara *et al*, 2005; Oshagbemi & Hikson, 2003; Oshagbemi, 2000). The issues pertaining academic staff's job satisfaction and the effects of demographic characteristics on job satisfaction have been the subjects of research studies in Malaysia (see for instance, Santhapparja & Seyd, 2005; Wong & Heng, 2009; Fauziah & Kamaruzaman, 2009; Raemah & Rosli, 2011), as well as at international level (e.g. Oshagbemi, 2003; Brown, 2005; Okpara *et al*., 2005; Scheroder, 2008; Eyupoglu & Saner, 2009). However, the results are inconsistent both at Malaysia and international context. For instance, while in a study of two public and four private universities in Malaysia, Raemah and Rosli (2011) found that salary and universities' policy and administration were ranked by academic staff as two lowest area of their job satisfaction, Wong and Heng (2009) in their study of two Malaysian universities found salary and policy and administration as the most satisfying variables of Malaysian faculty members. Also, in a study at one of the

Malaysian public university, Fauziah and Kamaruzaman (2009) found a moderate level of general satisfaction among academic staff, in which age had a significant effect. They also indicated that there was no significant difference between the male and female academic staff in term of their level of job satisfaction.

Eyupoglu and Saner (2009) measured the level of job satisfaction at five North Cyprus universities. They revealed that the academics had a moderate level of overall job satisfaction and were more satisfied with the intrinsic facets of satisfaction rather than the extrinsic ones. They found that the academic staffs with doctorate degree and professorship were more satisfied than those with master degree and associates with other academic ranks.

Meanwhile, Okpara *et al.* (2005) investigated the effects of gender on job satisfaction among university teachers in US colleges. The results revealed that the male teachers were more satisfied with their supervision, salary and promotion as well as overall job satisfaction, while the female teachers were less satisfied with their salary. Instead, they were found to be more satisfied with their work and colleagues. In addition, academic rank was also shown to be another significant factor in explaining gender differences and job satisfaction. Oshagbemi (2003) studied job satisfaction among academic staff in United Kingdom and revealed that academic rank had positive and very strong correlation with the overall job satisfaction. The respondents were mainly satisfied with the co-workers' behaviour and

job, but they were dissatisfied with pay and promotional opportunities. Moreover, the researcher found that rank as a significant predictor of job satisfaction, while gender and age were not significant factors with respect to the overall job satisfaction.

Brown (2005) investigated job satisfaction among employees of Caribbean university. The results demonstrated that the employees were most satisfied with their responsibilities, achievements and relations, but were less satisfied with their salary, as well as policy and administration and working condition. Meanwhile, intrinsic, extrinsic, and overall job satisfaction were influenced by demographic variables such as gender, age, and educational level.

Scheroder (2008) studied the job satisfaction of employees at a Christian university in the United States. The results showed that the respondents demonstrated a moderate level of job satisfaction. The lowest levels of job satisfaction were found with salary and organizational policy and administration. Age and level of education significantly affected job satisfaction. Nonetheless, the researcher found no significant statistical differences in the overall, intrinsic, and extrinsic job satisfaction between male and female respondents.

What can be stated based on the review of literature is that although issues pertaining to the subject of job satisfaction have been extensively researched on, studies dealing with job satisfaction in higher education institutions and particularly in Research Universities have not been investigated much and it still needs to be addressed. This study aimed to investigate intrinsic, extrinsic and overall levels of academic staff's job satisfaction at Malaysian RUs, with respect to some academic staff's demographic characteristics. Accordingly, the following research questions were investigated:

1. What are the RUs academic staff's intrinsic, extrinsic and overall job satisfaction levels?

2. Are there any significant differences between the RUs academic staff's overall job satisfaction level based on their gender, level of education, age, and academic rank?

MATERIALS AND METHODS

Sample

The present study was conducted at three Malaysian RUs located in the Klang valley. The population comprised of 3430 academic staff. In order to determine the sample size, using G-Power statistical software (Faul *et al.*, 2007), power analysis was computed (effect size=.25, α=.05, power (1-β) =.95). Of 400 distributed questionnaires, 320 were returned and a total of 298 usable responses were achieved, with the response rate of 74.5%. The samples drawn from each faculty of three RUs were calculated based on the stratified proportional random sampling. This selection was based on the number of academic staff in each faculty and the proportion allocated to the faculties.

Instrument

In order to carry out the study, Wood Faculty Job Satisfaction/ Dissatisfaction Scale (Wood, 1973, 1976) was utilized. This instrument was designed based on Herzberg's two-factor theory to measure the academic staff's job satisfaction. It consists of ten constructs, namely, achievement, growth, responsibility, recognition and the work itself so as to measure intrinsic satisfaction. Interpersonal relations, policy and administration, supervision, salary and working condition are constructs that were used to measure extrinsic satisfaction. The questionnaire includes 73 items covering both intrinsic and extrinsic constructs. The questionnaire scale is based on the five-point Likert scale ranging from 1 (very dissatisfied) to 5 (very satisfied). The average of the intrinsic and extrinsic satisfaction level was calculated to determine

the overall job satisfaction. Meanwhile, the demographic section comprised of gender, level of education, academic rank, and age. This questionnaire has been utilized in a large variety of academic research with high Cronbach's coefficient values. It has acceptable content and construct validity (Wood, 1976; Bowen & Radhakrishna, 1991; Castillo & Cano, 2004; Malik, 2011).

In order to examine the validity of the research instrument, a panel of experts was appointed. They were asked to check the contents of the questionnaire and item relevancy to construct, and whether the items in terms of its linguistic understandability are explicable for academic staff. Having had the comments from the experts, some modifications were made to the questionnaire. The modifications were made based on the academic staff's duties in Research Universities. The questionnaire

TABLE 1
Reliability coefficient and Frequency Distribution of Intrinsic, Extrinsic and Overall Job Satisfaction

Variables	Cronbach's Alpha	Mean	SD	Interpretation
Intrinsic Satisfaction	.93	3.65	.43	Moderate
Achievement	.80	3.60	.48	Moderate
Growth	.86	3.73	.55	High
Recognition	.88	3.52	.65	Moderate
Responsibility	.83	3.49	.57	Moderate
The Work Itself	.82	3.91	.50	High
Extrinsic Satisfaction	.96	3.47	.52	Moderate
Interpersonal Relations	.85	3.82	.54	High
Policy and Administration	.90	3.32	.62	Moderate
Salary	.93	3.12	.83	Moderate
Supervision	.94	3.52	.68	Moderate
Working Conditions	.87	3.58	.63	Moderate
Overall Satisfaction	.97	3.56	.45	Moderate

Note: (1-2.33) = Low, (2.34-3.67) = Moderate, (3.68-5) = High

was modified by adding five new items. For example, 'opportunity for research' was added to the items of 'growth' as one of the constructs of intrinsic satisfaction. With the help of the experts, the researcher prepared the final questionnaire for pilot study based on the suggested modifications. Prior to embarking on the collection of data, the modified questionnaire was piloted. Later, the questionnaire which was revised by the experts, distributed among selected academic staff that had all the characteristics of the actual respondents in the pilot phase. In order to test the internal consistency of the questionnaire, Cronbach's alpha was calculated which ranged from .80 to .97 (see Table 1). The findings of the pilot study demonstrated that the questionnaire was reliable.

Statistical analysis

Descriptive statistics was used to categorize the data and to calculate the level of job satisfaction. Based on the minimum and maximum scores of intrinsic, extrinsic and overall job satisfaction, a possible score for each construct was calculated and categorized as low, moderate, and high level of satisfaction. In order to examine the differences among the academic staff's overall job satisfaction based on their gender, level of education, academic rank, and age, the independent sample *t*-test and one-way AVOVA were computed. Meanwhile, Tukey and Dunnett C, as Post-hoc tests, were executed to check for the pair-wise differences amongst the mean scores in the overall job satisfaction.

RESULTS AND DISCUSSION

Demographic characteristics

The majority of the respondents were male (57%), and 43% others were female. In terms of their level of education, 70.8% of them hold a doctorate degree, while 29.2% hold a master degree. As for the participants' academic rank, 20.5% were lecturers, 44.6% senior lecturers, 22.8% associate professors and 12.1% professors. On the subject of age category, the results revealed that the age of the lecturers ranged from 28 to 63 years with a mean of 43.85 year and a standard deviation of 8.73. The findings depicted that the majority of lecturers (42.3%) are in the age category between 36-45 years old, 24.5% in the age category of 46 and 55 years old, followed by 18.5 % who are in the age category below 35 years, and 14.1% that are in the age category of more than 56 years old. The results of this study are in line with those of Boyer et al. (1994) and Ssesanga and Garrett (2005), who found that the majority of lecturers in their studies were middle-aged and male.

Levels of intrinsic, extrinsic, and overall job satisfaction

The overall findings indicated that respondents' levels of intrinsic (M=3.65), extrinsic (M=3.47), and overall job satisfaction (M=3.56) received moderate mean scores (Table 1). Further, the results revealed that despite having some constructs with high mean scores, such as 'the work itself' and 'growth' for intrinsic satisfaction and 'interpersonal relations' for extrinsic satisfaction, in general the Malaysian RUs'

job satisfaction received moderate mean scores. Salary (M=3.12) was the construct that received the lowest mean scores at a moderate level (see Table 1). The possible explanation for this phenomenon is the RUs academic staff are under more pressure as compared to lecturers in other public universities to meet expected criteria of Research Universities such as high standard teaching, quality research and commercialize research products. They are expected to conduct high quality research (Altbach, 2009), participate in research contracts with business sector actively, and publish their research findings (Wang, 2001). However, the salary of the RUs' academic staff is similar to that of the lecturers at other public universities, so they perceive it as segregation and an inequality and are not highly satisfied with their salary. As stated by Chen *et al.* (2006), salary is an important issue for higher education employees. The findings of this study supported the existing literature (Curry, 2007; Raemah & Rosli, 2011; Scheroder, 2008; Ssesanga & Garrett, 2005; Worrell *et al.*, 2006) regarding constructs of intrinsic and extrinsic job satisfaction.

In terms of intrinsic and extrinsic satisfaction, the findings of this study are consistent with the findings of Boeve (2007), Brown and Sargeant, (2007), Grosso (2008), and Schroder (2008) who reported that academic staff were more intrinsically satisfied than extrinsically. As for the overall job satisfaction, the findings of this study support those of Fauziah and Kamaruzaman's (2009), Eyupoglu and Saner's (2009), Platsidou and Diamantopoulou's (2009), and Schroder's (2008) who have revealed that academic staff enjoyed moderate level of job satisfaction. Nevertheless, the finding of the study is not consistent with that of Egbule (2003), who has found that the lecturers of Nigerian universities have generally high level of job satisfaction.

Job satisfaction based on gender

The results of the independent sample *t*-test for the mean comparison are presented in Table 2. It revealed that male academic staff in terms of the overall job satisfaction are significantly more satisfied than their female counterparts ($p<0.05$).

TABLE 2
Gender and Level of Education Differences with Overall Job Satisfaction

Group	n=298	Mean	SD	*t*	Sig-*t*(2-tailed)
Gender					
Male	170	3.63	.47	3.48	.001
Female	128	3.46	.40		
Level of Education					
Doctorate	211	3.59	.47	1.76	.079
Master	86	3.49	.38		

*the mean difference is significant at 0.05 level

The results demonstrated that male academic staff are more satisfied than their female counterparts. It may imply that in the Malaysian RUs male academic staff have better opportunities to be recognized by the administrators, achieve personal goals, promote their academic rank, get managerial post and participate in the process of decision making. In addition, the female academic staff are confronting with two different demands, which are family and institutions demands (Okpara *et al.*, 2005). This imposes bilateral pressure on female academic staff; therefore, they showed a low profile of satisfaction as compared to their male counterparts. Consequently, gender is an important factor in the job satisfaction among academic staff.

The findings support Seifert and Umbach (2008), who have found that female academic are less satisfied compared their male peers. These findings are also in line with the findings by Okpara *et al.* (2005) as well as Halpin and Johnston (2004). Among other, Okpara *et al.* (2005) indicated that in American colleges and universities, male teachers are more satisfied in terms of overall job satisfaction compared with the female teachers. Halpin and Johnston (2004) found that in Britain's universities, female academics are less satisfied with their salary as compared to the male academics.

This finding contradicts with Brown and Sargeant (2007), Santhapparaja and Syed's (2005), Platsidou and Diamantopoulou's (2009), Fauziah and Kamaruzaman's (2009), Oshagbemi's (2000), and Scheroder's (2008) results. For instance, Santhapparaja and Syed (2005) showed that female lecturers are more satisfied compared with their male counterparts. Platsidou and Diamantopoulou (2009) also found that gender does not have any effect on the job satisfaction of Greek academic staff. In addition, Fauziah and Kamaruzaman (2009) reported no significant differences between the male and female academic staff in terms of their general satisfaction. Similarly, Oshagbemi (2000) realized that gender does not directly affect the job satisfaction of the United Kingdom university academic staff. Also, Brown and Sargeant (2007) and Sheroder (2008) observed that there is no any significant difference between male and female faculty members in terms of their job satisfaction.

Job satisfaction based on level of education

The findings of the independent sample *t*-test depicted that in terms of overall job satisfaction there is no significant difference between academic staff (see Table 2). It may imply that an equal working content as well as context exists for academic staff with master and doctorate degrees in the RUs.

This finding revealed academic staff with doctorate and master degrees in terms of achieving educational goals, having professional authority, enjoying appropriate opportunities to promote their academic rank, being recognized by their head of department as well as their co-workers, and boasting about their work, enjoy a similar satisfaction level. In addition, it might also mean that RUs academic staff generally

enjoys fair working situation, interpersonal relations, and benefits, so that the level of job satisfaction among the academic staff with doctorate or master degree is more or less similar. This finding is contrary with Brown and Sargeant (2007), who found employees with a doctorate degree are more satisfied in their overall job satisfaction than employees with a master degree. The findings of study on the subject of the overall satisfaction is in contrast with Eyupoglu and Saner's findings (2009), who found that academic staff with a doctorate degree are more satisfied as compared to academic staff with a master degree.

Job satisfaction based on academic rank

In the analysis of significant mean score differences among academic staff's overall satisfaction based on their academic rank, the results of ANOVA (see Table 3) revealed that there were significant differences among the academic staff in all different academic ranks (p<0.05). The results of post-hoc test revealed that the significant mean score differences existed between professors and all other academic ranks (Table 4). This demonstrates that the professors were more satisfied in terms of overall satisfaction

compared to their counterparts in the other academic ranks. This satisfaction may derive from their excellent positions in higher education institutions. Moreover, the results also depicted that associate professors were less satisfied compared to their colleagues, but significant differences only existed between associate professors and professors.

The findings of the current study are similar to those findings of Oshagbemi (2003) and Eyupoglu and Saner (2009). Oshagbemi (2003) reported that academic rank is a significant predictor of academic staff's overall job satisfaction. The researcher exhibited that professors were more satisfied as compared to other academic ranks. Eyupoglu and Saner (2009) realized that the academic staff with professorial rank was more satisfied compared to other academic ranks. In addition, the findings of this study are consistent with results of Eyupoglu and Saner (2009) in relation to the academic staff with Associate Professor academic rank. In more specific, they discovered that associate professors were less satisfied as compared to professors, assistant professors and lecturers with doctorate degrees. The possible explanation for this finding can be as

TABLE 3
One-Way Analysis of Variance among Academic Staff's Rank and Overall Job Satisfaction

Variables	Academic Rank	n=298	Mean	SD	*F*	Sig-*F*
Overall Satisfaction	Professor	36	3.85	.41	6.01	.000
	Associate Professor	68	3.50	.51		
	Senior Lecturer	133	3.52	.43		
	Lecturer	61	3.54	.35		

*the mean difference is significant at 0.05 level

TABLE 4
Post-hoc Dunnett C of Academic Staff's Rank and Overall Job Satisfaction

Variables	Academic Rank		Mean difference	95% Confidence interval	
				Lower Bound	Upper Bound
Overall Satisfaction	Professor	Associate Professor	.34922*	.1015	.5969
		Senior Lecturer	.32854*	.1172	.5399
		Lecturer	.30498*	.0823	.5276
	Associate Professor	Professor	-.34922*	-.5969	-.1015
		Senior Lecturer	-.02068	-.2114	.1700
	Lecturer		-.04717	-.2473	.1588
	Senior Lecturer	Professor	-.32854*	-.5399	-.1172
		Associate Professor	.02068	-.1700	.2114
		Lecturer	-.02356	-.1803	.1332
	Lecturer	Professor	-.30489*	-.5276	-.0823
		Associate Professor	.04424	-.1588	.2473
		Senior Lecturer	.02356	-.1332	.1803

follows: associate professors have to have quality research, adequate journal articles and publications, and high standard teaching in order to promote their academic rank. Similarly, there are augmenting expectations from the university for them to improve the number of research and publication and commercialized academic products; therefore, they are under increasing pressure and stress, which in turn affect their level of job satisfaction.

Job satisfaction based on age

In the analysis of significant mean differences among academic staff's overall satisfaction based on their age, the results of ANOVA (Table 5) revealed that there were significant differences among the academic staff in all different age category ($p<0.05$). The results of post-hoc test depicted that academic staff with age equal to or more than 56 were more satisfied than those in the other age categories. The significant mean score differences existed between the academic staff with age equal to or more than 56 and age category of equal to or less than 35, and between academic staff with age equal to or more than 56 and age category of 36-35 years (Table 6).

This finding implies that age is an influencing factor for academic job satisfaction, i.e., an increase in academic staff's age results in improving in job satisfaction. It may denote that aged lecturers enjoy high levels of overall job satisfaction more than the younger lecturers

TABLE 5
One Way Analysis of Variance among Academic Staff's Age and Overall Job Satisfaction

Variables	Age Category	n=296	Mean	SD	F	Sig -F
Overall Satisfaction	≤ 35	55	3.54	.38	4.32	.005
	36-45	126	3.49	.43		
	46-55	73	3.57	.52		
	≥ 56	42	3.77	.38		

*the mean difference is significant at 0.05 level

TABLE 6
Post-hoc Tukey test of Academic Staff's Age Category and Overall Job Satisfaction

Variables	Age Category		Mean difference	sig at p<.05
Overall Satisfaction	≤ 35	36-45	.04381	.93
		46-55	-.03493	.97
		≤ 56	-.23616*	.04
	36-45	≥ 35	-.04381	.93
		46-55	-.07874	.62
		≤ 56	-.27997*	.002
	46-55	≥ 35	.03439	.97
		36-45	.07874	.62
		≤ 56	-.20123	.08
	≥ 56	≥ 35	.23616*	.04
		36-45	.27997*	.002
		46-55	.20123	.08

because of their position and experience. It may also mean that the threshold level of overall job satisfaction for older lecturers is less than that of the younger ones. The other explanation is that the older academic staff tends to adjust their work values to the conditions of the work place after staying in their jobs for a long time, which results in greater job satisfaction (Oshagbemei, 2003; Mottaz, 1987).

The findings of this study supported Scheroder's (2008) findings, who reported that employees aged above 50 years old were more satisfied compared to others.

Thus, the result of this study is in line with those of Hagedorn (2000), Tu *et al.* (2005) and Fauziah and Kamaruzaman (2009) who reported that older academic staff were more satisfied than their younger counterparts.

RECOMMENDATIONS

Recommendations Related to Intrinsic and Extrinsic Satisfaction

Based on the findings, the following recommendations related to academic staff's intrinsic and extrinsic satisfaction are suggested.

1. It is recommended that RUs' administrators pay attention to academic staff's suggestions and comments. This will make them more interested to participate in departmental activities by enhancing their satisfaction to fulfil the 'achievement' requirements.

2. Since in-service education is an important facility which institutions provide to increase their academic staff's quality of performance, it is highly suggested that RUs' administrators check and evaluate faculty in service education. In addition, providing more opportunity to attend local and international conferences, allocating research grants, and having opportunity to participate in faculty exchange programmes are the strategies recommended for RU policy makers to pay particular attention to. This is to ensure that academic staff's 'growth' is fulfilled.

3. Recognition is a significant factor that affects on the success of academic staff to materialize their personal and organizational goals, and therefore, RUs administrators should consider their valuable ideas and seek ways to publicize their activities to meet the requirements of 'recognition'. In order to achieve this, the reward system should be evaluated by the RU policy makers in order to publicize the lecturers' quality performance.

4. Autonomy and sufficient responsibility to do professional tasks is crucial for academic staff in institutions of higher education. It seems necessary that responsibility satisfaction be considered by RUs administrators from a new point of view. Providing appropriate authority for academics in order to perform their duties, accompanied with autonomy and delegating professional responsibilities to departments and committees, can be considered as two strategies for enhancing academic staff's encouragement and increasing level of intrinsic satisfaction.

5. Based on the findings of this study, 'salary' was the least satisfying variable of the academic staff's extrinsic satisfaction. For employees of higher education, salary is one of the important issues of concentration because it may affect academic staff's quality of performance. Hence, Malaysian higher education policy makers should consider increasing the amount of salary as well as revise the method of determining academicians' salary at Malaysian RUs.

6. Policy and administration is another extrinsic construct that has received a moderately low mean score. In order to increase level of academic staff's satisfaction with policy and administration, it is recommended that heads of departments inform academic staff about the issues which affect them as well as the organizational rules and regulations effectively. One issue emerging from the study's results can be that the procedure of selecting heads of departments is relatively unsatisfying

for academic staff. Therefore, RUs top administrators are highly recommended to revise the criteria of this selection and formulate new obvious criteria for the issue.

7. Supervision, as another construct of extrinsic satisfaction, was at a moderate level. Supervision could affect work, co-workers' relations and opportunities for growth (Boeve, 2007). Therefore, it is crucial for the RU administrators to consider this construct of extrinsic satisfaction because of its great effects on other constructs of job satisfaction. Concentrating on some aspects of supervision such as being innovative and paying more attention to innovation abilities of academic staff by heads of departments, delegate appropriate authority and balance between duties and authority, and increase quality of guidance given by heads of departments can be considered as important strategies which can increase academic staff's extrinsic and overall job satisfaction.

8. As high technology office and educational facilities influence academic staff general and educational performance, it is therefore recommended that RU administrators supply appropriate equipment for academic staff offices and educational settings to improve working condition.

9. Organizational climate has positive effects on employees' behaviours. Relying on interpersonal relations, RU administrators could promote friendly organizational climate inside and outside of departments, which will in turn have positive influence on the academic staff's job satisfaction and organizational effectiveness.

Recommendations Based on Academic Staff's Demographic Characteristics

1. This study indicated that female academicians were less satisfied as compared to male. The results of the item analysis showed that for some different constructs of intrinsic and extrinsic satisfaction female received lowest mean scores. Females are a noticeable percentage of academic staff at universities and play fundamental roles in teaching, research, managing universities and obtaining universities' goals. Hence, considering their needs and requests, paying attention on their ideas and recommendations, recognizing their quality performance, providing appropriate opportunities for them to promote their academic rank, and delegating sufficient amount of authority would be considered as strategies to increase their job satisfaction level.

2. Based on the results, professors were more satisfied, while associate professors were less satisfied as compared to the respondents of other academic ranks. The results of the item analysis indicated that for some constructs of job satisfaction, lecturers, senior lecturers, and particularly associate professors received lowest mean scores. Thus,

paying close attention to academic rank promotion would be beneficial for the RUs. In addition, improving facilities and situations which help lecturers to promote their academic rank is helpful. This may include enhancing financial support, offering sabbaticals, providing opportunity to attend in international conferences, financial support for publishing articles and books, presenting incentives, and so on. With reference to associate professors' job satisfaction, it is suggested that RU administrators seek to find its reasons and do their best to increase associate professors' job satisfaction because they are in the middle of the journey to complete their forward movement to improve their academic rank. In addition to facilities mentioned above for academic staff's promotion, reducing associate professors' number of courses, recognizing their innovation as well as activities at department level, and delegating them appropriate authority by heads of departments can be strategies for increasing their job satisfaction.

3. The findings showed that academic staff aged 56 years and above were more satisfied than their counterparts. Based on the results of the item analysis, it is recommended that the heads of departments pay more attention to academic staffs' comments, offer in-service education based on their needs, recognize their activities, delegate them appropriate level of authority,

and finally improve the quality of their office facilities. Since academic staff aged above 56 year old are retirees, most of administrators' considerations should therefore focus on middle-age academic staff as well as younger ones to increase their job satisfaction.

CONCLUSION

This study has shown that RUs' academic staff in Malaysia have moderate levels of intrinsic, extrinsic and overall job satisfaction. Malaysian RUs were designed to obtain the characteristics of world-class universities. Satisfied academic staff have pivotal role to achieve these characteristics. Since establishment of RUs in Malaysia is still a new phenomenon and these institutions are relatively at the start of their journey, having a basis to periodically evaluate academic staff's job satisfaction is therefore a critical need. This study has also provided a basis for comparison. Future studies can evaluate academic staff's job satisfaction and compare their results with the findings of this study. Academicians' job satisfaction is in fact an important factor influencing the productivity and effectiveness of universities. Although a moderate level of academic staff's job satisfaction may seem acceptable, this is still not enough. Since the RUs have been selected to be forefront of Malaysian higher education institutions in obtaining the characteristics of world-class universities, their administrators and particularly the heads of departments should pay more consideration on the issue of academic

staff's job satisfaction so as to enhance the level of this vital organizational variable.

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The Level of Organizational Commitment among Lecturers in Technical and Vocational Colleges in Iran

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ABSTRACT

The main purpose of this study was to determine the level of organizational commitment among 295 lecturers of Technical and Vocational Colleges in four provinces of Fars, Khuzestan, Boushehr, and Kohgilouyeh and Boyerahmad in Iran. A survey-based descriptive research design was employed. Data were analyzed using a descriptive analysis. In addition, ANOVA was utilized to determine lecturers' commitment based on demographics. Lecturers' commitment as the core workforce of higher education institutions is important. Educational leaders, policy makers and academic administrators should take the necessary measures to make them highly committed. The findings revealed that the perception level of respondents was rated from low, moderate to high. Meanwhile, significant differences were observed in the respondents' commitment by their education level, monthly income and age. The relevant literature shows little studies pertaining to university lecturers' commitment of higher learning institutions in Iran. Thus, the current study has contributions to improving the understanding of organizational commitment issue.

Keywords: Lecturers, organizational commitment, technical and vocational colleges, Iran

INTRODUCTION

A critical issue which has received much attention over the past four decades in both management literature and research is organizational commitment. It is one of the most encouraging issues for both practitioners and academicians locally

and globally because of its practical and theoretical application, regardless of the kind of organization (Martın, 2007; Meyer & Allen, 1997; Winter & Jackson, 2006). It is also a key variable that closely attaches the employee to the educational institutions in such a way that the deeper the organizational commitment is, the longer the employee will continue to stay with the organization (Bhatnagar, 2007; Martın, 2007; Mosadeghrad, Ferlie, & Rosenberg, 2008).

In addition, the findings show that organizational commitment has many benefits, and the most important of all are decreased turnover, higher motivation, higher organization citizenship behaviour and organizational support (Bhatnagar, 2007; Kwon & Banks, 2004). Researchers have explored it as a dependent variable for antecedents such as age, tenure, education, and as a predictive indicator in organizational behaviour and organizational outcomes including job satisfaction, work motivation, turnover, intention to leave, absenteeism, and performance (Bhatnagar, 2007; Meyer, Becker, & Vandenberghe, 2004). Managers could benefit from understanding the committed manpower because they can adapt and create an appropriate learning situation in order to improve the level of organizational commitment (Bhatnagar, 2007; Dirani, 2009; Joolideh & Yeshodhara, 2008; Krishna, 2008; Lim & Morris, 2006; Ng, Butts, Vandenberg, DeJoy, & Wilson, 2006; Yousef, 2000).

In educational institutions, lecturers have critical roles. They are responsible to provide students with new knowledge, professional consultations, deliver lecturers, and help students to become successful in their studies. In addition, they are expected to help managers, administrators and educational leaders in decision making process in relation to visions, missions and objectives of the education system, to do academic research and to train students as tomorrow's leaders. They are also responsible to learn new knowledge, technology and techniques in their field so that they can provide the society with their new findings and publications (Awang, Ahmad, & Zin, 2010; Joolideh & Yeshodhara, 2008; Malik, Nawab, Naeem, & Danish, 2010).

On the importance of lecturers' commitment, Awang *et al*. (2010) also stated that:

> "Lecturing is one of the professions that need high commitment; the work-load is heavy, the role is wide and the lecturers are directly responsible in educating and shaping the students. Without commitment, some may even leave the profession. Others who do not quit, but no longer feel committed to their job would probably avoid in their daily duties. These definitely make other bad effects, especially to the students" (p. 48).

Despite the importance of lecturers' organizational commitment, the studies which have been performed in this regard

are still few (Awang, et al., 2010). Chughtai and Zafar (2006) and Malik *et al.* (2010) stated that a few research on organizational commitment could be found within educational settings. Thus, in order to be certain that lecturers can conduct their duties well, educational leaders and administrators require knowing factors which have contributions in organizational commitment building in educational systems.

TECHNICAL AND VOCATIONAL COLLEGES

The social, political and economic environment of Iran is fundamentally different from that of the past three decades. This difference has become more important over the past ten years with the main reforms occurring in the educational sectors (Mehralizadeh, 2005; Veisi, 2010). In particular, Technical and Vocational Colleges (TVCs), as the context of this study, have experienced tremendous changes over the past ten years. They had been supervised, supported and managed by the Ministry of Education. However, their key roles in providing technical and vocational human resources for both governmental and private sectors have improved their official position to be upgraded. Based on the last decision in relation to these colleges, they were transformed to be supervised by the Ministry of Sciences, Research and Technology. These organizational changes have positive effects on the lecturers who teach, research and guide students in these colleges (Sadri & Zahedi, 2009).

In addition, lecturers as the pivot of educational institutions have significant role in developing TVCs. The quality, capability and competency of academic members are fundamental to the system, as they guarantee the success of the educational system and act as an important force in the development of the society. Thus, to be insured that the lecturers in these colleges are able to conduct their tasks successfully, the administrators as well as the management need to know and understand the factors affecting their commitment. Hence, this study addressed the scarcity of research on lecturers' perceptions relevant to the organizational commitment in TVCs in Iran.

ORGANIZATIONAL COMMITMENT

Organizational commitment has been broadly researched as a significant factor in employees' retention, productivity, motivation and organizational efficiency and effectiveness (Atak & Erturgut, 2010; Beck & Wilson, 2000; Dirani, 2009; Krishna, 2008; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Also, the degree of organizational commitment of employees has different implications for employees and the organization (Mowday, Porter, & Steers, 1992). In educational settings, organizational commitment has been the focus of attention in the last decades. However, only a few studies explored organizational commitment in academic institutions in the past (Chughtai & Zafar, 2006). Meanwhile, various definitions of organizational commitment can be found in the management of literature. For instance, Meyer *et al.* (2002) define organizational commitment as a psychological link between

the employees and their organization that makes employees stay in the organization more. Malik, *et al.* (2010) refer to organizational commitment as employees' emotional attachment to, identification with, and involvement in the organization. Introducing a three-component model to show different employee linkages to the organization, Allen and Meyer (1990, 1996) stated that affective commitment refers to an employee's psychological attachment to, identification with, and involvement in an organization by acceptance of organization goals and values in order to remain with the organization. Employees who have a strong affective commitment will stay in the organization because they "want to". In other words, continuance commitment shows the tendency to continue working for the organization. Those who have a strong continuance commitment stay because they "need to". Normative commitment refers to the employees' obligation feeling to stay in the organization. Employees think that organization has supported them in needy times, and thus, they are obliged to stay with the organization by virtue of their belief that it is morally not right to leave the organization. The ones who have a strong normative commitment stay because they feel they "ought to" (Bhatnagar, 2007; Meyer & Parfyonova, 2010; Mosadeghrad *et al.*, 2008; Salami, 2008). Thus, organizational commitment is an inner psychological feeling and force which oblige employees to continue staying in an organization.

Researchers have studied organizational commitment as a dependent variable for antecedents, such as age, tenure, education, and as a predictive indicator in organizational behaviour and organizational outcome such as job satisfaction, work motivation, turnover, intention to leave, absenteeism, and performance (Allen & Meyer, 1996; Bakalis & Jonier, 2006; Bhatnagar, 2007; Chughtai & Zafar, 2006; Joiner & Bakalis, 2006; Meyer, Allen, & Smith, 1993). Mowday *et al.* (1992) and Bakalis and Jonier (2006) stated that the following factors affect organizational commitment:

- Personal characteristics
- Work experience
- Job characteristics, and
- Structural characteristics.

Meanwhile, Giffords (2009) states that in order to promote, systematize, and facilitate organizations' functioning in achieving their goals, mission, and objectives, factors such as demographics should be noticed by the managers of the organizations. Similarly, Tseng (2010) also stated that demographic characteristics could affect organizational commitment. The demographic variables may have effects on organizational commitment and therefore they should be controlled for (Chughtai & Zafar, 2006; Ng *et al.*, 2006).

However, there are contradictory opinions about the relationship between organizational commitment and demographic characteristics (Bakan, Büyükbeşe, & Erşahan, 2011; Salami, 2008). In addition, there is research that shows the levels and also effects of demographics on lecturers' commitment in organizational commitment

literature (Chughtai & Zafar, 2006; Joolideh & Yeshodhara, 2008), especifically in Iran.

RESEARCH OBJECTIVES

The overall purpose of this study was:

1. To determine the level of respondents' perception on organizational commitment and its subscales.

2. To determine the differences in affective, continuance, normative and overall organizational commitment by demographics.

RESEARCH QUESTIONS

This study was designed to address the following research questions.

1. What is the level of lecturers' affective, continuance, normative and overall organizational commitment?

2. Are there differences in lecturers' perception towards affective, continuance, normative and overall organizational commitment based on their education level?

3. Are there differences in lecturers' perception towards affective, continuance, normative and overall organizational commitment based on their teaching experience?

4. Are there differences in lecturers' perception towards affective, continuance, normative and overall organizational commitment based on their monthly income?

5. Are there differences in lecturers' perception towards affective,

continuance, normative and overall organizational commitment based on their age?

MATERIAL AND METHODS

Research Methodology

A quantitative survey measure, which is the most frequently used data collection method for employee surveys in organizational research, was employed (Dirani, 2009). The use of a survey to collect data from the lecturers at TVCs was deemed appropriate to address the research questions. The research design consisted of a self-report questionnaire to evaluate the lecturers' perception in terms of their affective, continuance, normative and overall organizational commitments in TVCs in Iran.

Research Sample

The statistical population of this study included all the lecturers at 22 TVCs in four provinces: Fars, Khuzestan, Boushehr, and Kohgilouyeh and Boyerahmad in Iran. Based on the lists of lecturers obtained from TVCs, there were a total of 1,606 lecturers serving in the school year 2010 at the four provinces mentioned. Thus, in order to determine the sample size, G power statistical software (3.1.10), proposed by Faul and Eldfelder (1992), was employed. As for the one-way ANOVA, the effect size was .25 (medium), $\alpha = .05$, power $(1-\beta) = .95$ and the number of groups = 4, and G power produced sample size of 280. Then, the sample size of 280 suggested for this study

was inflated by 10 percent given that the response rate for mailed survey was likely to yield less percentage than that had been distributed. Thus, the sample size was 310.

Since complete lists of all the respondents at all 22 colleges were obtained and made available, a true proportional stratified probability sample was selected. The sample size of each college was its proportion (percentage) in the population multiplied with the adjusted sample size (n = 310). Then, a separate simple random sampling was performed by using a table of random numbers. In fact, by this way, all the respondents had an equal chance of being chosen for the sample of this study. Moreover, the selection of one respondent in no way influenced the selection of another and thus the sample was supposed

to be unbiased. Out of 310 questionnaires delivered to the participating colleges for distribution, 295 were completed and returned, yielding a response rate of 95.16%.

Respondents' Profile

Demographic characteristics of the respondents comprised of data on age, education level, teaching experience and income level (see Table 1). Two hundred ninety five lecturers (295) at TVCs in Iran participated in this study. Out of 295 lecturers participating in the study, 208 (70.5 %) were males and 87 (29.5%) females. These showed that the majority of the lecturers participating in the study were males. In terms of their education level, the results showed that 224 (75.9%) of the respondents had masters degree, 37

TABLE 1
Demographic Characteristics of the Participants Based on Age, Teaching Experience, Monthly Income and Education Level

Demographic	Category	Frequency (n=295)	Percent	Mean	SD	Range
Age	< 29	45	15.3	38.98	7.14	25-54
	30-39	108	36.6			
	40-49	125	42.4			
	> 49	17	5.8			
Teaching Experience	< 9	34	11.5	16.48	7.78	2-32
	10-19	98	33.2			
	20-29	118	40.0			
	>30	45	15.3			
Monthly Income	< $499	31	10.5	821.35	270.99	300-1500
	$500-999	180	61.0			
	>$1000	84	28.5			
Education Level	Doctorate Degree	34	11.5			
	Master Degree	224	75.9			
	Bachelor Degree	37	12.5			

(12.5%) had bachelor and 34 (11.5%) had doctorate degree. These data showed that an overwhelming majority of the lecturers at TVCs had masters degree.

The results also revealed that the age of the respondents ranged from 25-54 years, with a mean of 38.98 years and a standard deviation of 7.14. The findings indicated that 125 (42.4%) of the respondents were between 40-49 years, and 108 (36.6%) were between 30-39 years. The results also showed that 45 (15.3%) lecturers were below 29 year old and 17 (5.8%) were above 49 year old. As for their teaching experience, the results showed that the respondents' teaching experiences ranged from 2-32 years with a mean of 16.48 and a standard deviation of 7.78. The findings indicated that 118 (40.0%) of the respondents had teaching experiences between 20-29 years, followed by 98 (33.2%) between 10-19 years, 45 (15.3%) more than 30 years and 34 (11.50%) had less than 9 years. Finally, the results showed that the monthly income of the respondents ranged from $300-1500, with a mean of $821.35 and a standard deviation of $270.99. The findings indicated that the majority of the respondents (180 or 61%) had a monthly income between $500-999, followed by 84 (28.5%) who had more than $1000 and 31 (10.5%) with a monthly income below $499. In brief, the data indicated that the majority of the lecturers with masters degree (75.9%) were between 40-49 years (42.4%), had teaching experiences between 20-29 years (40%), and with a monthly income of $ 500-999 (61%) (see Table 1).

Research Instrument

The "Organizational Commitment Questionnaire" (OCQ), developed by Meyer and Allen (1997), was employed to collect data regarding organizational commitment. The OCQ is composed of three sections which include affective, continuance and normative, with 6 items for each section. The OCQ contains 18 items and uses a 5-point Likert scale. The original questionnaire in English was translated into Persian using the forward-then-back translation approach (Chen, Holton, & Bates, 2005). Several researchers have studied the reliability and validity of organizational commitment questionnaire. Meyer and Allen (1979) reported .85 for affective commitment, .79 for continuance commitment and .73 for normative commitment. The reliability of the organizational commitment questionnaire has also been reported by Joolideh and Yeshodhara (2008) and Mosadeghrad *et al*. (2008) in Iran as follows: affective commitment (.77, .86), continuance commitment (.72, .71), normative commitment (.69, .89) and overall organizational commitment (.81, .83), respectively. By employing a panel of experts consisting of management and organizational behaviour experts, Mosadeghrad *et al*. (2008) reported that the content, face and construct validity of the questionnaire was appropriate and suitable for performing in Iran.

Validity and Reliability

The initial consultation was performed with three academics, namely, the lecturers who

had experiences in research in the field of extension and continuing education and educational administration in Malaysia to validate the English version of the questionnaire. They judged content clarity in the meaning of items, and the face validity of OCQ as adequate. To ensure that the content, items, and face validity of the Persian version adequate, a panel of five academics who were lecturers and researchers in the field of organizational behaviour, educational administration, psychology and educational sciences were employed in Iran. They judged that the content, face and construct of the OCQ instrument as appropriate for performing at TVCs with minor modifications. In order to achieve the purpose of the reliability of instruments, a pilot test was also conducted. For this purpose, thirty lecturers from boy and girl colleges were randomly selected. Thirty questionnaires were distributed personally. The results of the reliability test on the OCQ using a Statistical Package for Social Sciences (SPSS version 18)

showed Cronbach's coefficient alpha .86 to .87 for affective, continuance, normative and overall organizational commitment, suggesting the appropriateness of the reliability of OCQ.

RESULTS

Employing both the descriptive and inferential analyses, the following findings were achieved.

Research question 1: What is the lecturers' perception level of affective, continuance, normative and overall organizational commitment?

To determine the respondents' perception on organizational commitment, the possible mean scores based on five point Likert scales were categorized into three levels of low, moderate and high. Scores within 1 to 2.33 were considered as low, 2.34 to 3.66 as moderate and 3.67 to five as high. It was based on class interval width. It is the difference between the lower endpoint of an interval and the lower endpoint of the next

TABLE 2
Descriptive Statistics and Organizational Commitment

Descriptive Statistics	n	Mean	SD	Levels	Frequency (%)		
					High	Moderate	Low
Affective Commitment	295	3.86	.29	High	168[a] (56.9%)[b]	127 (43.1%)	--
Continuance Commitment	295	3.48	.45	Moderate	95 (32.2%)	194 (65.8%)	6 (2%)
Normative Commitment	295	3.49	.56	Moderate	79 (26.8%)	216 (73.2%)	--
Overall Commitment	295	3.61	.46	Moderate	123 (43.75%)	172 (58.3%)	--

Note: = [a]Frequency/count, [b] = Percent,
        Low (1-2.33), Moderate (2.34- 3.66), High (3.67-5)

TABLE 3
One-way ANOVA for Affective, Continuance, Normative and Overall Organizational Commitment by Education Level (N=295)

Variables	Education Levels	N	Mean	SD	F	p
Affective Commitment	Doctorate	34	4.11	.41	6.300	.002[*]
	Master	224	3.84	.45		
	Bachelor	37	3.76	.43		
Continuance Commitment	Doctorate	34	3.74	.53	8.204	.000[*]
	Master	224	3.49	.56		
	Bachelor	37	3.21	.45		
Normative Commitment	Doctorate	34	3.75	.52	8.148	.000[*]
	Master	224	3.47	.45		
	Bachelor	37	3.33	37		
Overall Organizational Commitment	Doctorate	34	3.87	.31	21.787	.000[*]
	Master	224	3.60	.27		
	Bachelor	37	3.43	.24		

*Significant level at $p<.05$ df= (2, 292)   SD=Standard Deviation

TABLE 4
One-way ANOVA for Affective, Continuance, Normative and Overall Organizational Commitment by Teaching Experience (N=295)

Variables	Teaching Experience	N	Mean	SD	F	p
Affective Commitment	< five years	34	3.89	.46	1.355	.257
	6-15 years	98	3.80	.47		
	16-25 years	118	3.87	.43		
	> 26 years	45	3.95	.47		
Continuance Commitment	< five years	34	3.27	.57	2.512	.059
	6-15 years	98	3.54	.54		
	16-25 years	118	3.46	.55		
	> 26 years	45	3.55	.57		
Normative Commitment	< five years	34	3.49	.43	2.456	.063
	6-15 years	98	3.42	.46		
	16-25 years	118	3.48	.45		
	> 26 years	45	3.65	.50		
Overall Organizational Commitment	< five years	34	3.55	.26	2.509	.059
	6-15 years	98	3.59	.29		
	16-25 years	118	3.60	.28		
	> 26 years	45	3.72	.34		

*Significant level at $p<.05$ df= (3, 291)   SD=Standard Deviation

interval according to the next formula. Class Interval (CI) Width = Highest Scale Value (HSV) – Lowest Scale Vale (LSV)/ Number of categories (K). Class Interval Width (CI) = (5-1)/3 = 1.33. Thus, 1-2.33 = Low, 2.34 – 3.66 = Moderate; and 3.67 – 5 = High. The findings in Table 2 indicate that the level of affective commitment was high with a mean rating of M=3.86 and a standard deviation of .29. More than half (56.9%) of the respondents rated that they possessed a high level of affective commitment, while 43.1% rated it as moderate and none rated it as low. The moderate continuance commitment was reported with a mean rating of M=3.48 and a standard deviation of .45. About two thirds (65.8%) of the respondents rated continuance commitment as moderate, while 32.2% rated it as high and 2% reported as low. As for normative commitment, more than two thirds (73.2%) of the respondents rated it as moderate, while 26.8% rated it as high and none rated it as low. For the overall organizational commitment, data indicated a moderate mean rating of M=3.61, with a standard deviation of .46. More than half (58.3%) of the respondents reported that they possessed a moderate level of commitment in the overall organizational commitment, while 43.75% rated it as high and none rated it as low.

Research question 2: Are there differences in lecturers' perception towards affective, continuance, normative and overall organizational commitment based on their education level?

In examining the respondents with different educational qualifications/levels, the results of ANOVA disclosed that there were significant differences among the respondents in terms of their affective commitment with F = 6.30, P<0.05, continuance commitment with F = 8.20, P<0.05, and normative commitment with F = 8.14, P<0.05. Similarly, the results of ANOVA showed that there were significant differences in the overall organizational commitment with F = 21.87, P<0.05 based on their educational level (Table 3). In comparing the means, the results of the analysis of Tukey test as a follow up test showed that the significant differences were between the respondents with doctorate degree and those with master and bachelor in all the affective, continuance, normative and overall organizational commitments. The results also revealed that those with master degree were significantly different from those with bachelor degree in terms of continuance and overall organizational commitment. Nonetheless, no significant difference was observed in the affective and normative commitments between the respondents with masters degree and bachelor degree.

Hence, it can be concluded that education level is a significant indicator in the continuance and overall organizational commitment between the lecturers with doctorate degrees and those with masters and bachelor degrees, as well as between those with master degrees and bachelor degrees at TVCs in Iran.

Research question 3: Are there differences in lecturers' perception towards affective, continuance, normative and overall organizational commitment based on their teaching experiences?

In examining the respondents with different teaching experiences, the results of ANOVA disclosed no significant differences among the respondents in terms of their affective commitment with $F = 1.355$, $P > 0.05$, continuance commitment with $F = 2.512$, $P > 0.05$, normative commitment with $F = 2.456$, $P > 0.05$ (Table 4) and overall organizational commitment with $F = 2.509$, $P > 0.05$. Hence, teaching experience was not a significant indicator to make differences in the respondents' perception at TVCs.

Research question 4: Are there differences in lecturers' perception towards affective, continuance, normative and overall organizational commitment based on their monthly income?

Comparing the respondents with different monthly incomes, the results of ANOVA revealed that there were significant differences among the respondents in terms of their affective commitment with $F = 3.668$, $P < 0.05$ and the overall organizational commitment with $F = 6.709$, $P < 0.05$. However, ANOVA did not indicate any significant difference among the respondents in terms of their continuance commitment with $F = 2.003$, $P > 0.05$ and normative commitment with $F = 2.153$, $P > 0.05$ (Table 5). Thus, monthly income was shown as a significant indicator in the affective and overall organizational commitments, but not in the continuance and normative commitments at TVCs in Iran.

The Tukey test of multiple comparison procedures in affective commitment showed that the significant mean score differences were between the respondents with more than \$1000 monthly income and those with \$500-999 monthly income. However, there was no significant difference between the respondents with more than \$1000 monthly income and those with less than \$499 monthly income. In comparing the means, the results suggested that the respondents with more than \$1000 monthly income had greater affective commitment (M = 3.98, SD = .41), followed by those with \$500-999 monthly income (M = 3.82, SD = .47) and less than \$499 monthly income (M = 3.81, SD = .46).

The results of the Tukey test showed that the significant mean score differences existed between the respondents with more than \$1000 monthly income and those with less than \$499 monthly income, as well as between the respondents with more than \$1000 monthly income and those with \$500-999 monthly income in the overall organizational commitment. The Tukey test also showed that there were no significant differences in the overall organizational commitment between the respondents with less than \$499 monthly income and those with \$500-999 monthly income. Similarly for the overall organizational commitment, the data indicated that the respondents with more than \$1000 monthly income had

greater overall organizational commitment (M = 3.71, SD = .31), followed by the respondents with $500-999 monthly income (M = 3.58, SD = .27) and those with less than $499 of monthly income (M = 3.55, SD = .30).

Research question 5: Are there differences in lecturers' perception towards affective, continuance, normative and overall organizational commitment based on their age?

When comparing the respondents with different ages, the results of ANOVA revealed that there were significant differences among those in the continuance commitment with F = 5.932, P<0.05 and the overall organizational commitment with F = 5.420, P<0.05. Nonetheless, the ANOVA did not indicate significant differences among the respondents in the affective commitment with F= 2.031, P>0.05 and the normative commitment with F = 1.183, P>0.05. Thus, age was shown as a significant indicator in the continuance and overall organizational commitment, but not in the affective and normative commitment (Table 6).

The results of the Tukey tests showed that the significant mean score differences existed between 30-39 years age group and less than 29 years age group, as well as between more than 50 years age group and less than 29 years age group and between more than 50 years age group and 40-49 years age group in the continuance commitment. The Tukey test revealed that there were no significant differences between less than 29 years age group and 40-49 years age group. Similarly, the Tukey test showed that there were no significant differences between more than 50 years age group and 30-39 years age group, as well as between 30-39 years age group and 40-49 years age group.

Accordingly, it was revealed that age was a significant indicator in the continuance commitment among the lecturers in the following pairs of age groups: 30-39 and <29 years; >50 years and <29 years, and 40-49 and >50 years.

The result of the Tukey test showed that the significant differences were between the age group of more than 50 year old and the age group of less than 29 years, followed by the age group of more than 50 and the age group of 30-39, and the age group of more than 50 and the age group of 40-49 years in the overall organizational commitment. The Tukey test results showed no significant differences between the age group of less than 29 years and 30-39 age group, as well as those in the age group less than 29 years and 40-49 age group, and between the age group 30-39 and 40-49 in the overall organizational commitment at TVCs in Iran.

It can be concluded that age is a significant indicator in the difference between the age group of more than 50 and the age group of less than 29 years, 30-39 age group and 40-49 age groups in TVCs. Nonetheless, age was not a significant indicator in making a difference between the age group of less than 29 age group, 30-39 age group and 40-49 age group. Similarly, it was not a significant indicator in making a difference between the respondents in the

TABLE 5
One-way ANOVA for Affective, Continuance, Normative and Overall Organizational Commitment by
Monthly Income (N=295)

Variables	Monthly Income	N	Mean	SD	F	p
Affective Commitment	< $499	31	3.81	.46	3.668	.027*
	$500-999	180	3.82	.47		
	>$1000	84	3.98	.41		
Continuance Commitment	< $499	31	3.36	.61	2.003	.137
	$500-999	180	3.46	.54		
	>$1000	84	3.57	.57		
Normative Commitment	< $499	31	3.47	.48	2.153	.118
	$500-999	180	3.45	.44		
	>$1000	84	3.57	.49		
Overall Organizational Commitment	< $499	31	3.55	.30	6.709	.001*
	$500-999	180	3.58	.27		
	>$1000	84	3.71	.31		

*Significant level at p<0.05   df= (2, 292)   SD=Standard Deviation

TABLE 6
One-way ANOVA for Affective, Continuance, Normative and Overall Organizational Commitment by Age
(N=295)

Variables	Age	N	Mean	SD	F	p
Affective Commitment	< 29 years	45	3.78	.51	2.031	.110
	30-39 years	108	3.84	.43		
	40-49 years	125	3.88	.45		
	> 50 years	17	4.09	.45		
Continuance Commitment	< 29 years	45	3.30	.51	5.932	.001*
	30-39 years	108	3.58	.55		
	40-49 years	125	3.42	.54		
	> 50 years	17	3.84	.52		
Normative Commitment	< 29 years	45	3.50	.45	1.183	.317
	30-39 years	108	3.43	.45		
	40-49 years	125	3.51	.45		
	> 50 years	17	3.64	.58		
Overall Organizational Commitment	< 29 years	45	3.53	.26	5.420	.001*
	30-39 years	108	3.62	.29		
	40-49 years	125	3.60	.29		
	> 50 years	17	3.86	.31		

*Significant level at p<.05   df= (3, 291)   SD=Stan

30-39 age groups and those in the 40-49 age groups at TVCs.

DISCUSSION

The study of academic staff commitment is becoming more and more popular because of its link with attitudes and behaviours that contribute to organizational outcomes. Consequently, it may play a key role in the way the academic staffs work to achieve their organizational or programme mission, goals and objectives. While research exploring the theoretical and empirical inter-relationships among different features of commitment does exist (Fink, 1995; Mathieu & Zajac, 1990), it has not focused on lecturers and their personal demographics (Chughtai & Zafar, 2006; Salami, 2008).

After evaluating the findings of the Organizational Commitment Questionnaire (OCQ) for the study of organizational commitment among lecturers at TVCs in Iran, the results yielded the following: Organizational commitment in this study was obtained from self rating. The findings indicated that lecturers rated themselves as moderate in explaining their perception on the overall organizational commitment (M=3.61 SD=.46). The results also showed that the mean rating is in a descending order of high to low for the affective commitment (M=3.86 SD=.29), normative commitment (M=3.49 SD=.56) and continuance commitment was (M=3.48 SD=.45). The results regarding the lecturers' perception on the statements related to affective, continuance, normative and overall organizational commitment

for their levels of perception in relation to their colleges were analyzed, and it was revealed that they mostly agreed with the statements on the affective commitment and this was followed by the statements on thet normative and continuance commitment, respectively.

In the pertinent literature, the mostly desired situation about organizational commitment components is that the members of an organization should have high affective commitment first and then normative commitment and lastly continuance commitment (Demiray & Curabay, 2008). In the present study, affective commitment (desired oriented) came first, followed by normative commitment (obligation oriented) and continuance commitment (necessity oriented). The results of this study regarding the sequence of affective, normative and continuance commitment are in line with those in the literature. Among other, these results are in line with the findings of Mosadeghrad et al. (2008) who studied the employees of educational and non-educational hospitals in Isfahan, Iran. They reported that the mean rating of affective, normative and continuance commitment was M =3.86, SD =1.12, M =3.97, SD = .73 and M= 4.13, SD= .64, respectively, based on 6 point Likert scale.

The moderate mean average of lecturers on the overall organizational commitment is due to the fact that lecturing is one of the professions that requires high commitment (Awang, et al., 2010) and lecturers are committed to transform a person from someone who knows nothing to someone

educated. Among affective, continuance, and normative commitment, affective commitment had the highest mean score (M = 3.86). This indicates that lecturers at TVCs are happy to continue with colleges, consider institutions' problems as their own, have a strong sense of belonging to these institutions, emotionally attached to colleges, and the institutions have a great deal of personal meaning to them.

In addition, the moderate mean score of lecturers' organizational commitment can be related to new reforms which have taken place at TVCs due to their significant role in providing human resources for different parts of the country. Based on a new decision, all TVCs in Iran, which were already supervised, managed and supported by the Ministry of Education, are now supervised under the Ministry of Higher Education. This decision has probably encouraged and motivated lecturers to continue their work at TVCs because of the official, economical, societal and money benefits.

In terms of lecturers' educational level and the commitment degree; lecturers with doctoral degree exhibited the highest levels of affective, continuance, normative, and overall organizational commitment than those master and bachelor holders. The findings of this study are in line with the work of Mathieu and Zajac (1990) but contradicted with the findings of Ahmad and Abu Bakar (2003) and Khamis (2002) who reported an inverse relationship between education level and organizational commitment in Malaysia. There could be several explanations of these kinds of findings. One possible explanation is that, as the organizational position of TVCs was upgraded, most of the lecturers with doctorate degree would be inclined to continue the rest of their profession at these colleges, emotionally attached and feel the belonging to their colleges. Furthermore, based on the official regulations of the Ministry of Science, Research and Technology, lecturers with masters or bachelor degrees are transferred to the Ministry of Education, if they do not obtain a doctorate degree.

Previous findings exhibited inconsistency regarding respondents' age and affective, continuance, normative and overall organizational commitment. The results of the present study showed that the respondents in the age of 50 and more were more committed compared to those in the other age groups in the continuance and overall organizational commitment. In simpler words, the older one is, the less inclined he/she is to move to a new job, and he/she also has much higher "have to stay" commitment to the colleges. This is because they have a great opportunity cost if they transfer to other colleges, possess a strong sense of commitment towards their organizations, are more matured and have longer experience. For these groups, a new job means possible risks. In another organization, they may not have the same rights and status. These might be some possible reasons that the respondents of this particular age group are seen to be related to commitment degrees.

The findings of the overall organizational

commitment in this study supported the studies of Tseng (2010) who found that the group of 50 years old or more were more committed than the other age groups. Meanwhile, Allen and Meyer (1990) stated that those who are older have a strong sense of commitment towards their organization. In contrast, Joolideh, and Yeshodhara (2008), and Lim (2003) reported that there were no significant differences between age and the overall organizational commitment. One possible explanation to the paradoxical results is that age, as a personal characteristic, is affected by the context of the study. Thus, no significant differences were found in the affective and normative commitment based on the four age groups (< 29, 30-39, 40-49 and > 50).

As for the teaching experience, the obtained data showed that the differences among four groups (< 5 years, 6-15, 16-25, and > 26 years) were not significant in the affective, continuance, normative and overall organizational commitment. The findings of the present study are inconsistent with that of the study of Mosadeghrad *et al*. (2008) who reported that there were significant differences between organizational commitment and years of working experiences among the employees of teaching and non-teaching hospitals in Isfahan, Iran. The findings revealed that teaching experience was not an indicator of making lecturers committed to colleges. The comparison results of teaching experience and degree level revealed that to be committed in educational settings, having higher degree is more important than having more teaching experiences.

In terms of the outcomes of one-way ANOVA in regard to monthly income, the findings showed that the respondents with more than $1000 monthly income were more likely to identify with, being attached to and involved in colleges more than the respondents with less than $499 and $500-999 monthly income. This result is in line with the finding of the study by Mosadeghrad *et al*. (2008) who reported that there were significant differences in organizational commitment based on the salaries received per month.

In conclusion, to develop educational institutions and make employees do their jobs willingly, the attachment level of the employees towards their institution should be considered as an important indicator. In this regard, the implications of these studies should be used to improve the attachment level of employee in organizations. Such implementations provide valuable opportunities to expand optimistic attitudes of the employee towards their organization. Also, organization managers and administrators should value their employees, develop working conditions, value employee opinions, consider employee complaints and reward their successes to increase the employees' attachment level. In other words, when the employee members see that they are considered, their emotional, normative and stability attachment will consecutively increase. Thus, employees with higher level of organizational attachment will be more willing to work for the organization and

stay as members of the organization, which brings about higher levels of output in the organization (Gurses & Demiray, 2009). Empirically, the current research proves that monthly income and higher academic degree lead to organizational commitment.

IMPLICATIONS FOR PRACTICE AND FUTURE RESEARCH

Results from the present study should be interpreted with recognition of the following limitation. Choosing the sample of the present study from one geographical region is the main limitation of the study which bounds the variety of the sample and generalizability of the findings. Therefore, more studies with geographically diverse samples are needed to support the finding of the present study and to develop greater understanding of organizational commitment.

Regardless of this limitation, the findings from the present study should be viewed as an early effort to determine the factors related with lecturers' organizational commitment in TVCs in Iran. This study has contributions to the body of knowledge in providing an overview of the affective, continuance, normative and overall organizational commitment among the lecturers at TVCs in Iran for the first time. In addition, it also suggests a better understanding of affective, continuance, normative and overall organizational commitment in educational settings. Moreover, it portrays a clearer picture of the affective, continuance, normative and overall organizational commitment based on age, teaching experiences, education

level and monthly income, and based on which, more programmes can be developed at TVCs.

In sum, educational leaders should consider lecturers' commitment as an essential part of their policies in decision-making process. Administrators and educational leaders should stay aware of the level of their lecturer' commitments and modify their management practices and strategies whenever applicable according to increase lecturers' commitment. Nonetheless, the body of literature examining the relationships between lecturers' organizational commitment and personal demographics has yet to be conclusively determined. Only a few studies have explored personal variables and their relationship with organizational commitment issue in educational institutions in detail. Thus, the lack of theoretical and practical knowledge in the literature causes it to be doubt about the effects that demographics may have on employee commitment. For this reason, there is a strong need for reproduction studies to scrutinize the demographic variables associated with lecturers' organizational commitment. More studies are needed to improve the literature on lecturers' organizational commitment, which in turn, could generate strategies to improve attachment level of lecturers to their organizations.

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Application of Multiple Intelligences Teaching Approach in Classroom Instruction Based on POMAT Model

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ABSTRACT

Instructional practices, particularly in Malaysian secondary schools, have undergone tremendous transformation in order to achieve Vision 2020. Part of it is the use of various teaching approaches in classroom instruction as an effort to help the students comprehend the curriculum content better. One of the major teaching approaches which is widely used in Malaysian secondary schools is Multiple Intelligences Teaching Approach or collectively known as MITA. Hence, a qualitative research was conducted to look at teachers' instructional practices in employing multiple intelligences in classroom instruction. Research subjects were six English teachers who serve as informants. Data were collected from classroom observations, semi-structured in-depth interviews and document analysis. Classroom observations were conducted to record the actual classroom instruction that took place in English reading comprehension classrooms while semi-structured in-depth interviews were administered to obtain precise information from the informants. Raw data were recorded and transcribed manually. Later, the data were analysed interpretively and descriptively based on the themes that emerged from research findings. Meanwhile, triangulating data was done to ascertain the validity and reliability of the findings. The study unveiled the application of multiple intelligences teaching approach in classroom instruction at some secondary schools in Pahang based on the POMAT model. Important aspects being explored included the application of multiple intelligences in instructional procedure, instructional objective, instructional material, classroom assessment and instructional technology.

INTRODUCTION

Many initiatives have been taken to transform Malaysian education system, in line with and in support of the nation's effort to fulfil Vision 2020. The Vision aims for fostering a technologically literate, critically thinking work force prepared to fully participate in the global economy of the 21st century (Ministry of Education, 1997). At the same time, Malaysian National Philosophy of Education calls for developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious (Curriculum Development Division, 2001b). According to *The Malaysian Smart School: A Conceptual Blueprint* (Ministry of Education, 1997), in order to develop such students, teachers need to individualize education, approach curriculum content through multiple entry points and integrate technology into classroom instruction.

Thus, in order to meet the needs of individualizing education, approaching curriculum content through multiple entry points and integrating technology into classroom instruction, teachers may apply multiple intelligences teaching approach, which is collectively known as MITA in classroom instruction. In fact, Gardner's theory of multiple intelligences validates what teachers have already done in the classroom though most of the time teachers intuitively cater different intelligences in classroom instruction or without even knowing that they are applying multiple intelligences teaching approach (Mckenzie,

2005). In other words, multiple intelligences teaching approach is applicable to any English classrooms even though some of the English teachers may have limited knowledge and exposure to it.

A solution to designing instructional procedure, objective, material, assessment and technology in accordance with multiple intelligences teaching approach is the POMAT model developed by Mckenzie (2005). The model recognizes five critical components of a lesson, namely instructional procedure, objective, material, assessment, and technology, without which the lesson will be incomplete and the classroom instruction will be meaningless. The acronym POMAT itself stands for procedure (P), objective (O), material (M), assessment (A), and technology (T).

PROBLEM STATEMENT

At present, most classrooms are full of students who differ from each other in many ways (Currie, 2003). In fact, they come from different social, economic and cultural backgrounds. Each one of them has different areas of interest, different ways of expressing him or herself, and different strengths and weaknesses. All of these factors can affect the students' learning ability (Currie, 2003). In fact, each and every student has different cognitive abilities (Gardner, 2004). Consequently, they do not process the information that they gain in the same way (Mahmoud Mohammad Sayed Abdallah, 2008).

In conventional instruction, teachers tend to treat students as a homogeneous

group, presenting the same exercises to all students, and expecting the same outcomes from the students within similar time limits (Currie, 2003). Most of the time, students are expected to absorb the presented knowledge using verbal-linguistic and logical-mathematical analysis (Currie, 2003). Ordinarily, teachers tend to present curriculum content using a limited methodology and the acquisition of that knowledge is evaluated by means of standardized tests, whereby the best grades are awarded to students who demonstrate the greatest ability in attempting the examination questions (Currie, 2003).

In fact, for years students are required to only use their verbal-linguistic intelligence and logical-mathematical intelligence when dealing with knowledge acquisition or language learning, as such intelligences are most often associated with academic accomplishment and are the primary elements of general intelligence, or collectively known as *g* (Shearer, 2009). This phenomenon is evident in Malaysian education system. Definitely, it may work fine for the students who walk into classroom with a natural verbal-linguistic and logical-mathematical strength. However, it may fail for those who need to rely on other strengths to master the world of knowledge acquisition, as well as language learning.

The so-called standardized achievement tests, which are commonly used for assessment in the education system tend to emphasize on verbal-linguistic intelligence and logical-mathematical intelligence only (Mcmahon & Rose, 2004; Wei & Tajularipin,

2009). Certainly, the tests become a barrier to success for low achievers or those, who are slower to make academic achievement (VanAuker-Ergle, 2003). Even though many of them own different talents in various fields, such as story-telling, singing, or painting, they are typically marked with a poor image as "academic failure". Such students, who fail to demonstrate the traditional academic intelligences, have low self-esteem and eventually their strengths remain unrealized and it is a lost to both the school and society at large (Campbell, Campbell, & Dickinson, 2003). Therefore, how these students are taught and how the learning environment is guided by the classroom teacher is very important (VanAuker-Ergle, 2003). Accordingly, the application of multiple intelligences teaching approach, that is guided by Gardner's (2004) theory of multiple intelligences in classroom instruction, may help alleviate the problems in teaching heterogeneous students in Malaysian secondary schools.

RESEARCH OBJECTIVES

Hence, a qualitative study was conducted to look at the teachers' instructional practices particularly in employing multiple intelligences theory, the insights given by Gardner (2004), in classroom instruction. The main objective was to explore the application of multiple intelligences teaching approach in classroom instruction based on the POMAT model. The important aspects being explored included the application of multiple intelligences in instructional procedure, instructional

objective, instructional material, classroom assessment and instructional technology.

MULTIPLE INTELLIGENCES IN CLASSROOM INSTRUCTION

All students are individuals with unique patterns of strengths and weaknesses. They differ greatly in cognitive abilities (Gardner, 2004). Some students learn complex concepts and skills quickly and easily, whereas others have to struggle even to master basic concepts and skills. The idea that people vary in cognitive abilities, particularly intelligence, has been discussed for a long time.

The earliest theories about the nature of intelligence include one or more of the following three components: (1) the capacity to learn; (2) the total knowledge a person has acquired; and (3) the ability to adapt successfully to new situations and to the environment in general (Santrock, 2008). Traditionally, the concept of intelligence refers to the problem solving skills and the ability to adapt and learn from one's everyday experiences (Santrock, 2008). However, intelligence is an abstract, broad concept, which has generated a controversy and heated debate (Birney *et al*., 2005; Steinberg, 2006). Thus, it is not surprising that there are many different ways to define it.

Since intelligence is a very broad concept; psychologists argued the structure of intelligence either it is a general ability or a number of specific abilities (Santrock, 2008). Some psychologists, such as Binet and Stern, focus on the concept of general intelligence, which Stern calls intelligence quotient or collectively known as IQ (Santrock, 2008). Wechsler (1958) believes that intelligence is a person's general, verbal and performance intelligences. His view was developed from the ideas of Spearman (1927) who claims that people have both, general intelligence, which is called *g*, and a specific type of intelligence, which he calls *s*.

Others define intelligence as a number of specific intelligences, as proposed by Thurstone (1938). According to Thurstone (1938), people have seven specific abilities which he calls primary abilities, including: (1) verbal comprehension; (2) number ability; (3) word fluency; (4) spatial visualization; (5) associative memory; (6) reasoning; and (7) perceptual speed. Thurstone's view suggests that the present classrooms are full of students with different abilities or intelligences.

Quite recently, an increasing number of studies are looking at specific types of intelligence (Gregory, 2007). Sternberg (2002) has introduced the triarchic theory of intelligence, which proposes that intelligence comes in three different forms, that are: (1) analytical; (2) creative; and (3) practical. Analytical intelligence involves the ability to analyze, judge, evaluate, compare, and contrast. Creative intelligence consists of the ability to create, design, invent, originate, and imagine. Practical intelligence focuses on the ability to use, apply, implement, and put knowledge into practice.

Some psychologists like Gardner regard intelligence as several separate mental abilities. Instead of viewing human intelligence in term of score in a standardized test, Gardner defines intelligence as: (1) the ability to solve problem that one encounters in real life; (2) the ability to generate new problems to solve; and (3) the ability to make something or offer a service that is valued within one's culture (Campbell *et al.*, 2003). Gardner (2004) claims that there are at least eight different abilities or intelligences which are relatively independent of one another. Gardner's perspective suggests that most, and quite possibly all students, may be quite intelligent in one way or another. Obviously, some students may show exceptional promise in language, others may be talented in music, and still others may be able to learn mathematics more easily than their classmates.

Gardner has proposed a much broader view of the definition of intelligence than a number of other theorists with his theory of multiple intelligences in *Frames of Mind*. He originally identified seven core intelligences, which included verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinaesthetic, musical-rhythmic, interpersonal and intrapersonal (Gardner, 2004). Later, he added naturalist intelligence in his list during the symposium "MIND 97" (Multiple Intelligences New Directions) in 1997 (Gardner, 2004).

School curriculums at all levels of learning have traditionally focused on only logical-mathematical intelligence and verbal-linguistic intelligence (Abdulkader

et al., 2009). Therefore, schools teach the students who have strong language and logical thinking skills more effectively. In order to ensure that other students are not left behind, Gardner (2006) suggests that educational methods should be created and adjusted to be more flexible for students who have different intellectual capacities and they should also be redesigned as well as rearranged to use the multiple intelligences effectively so that those changes will benefit students, teachers and society.

Armstrong (2009) has listed four points to display the key ideas of Gardner's multiple intelligences theory which are relevant to school students. First, each student possesses capacities in all intelligences. Most students, however, appear to possess some highly developed intelligences, as well as some weak ones. Second, most students have the capacity to develop each intelligence to an adequate level of competency. The combination of the environmental influences, such as school instruction, parents, and exposure to cultural activities, can strengthen or weaken certain intelligences. Third, intelligences usually work together in complex ways. No intelligence works alone because they always interact with each other. Fourth, there are many ways to be intelligent within each category. In other words, a student can perform a kind of intelligence in different ways.

Based on Gardner's theory, Chapman and Freeman (1996) have stated that there are three implications that are useful for this study. Firstly, intelligence can be taught

or at least enhanced through instruction. Secondly, intelligences are changing throughout life. Thirdly, the existence of different intelligences that different students possess results in different learning styles and different needs. In this regard, it is evident that teachers can develop students' intelligences through instruction by using various instructional styles, instructional strategies and materials. Gardner (2006) has also reminded teachers that during a teaching and learning episode, it is normal for a number of intelligences to be used together.

Chapman and Belancca (1993) have also suggested several implications of Gardner's theory of multiple intelligences which are relevant to all school teachers. The implications are: (1) every student has at least an intelligence of strength; (2) every student has some weaker intelligence that can cause discomfort; (3) students' weaknesses can be strengthened; and (4) a student's brain is as unique as a fingerprint. This suggests that teachers need to ensure that their classrooms, instructional practices and programmes take account of students' different intelligences and learning styles and needs, associated with each. In this way, the particular and the different strengths of students can be accommodated and weaker intelligences can be reinforced.

Multiple intelligences teaching approach offers a wide variety of instructional strategies that can be implemented in the classroom to support the existing ones (Hatmanto, 2004; Lazear, 2004). Besides, multiple intelligences teaching approach provides an opportunity for teachers to reach every student and to offer chances for them to learn and show their comprehension of the curriculum content in various modes (Sayed Abdallah, 2008). It allows a framework for teachers to reflect on their best instructional methods and to understand why these methods work. It also assists teachers to expand their teaching repertoire to include a broader range of methods, materials, and techniques for reaching an ever-wider and more diverse range of students (Hatmanto, 2004). What is more, in a multiple intelligences classroom, students learn best through their areas of smartness or intelligences.

In many ways, the lessons which are designed to incorporate multiple intelligences do meet the needs of various learning styles (Rosen, 1997) and adapting any instructional strategies that meet students' diverse learning styles can improve students' motivation in learning (Wehrwein *et al*., 2007). Furthermore, teaching through intelligences has been found to increase interest and achievement in classroom assessment even for those with learning disabilities and underachievers (Abdulkader *et al*., 2009; Geimer *et al.,* 2000; Greenhawk, 1997; Kornhaber *et al.,* 2003). As far as language learning is concerned, the implementation of multiple intelligences teaching approach in the classroom has a positive effect on increasing reading self-efficacy and improving reading skills (Abdulkader *et al*., 2009). Besides, most of the instructional activities based on multiple intelligences theory have

positive effects on students and teachers and improved classroom environment (Saban, 2000; Yilmaz & Fer, 2003).

POMAT MODEL IN CLASSROOM INSTRUCTION

POMAT model, a procedural approach to apply multiple intelligences in lesson components, was proposed by Mckenzie (2005) to make it easier for teachers to move from theory of multiple intelligences to classroom practice. One of the advantages of analysing the lesson using the POMAT model is teachers can ensure that the whole unit of the lesson caters all core intelligences that eventually cater differing needs and abilities of all students in the classroom.

In the POMAT model, instructional strategy is given due consideration to ensure that the instruction is effective. In this regard, multiple intelligences teaching approach provides teachers an opportunity to teach in a variety of ways and reach students all the way regardless of their different abilities and interests (Shearer, 2009). The model also emphasizes on writing a clear educational objective as proposed in the new version of Bloom's taxonomy of educational objectives for cognitive domain (Anderson & Krathwohl, 2001). Teachers have to set specific objectives based on the learning outcomes so that they can easily identify the most appropriate intelligences to be employed in the lesson and refer to them to make sure that they are on the right track as they plan for the rest of the lesson.

Designing and using instructional materials that meet the needs and abilities of diverse students is very important in the POMAT model. Thus, teachers should not solely rely on textbooks. Designing such materials is critical as it is the interaction of the students with those materials that generates and reinforces actual learning (Smaldino *et al*., 2008). If the materials are weak, improperly structured, or sequenced in a poor manner, limited learning will occur (Smaldino *et al*., 2008). Powerful, well-designed instructional materials that are created, integrated, and presented in a good manner, allow students to have effective and meaningful learning (Smaldino *et al*., 2008). In order to design such materials, teachers should refer to the conceptual selection and evaluation guidelines for instructional materials, that cover five main criteria, namely instruction adequacy, technical adequacy, curriculum adequacy, cost effectiveness, and cosmetic adequacy (Ministry of Education, 1997).

In fact the acquisition of knowledge is not simply evaluated by means of standardized tests which tend to emphasize on only verbal-linguistic intelligence and logical-mathematical intelligence (Mcmahon & Rose, 2004; Wei & Tajularipin, 2009). In this regard, for the students of strong verbal-linguistic intelligence and logical-mathematical intelligence, such assessment is not a drawback to them as they can learn and understand curriculum content very well. On the other hand, it becomes a barrier to success for students of low achievers or students who are slower to make academic achievement (VanAuker-Ergle, 2003). Therefore, many students

who fail to demonstrate the traditional academic intelligences have low esteem and their strengths remain unrealized and it is a loss to both the school and society at large (Campbell *et al.*, 2003).

The model also gives emphasis to integrating technology into classroom instruction. Though many teachers know that instructional technology can be an asset to engage students in language learning as well as provide diverse learning experiences to various students, the use of technology, particularly computer for educational purposes, still remains at a low level (Wan Zah, 2008). In this regard, the use of computer in schools is still at a minimum level, whereby textbooks and handouts prepared by teachers are still the primary sources used in classroom instruction (Wan Zah, 2008). Additionally, adapted and specifically designed technology and media can instruct all students effectively and help them achieve at their highest potential regardless of their innate abilities (Smaldino *et al.*, 2008). In fact, there are several ways in which technology can be used to enhance learning among students (Smaldino *et al.*, 2008) and improve their language skills, particularly reading ability (Ybarra & Green, 2003). What is more, teaching with technology has been found to improve vocabulary, fluency, comprehension, writing and grammar skills (Case & Truscott, 1999; Lewis, 1997; Ybarra & Green, 2003). After all, lessons, which are designed to incorporate technology, do meet the needs of various learning styles of the students (Rosen, 1997) and lessons that take account

of students' learning styles can improve students' motivation in learning (Wehrwein *et al.*, 2007).

METHODOLOGY

This study aimed to explore how far the teachers in some schools in Temerloh, Pahang, have applied multiple intelligences teaching approach in classroom instruction based on the POMAT model. This led itself to initially a qualitative study as the research was conducted in real and natural background, that is the present English classrooms, and the researcher was the primary instrument in collecting data which are largely in the form of words or graphics, analysing them inductively, concentrating to meanings held by the informants and describing them in an expressive and interesting language (Othman, 2007).

The primary research method is participant observation (Othman, 2007). In this context, the data are collected by observing the informants directly in their classrooms and talking to them personally. In any qualitative study, a sample which is chosen for particular purposes will generate possible various perspectives and opinions on the same matter in a social phenomenon, that could be presented in data (Othman, 2007). Therefore, the researcher used purposive sampling as the research was meant to study a particular sample of persons or documents because of the sample's usefulness (Best & Khan, 2006). The samples were chosen from various schools, races and teaching experiences so that the researcher would be able to

collect data from various perspectives and dimensions. The sampling was aimed at obtaining insights into a phenomenon, and not empirical generalization from a sample to a population (Best & Khan, 2006).

Subject

Initially, the researcher identified six English teachers who were teaching form two students at four daily secondary schools in Temerloh, Pahang, to be the informants for the study. The selected schools were located at rural and urban areas. The subjects were chosen because they had given their informed consent to take part in this study as informants. The subjects comprised of two male teachers and four female teachers. In term of racial background, they comprised of four Malay teachers, one Chinese and one Indian. Besides, they came from various teaching experiences which ranged from 1 to 5 years, 6 to 10 years, 11 to 15 years, 16 to 20 years, 21 to 25, and 26 years and above. Each informant represented one category.

The researcher's method was to observe and listen attentively, and to record as faithfully as possible all pertinent information (Mertler & Charles, 2005). Meanwhile, observational data were recorded in video camera and later transferred to field notes and POMAT chart. Initially, informants' approval was sought before the researcher could use video camera for the purpose of recording the classroom instruction. The video recording helped the researcher to gain as much information as possible. After having done all the observations, the researcher interviewed the informants (upon their consent) regarding how far they had applied multiple intelligences in instructional procedure, objective, material, assessment and technology in their classroom instruction. In order to avoid the possibility that the subjects would make extra efforts to help the researcher achieved the aim of the study, they were not told about the focus of the study. This minimizes the impact of the so-called Hawthorne effect, which occurs when subjects are pleased at being included in a study, and unconsciously deceive themselves and the researcher to ensure its success.

Classroom Observation

For this study, the researcher used three strategies, namely, classroom observation, semi-structured in-depth interview and document analysis, for the purpose of collecting the data. An observation was also used to discover complex interaction in a real social background (Othman, 2007). An observational record is referred to as a field note that is a comprehensive, non-judgmental, and concrete description of what has been observed (Othman, 2007). Then, the purpose of observational data in the current study was to describe the setting that was being observed, the activities that took place in the setting, the people who participated in those activities, and the meanings of what was being observed from the perspective of those who observed (Patton, 2002). Observation is considered as the best technique when activities, events or situations need to be observed directly (Othman, 2007). Therefore, the

researcher decided to use observation in the study, so that the researcher could directly observe the teachers' applications of multiple intelligences in instructional procedure, objective, material, assessment and technology in their real classroom setting. The observation was conducted in the normal classroom setting or media room for approximately 80 minutes. The teachers were asked to suggest a convenient time for the observation and the least disruptive to their classroom atmosphere. The teachers were also asked to choose one class that they felt would give full cooperation during the observations. The researcher spent approximately 10 to 15 minutes in the classroom prior to the first formal observation time in order for the students to become familiar with her presence. The students were told that the researcher was there to observe their teachers.

The observations were done for five times for every informant to acquire 30 classroom observations for the study. During the 80-minute formal evaluation, every attempt was made to observe the teachers without letting them know that they were being observed regarding the application of multiple intelligences teaching approach based on the POMAT model. The observational data were transferred to field notes and POMAT charts using MSWord programme. Initially, the researcher recorded the observed phenomena using video camera. This was done to help the researcher getting saturated data from the observations. Then, the recorded data were transferred to Window Media Player

programme in movie clip type. The verbal data were immediately and manually transcribed upon the conclusion of each observation in MSWord programme to be recorded as field notes. Following the transcription, the informants were given a copy of the observational notes and the POMAT charts to validate them.

Semi-Structured In-Depth Interview

Qualitative data were also collected from teachers' in-depth semi-structured interviews. An interview is a conversation with a purpose (Othman, 2007). A qualitative interview is a mean for the researcher to access the perspectives of the informants who were being interviewed (VanAuker-Ergle, 2003). Thus, the interview allowed the researcher to have a face-to-face interaction with the teachers to enter into their perspective and to get specific information that would be useful for the study. The quality of the data was rooted in the researcher's accurate interpretation and understanding of the informants' words (VanAuker-Ergle, 2003). Thus, it was necessary for the researcher to frequently ask for clarification or expansion of the informants' responses in order to gain an accurate understanding (VanAuker-Ergle, 2003). These on-going response inquiries could reduce personal bias and the perspectives held by the researcher in the data collection.

Prior to this, an interview guide was prepared by the researcher. The interview guide outlined a set of questions that were to be explored with each informant

before interviewing began. The researcher developed the questions and sequenced those questions. Then, it was referred to the Supervisory Committee members to make decisions about which information to pursue in greater depth. After a few corrections, it was endorsed by the Chairman. For the purpose of the study, the interview guide consisted of two parts of questions. The first part consisted of eleven open-ended questions. This was meant to answer the first research question that emphasized on the application of multiple intelligences in instructional procedure for reading comprehension lesson. The second part of the question comprised of five open-ended questions. It was meant to answer the second, third, fourth and fifth research questions that stressed on the application of multiple intelligences in instructional objective, instructional material, classroom assessment and instructional technology for reading comprehension lesson.

The interview guide was prepared to serve as a basic checklist during the interview so as to make sure that common information would be obtained from the informants by covering the same material (Patton, 2002). The researcher adapted both the wording and the sequence of questions to specific informants in the context of the actual interview. In this regard, the researcher was free to build a conversation within a particular subject area, to word questions spontaneously, and to establish a conversational style but with the focus on the particular subject that had been predetermined (Patton, 2002). An advantage of having interview guide

was that it made sure that the researcher fully used the limited time available in an interview situation (Patton, 2002). Besides, the interview guide helped the researcher to make interviewing across a number of different teachers more systematic and comprehensive by delimiting in advance the issues to be explored (Patton, 2002). After all, it kept the interactions focused but at the same time allowed individual perspectives and experiences to emerge (Patton, 2002).

The interviews were conducted once with each respondent immediately after all the five classroom observations were done. It took place in the school at the teachers' time and place of convenience. The length of the interview varied but on average, each lasted one to one and half hour. At the beginning, the researcher planned to have five interviews with each respondent, but once it was done and the data were analysed, the researcher concluded that the data were saturated to manifest the phenomenon of interest.

Document Analysis

The qualitative data were also collected from the document analysis. In this documentary analysis, the following were used as the sources of data: POMAT chart, lesson plan as written in teaching preparation record book, instructional material used for the lessons and multiple intelligences inventory. The document analysis serves as a useful mean in yielding information helpful in evaluating or explaining the observed phenomena (Best & Khan, 2006). In this study, the POMAT chart was used to note

the lessons carried out by the teachers. The chart had been adopted from the actual Mckenzie's (2005) POMAT chart. The chart categorizes the lesson into five components, namely, procedure, objective, material, assessment, and technology. The five lesson components were matched to any of eight intelligences listed by Gardner (2004). Concisely, the chart was designed in a table format. The list of multiple intelligences was set vertically and the lesson components were set horizontally. It was used as one of the observational notes to record the procedure, objective, material, assessment, and technology in classroom instruction. At the same time, it also recorded the multiple intelligences that were being applied in the lessons. Using the chart, the researcher was able to identify familiar and sound multiple intelligences being applied in the lessons. The tendency of integrating intended intelligences in the overall lesson ranged from 1 to 5 times, based on five classroom observations: 5 times indicates always, 4 times often, 3 times sometimes, 2 times seldom, and once very rarely.

The researcher also referred to the teachers' lesson plans as stated in teachers' teaching preparation record book to note distinguished instructional procedure, objective, material, assessment and technology being planned for the lesson. The researcher also kept a copy of the lesson plans and instructional materials upon the teachers' approval. The data from the lesson plans and instructional materials were then transferred to the POMAT chart before it was endorsed by the teachers.

The multiple intelligences inventory for teachers, developed by Tajularipin *et al.* (2010) from Universiti Putra Malaysia, was distributed to all the informants. The inventory was chosen due to the fact that it was adapted and set up based on Malaysian social and educational environment. Furthermore, the inventory had been tested for its reliability using Cronbach's Alpha analysis and has widely been used in many studies related to multiple intelligences in primary and secondary schools all over Malaysia. In particular, it was used to provide information regarding teachers' multiple intelligences profile and personal instructional style. The inventory consisted of three sections. Section A included the subjects' demography, while section B assessed the subjects' multiple intelligences, and section C evaluated the subjects' instructional styles based on MI. Section A comprised of two parts; the school information and teacher information. In the school information, the subjects were required to note their schools and their location. In the teacher information, the subjects recorded their age, gender, race, major teaching subject, teaching experiences and academic qualification.

Section B consisted of 48 items. All the items assessed subjects' multiple intelligences using 5-point Likert scale format ranging from 1 to 5. Code 1 implied never, code 2 seldom, 3 sometimes, 4 often, and 5 always. The subjects only circled one relevant number for each item. The section had eight constructs: visual-spatial intelligence (item 1 to 6),

verbal-linguistic intelligence (item 7 to 12), naturalist intelligence (item 13 to 18), logical-mathematical (item 19 to 24), intrapersonal intelligence (item 25 to 30), interpersonal intelligence (item 31 to 36), musical-rhythmic intelligence (item 37 to 42, and bodily-kinaesthetic intelligence (item 43 to 48). The Cronbach Alpha coefficient for the overall items was 0.91. Statistical analysis was done manually. The researcher added up relevant scores for each construct. The teachers' intelligence was classified into three levels. A total score of 6 to 13 indicated weak level, the score of 14 to 21 showed average level and the score of 22 to 30 showed strong level. Based on the highest score, the researcher could identify the teachers' intelligence profile dominance.

Section C also comprised of 48 items which assessed the subjects' instructional styles using the 5-point Likert scale format ranging from 1 to 5. Code 1 implied never, code 2 seldom, 3 sometimes, 4 often, and 5 always. The subjects circled one relevant number for each item. The section had eight constructs: instructional styles based on verbal-linguistic intelligence (items 1 to 6), instructional styles based on logical-mathematical intelligence (items 7 to 12), instructional styles based on bodily-kinaesthetic intelligence (items 13 to 18), instructional styles based on visual-spatial intelligence (items 19 to 24), instructional styles based on interpersonal intelligence (items 25 to 30), instructional styles based on naturalist (items 31 to 36), instructional styles based on intrapersonal intelligence (items 37 to 42), and instructional styles

based on musical-rhythmic intelligence (items 43 to 48). The Cronbach Alpha coefficient for the overall items was 0.87. Similarly, the statistical analysis was done manually. The researcher summed up the relevant scores for each construct and calculated the mean. A total mean score of 1.00 to 1.99 indicated very rare, the mean score of 2.00 to 2.99 seldom, 3.00 to 3.99 sometimes, 4.00 to 4.99 often and 5.00 always. By referring to the highest mean score, the researcher could detect the teachers' dominant instructional styles based on MI.

Data Analysis Management

The collected data were arranged in a form of movie clip, audio clip, observational note, lesson plan, instructional material and chart. In order to understand such enormous and disorganized data, the researcher had adapted a simple data management system from Malakolunthu (2001). The data management comprised of three basic tasks that were cleaning data, understanding data, and categorizing data (refer to Fig.1).

As the first step of cleaning the data, the researcher transferred the recorded data from video camera to computer using Window Media Player. The data included five classroom observations from each informant. After transferring the data to the computer, every movie clip was put an index. Coding was done by giving a unique code to each school and informant. Coding system is very important to ease the researcher to get back to the raw data and triangulate them during the writing
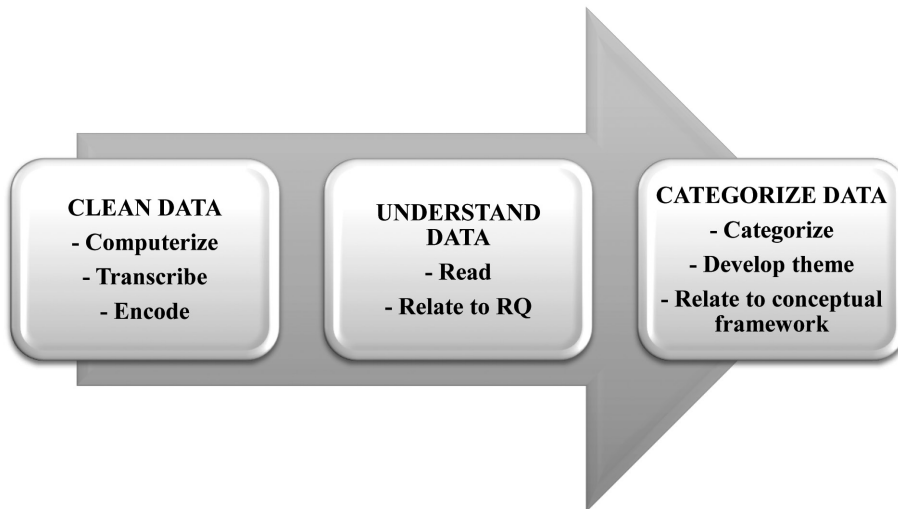
Fig.1 Data Analysis Management

process (Malakolunthu, 2001). One of the codes that the researcher used for movie clip was SSAZCO010904 (1). In this sample, "SS" referred to name of the school, "AZ" referred to name of the teacher, "CO" referred to classroom observation, "01" referred to the first classroom observation, "09" referred to the date of the observation, "04" referred to the month of the observation and "(1)" referred to the first movie clip for the first classroom observation. Next, the researcher transcribed the movie clip to serve as observational notes using MSWord. At the same time, the researcher put an index to each observational note. One of the codes that the researcher used in the study was SSAZCO010904. In this sample, "SS" referred to name of the school, "AZ" referred to name of the teacher, "CO" referred to classroom observation, "01" referred to the first classroom observation, "09" referred to the date of the observation and "04" referred to the month of the observation. The same

procedure was done to the interview data and the research documents.

The second step was to understand the collected and coded data. In the process of understanding the data, the researcher concentrated on what the data revealed and how these could answer the researcher's research questions. As for the first step in the process of analysing the data, the researcher read the transcript a few times. Initially, the researcher mentally prepared the main research questions and sub-questions to help the researcher to be focused. While reading, the researcher tried to identify any research questions that could be related to the data. Then, the researcher wrote the question number to the relevant data.

The next step was to categorize the collected data according to specific categories and themes. An approach that always compares and analyses the data during a research can develop new category and theme (Malakolunthu, 2001). Therefore,

the researcher frequently compared and analysed the data to identify specific category and theme that eventually led the researcher to get different perspectives from various informants. Finally, the researcher tried to relate the data to the conceptual framework.

Data Analysis

For the data analysis, each recorded verbal interaction was transcribed manually. The written data was read line by line, analysed and reanalysed for emerging similar data concepts. These similar content areas were then grouped into categories. Once the information was grouped under similar content categories, it was re-examined for broader thematic content. The observational data transcripts were also analysed in the same manner as the interview transcripts. In order to verify and validate the qualitative analysis, a kind of triangulation known as the triangulation of qualitative data sources was used (Othman, 2007; Patton, 2002). Triangulating data sources means comparing observational data with interview data, and validating information obtained through interviews by checking documents and other written evidence that can corroborate with what the informants report (Patton, 2002). In the study, data triangulation analysis was used to justify how far the teachers had applied multiple intelligences in procedure, objective, material, assessment and technology in classroom instruction.

At a later point in the analysis, the data were compared and cross-checked for consistency of information, emerged at different times and by different means within qualitative methods (Patton, 2002). This is done to ensure its reliability as in qualitative study the concept of reliability is associated with dependability and consistency of the results or findings from collected data (Othman, 2007). However, the researcher was well aware that triangulation of data sources within qualitative methods would seldom lead to a single, totally consistent picture. The fact that observational data produce different results than the interview data does not mean that either or both kinds of data are invalid (Patton, 2002). In this regard, different kinds of data captured different things and for this reason, the researcher made an attempt to understand the reasons for the differences. At the same time, consistency in the overall pattern of the data from different sources and reasonable explanations for the differences in the data from divergent sources contribute significantly to the overall credibility of the findings (Patton, 2002). Fig.2 summarizes the framework of the study.

RESEARCH FINDINGS

The research findings were extracted mainly from classroom observations on six English teachers as primary data source. Other primary data sources were gained from the semi-structured in-depth interviews with the teachers and the document analysis which was also a triangulation strategy for collecting qualitative data. The data were analysed manually. The themes or issues from the findings were reported in narrative form and interview verbatim to give clear
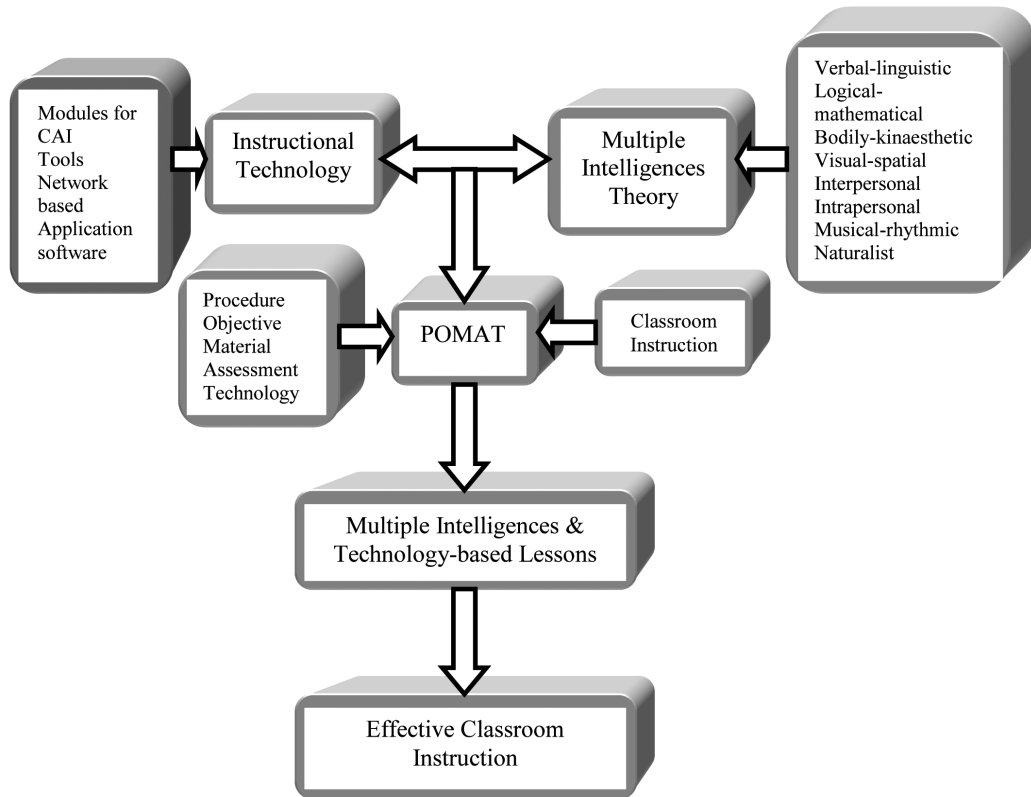
Fig.2 Research Framework

picture of the phenomena. The themes emerged from the research findings were discussed precisely in order to answer the research questions.

Application of Multiple Intelligences in Instructional Procedure

The POMAT model allowed the researcher to investigate how far the teachers had applied multiple intelligences in instructional procedure, objective, material, assessment and technology. Generally, the instructional procedure was rooted in the instructional strategy and the activities that the teachers had designed for their classroom instruction. All the teachers had their own instructional

strategy to create effective classroom instruction. As illustrated in Table 1, three themes related to the application of multiple intelligences that were commonly employed in instructional procedure were: (1) instructional strategy based on verbal-linguistic intelligence; (2) instructional strategy based on interpersonal intelligence; and (3) instructional strategy based on bodily-kinaesthetic intelligence.

The research findings showed that the teachers adopted instructional strategy based on verbal-linguistic intelligence such as conducting story-telling, impromptu speaking, reading aloud, verbal lecture, classroom discussion, interview, reading

TABLE 1
Multiple Intelligences in Instructional Procedure

INTE	ADAM					BADLI					NORIN					ALIA					REKHA					TAN				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
V-L	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
L-M	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓			✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
V-S	✓	✓	✓	✓		✓			✓	✓		✓	✓			✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
M-R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INTE	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
INTR			✓		✓		✓					✓	✓				✓				✓	✓	✓	✓	✓					
B-K	✓		✓				✓	✓	✓		✓	✓	✓			✓		✓		✓		✓	✓	✓	✓				✓	✓
NAT	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						✓					✓			✓

TABLE 2
Multiple Intelligences in Instructional Objective

INTE	ADAM					BADLI					NORIN					ALIA					REKHA					TAN				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
V-L	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
L-M	✓					✓	✓	✓				✓							✓					✓			✓	✓		
V-S																							✓		✓		✓	✓	✓	✓
M-R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INTE					✓		✓		✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
INTR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-K																							✓		✓		✓	✓		
NAT	✓	✓	✓			✓										✓						✓					✓			

comprehension and writing. In this context, the designed instructional strategy was intended to accommodate and reinforce verbal linguistic intelligence among the students. The sub-theme that emerged from the theme of instructional strategy based on verbal-linguistic intelligence was the (1) use of elaboration. Elaboration was widely used by all of the informants for their classroom instruction. The purposes of using elaboration included to: (a) have a better understanding; (b) give input; and (c) meet examination requirement. Some teachers used elaboration in classroom instruction to let the students attain a better understanding of what was being taught. This was explained by Mr Badli, Miss Norin and Mdm. Alia stated the following:

> "In order to get them understand what we are teaching we have to elaborate. Sometimes using body language, facial expression then they could understand."

> "I always use explanation, elaboration so that students can have better understanding."

> "I often use elaboration or explanation. If it is a new lesson I will start with questioning students."

Elaboration was also used to give some inputs to the students in particular when a topic or theme is still new to the students. This was explained by Mdm. Rekha, as follows:

> "Pertaining to the activities you are preparing or the skill you are going to teach if this group needs a lot of explanation I have to give a lot of explanations, input. Maybe when I move to next topic or next theme I could see I don't think I really need a lot of explanations as they have learnt much earlier through experience or whatsoever. So, I don't need the explanation. Not to say that I have to give explanation and details for each and every topic."

The use of elaboration is also meant as a practice for the students to always give details to their points. This is because the elaboration could make their points clear. The purpose was explained by Mdm. Tan, as follows:

> "I use a lot of elaboration and explanation because I think our examination system like in paper one, writing they need a lot of elaboration. And normally students cannot do this part. They just know how to state their points and then you ask them to further explain they cannot. So, that's why I have to do this in class to show as an example that you have said something you have to elaborate to make your point clear. So, I try to do that as often as possible."

The findings also revealed that the teachers utilized instructional strategies which stressed on interpersonal intelligence such as giving feedback, cooperative learning, person-to-person communication, problem solving, group discussion and group project. In this regard, the designed instructional strategy is intended to accommodate and reinforce interpersonal intelligence among the students. The sub-themes that had been identified based on the theme of instructional strategy based on interpersonal intelligence were: (1) the use of group work, and (2) the use of discussion. The teachers used group work as one of the instructional strategies as it helped the students completed the task given easily, especially when there was a mix of academically weak and good students in the class. The purpose of using group work was to (a) assist weaker students. Most of the teachers used group work with the intention that the good students in the class would assist the weaker students so that nobody was left behind in the discussion. This was emphasized by Miss Norin, Mdm. Alia, Mdm. Rekha and Mdm. Tan, as follows:

> "I always use discussion and group work. For me good students can assist weaker students through discussion or group work. When I group them I will make sure that one of the good students be in a group of different abilities. Because I think the good students will help weak students to be together in the discussion so that they won't be left behind."

"Usually I go to class divided them into groups of five and gave them a topic. Usually I do it when I want them to discuss about an issue."

"The groups are set up depends on the task that I am going to give. If we need for example this task mainly for advanced level students I will ask advanced learners to sit together in the sense that all advanced learners will be doing it. Let say the activity is for the whole class I will fix them. So, one person will be the junior teacher and the rest of them will do discussing."

"Like for me normally I do a lot of group work because the class is very big. So I divide them into a group of 6 to 7 students. And hopefully, I mean in this group there will be some students with different intelligences. So, some of the good ones would be able to help the weaker ones. They may be good in certain different areas. Some of them are academically inclined. So, they would be able to help the weaker ones when they come to do writing and understanding things. Some students in the group are good in organizing things and some of them are good in drawing. So, in this group we hope that students of different intelligences would come together to complete a piece of work."

However, some teachers found that the use of group work was not relevant to their weak students. The reasons why it did not work was explained by Mr Badli and Mdm. Alia, as follows:

> "If I go to a good class, it's very easy for me to set them up in groups to do some work. If I go to a weak class I don't think it works very well because they need teacher to guide them. Even every single word they didn't know they will ask me. I don't think it works."

> "Group activity can be very helpful for certain classes but not for the last classes. It is quite difficult to handle them because they like to chit-chat, go beyond the topic. If it is a very large class it is very troublesome."

Besides, most of the teachers used discussion, i.e., either peer discussion or class discussion, in the classroom. The reasons why they had used this strategy was explained by Mr Adam, Miss Norin and Mdm. Rekha, as follows:

> "Most of the time I use discussion between teacher and students. It is difficult to get the students talk among themselves in English."

> "I always use discussion and group work. For me good students can assist weaker students through discussion or group work."

> "I always use discussions because discussions really give them the chance to give their ideas. We can't really depend on one student's answer. We have to give them a chance to discuss that they actually could discuss. And at the same time they could learn new things. And they could come to a conclusion."

For the theme of instructional strategy based on bodily-kinaesthetic intelligence, the research findings disclosed that the teachers had applied instructional strategy which emphasized on bodily-kinaesthetic intelligence such as conducting role-play, classroom games, exercise break and body language in the classroom. In this context, the designed instructional strategy was intended to accommodate and reinforce bodily-kinaesthetic intelligence among the students. Sub-themes that emerged from the theme of instructional strategy based on bodily-kinaesthetic intelligence were: (1) the use of role-play, and (2) the use of instructional media. Some of the teachers used role-plays, though not very often, to make the teaching and learning episode more interesting and enjoyable. This was mentioned by Mr Adam, Mr Badli and Miss Norin, as follows:

> "I seldom use role-play. It is quite difficult but I use this method especially in dealing with dialogue."

> "I'm not doing so much role-play with the students. But it could be done by me and the students."

"Sometimes I use role-play. It makes teaching and learning more interesting and enjoyable to have better understanding."

The use of instructional media such as graphic, textbook, LCD projector, CDRI and CD-ROM was intended to generate effective classroom instruction. The teachers used different media to deliver information to the students. This was explained by Mdm. Alia and Mdm. Rekha, as follows:

"Sometimes if we want to use a computer lab, not all of the computers can be used. It can be a problem for teachers to teach on that day. That's why I resort to textbook because our textbook is just recently being revised. And it is better for us to use the textbook to impart the knowledge that they have in the textbook."

"Nowadays the world is actually heading towards ICT. So, we have to be a good role model for the students. We have to update ourselves in the sense that we have to show our students that through ICT we can learn many things."

Application of Multiple Intelligences in Instructional Objective

The teachers constructed instructional objective for the lesson based on the learning outcome provided in the syllabus and curriculum specification. As depicted in Table 2, two themes related to the application of multiple intelligences that were frequently employed in instructional objective were: (1) instructional objective based on verbal-linguistic intelligence; and (2) instructional objective based on interpersonal intelligence. The research findings revealed that the teachers were keen to construct instructional objective based on verbal-linguistic intelligence such as stating that the students should be able to read and scan for specific information, answer comprehension questions, acquire a range of vocabulary by changing adjectives given with other appropriate ones, listen to a conversation and understand the main idea, read aloud text with correct intonation, transfer the information from linear to non-linear text, write out a paragraph describing the map and directions given, read a short text and summarize text by listing out the uses of multimedia in learning, list out features of a computer and the advantages of using IT to learn, read linear and non-linear text, and read directions given to four different places. In this context, the objective of the instruction was to accommodate and reinforce verbal-linguistic intelligence among the students.

Concurrently, most of the teachers constructed instructional objective based on interpersonal intelligence such as stating that the students should be able to tell verbally to their friends what the text is about, talk about their friends verbally, share the important ideas, discuss and compare the differences between using books and computer in learning, discuss on how to care for the environment and present answers to

TABLE 3
Multiple Intelligences in Instructional Material

INTE	ADAM					BADLI					NORIN					ALIA					REKHA					TAN				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
V-L	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
L-M		✓	✓																✓							✓				
V-S		✓	✓	✓																	✓		✓	✓	✓			✓	✓	✓
M-R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INTE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INTR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAT	✓	✓	✓								✓					✓					✓						✓			

TABLE 4
Multiple Intelligences in Classroom Assessment

INTE	ADAM					BADLI					NORIN					ALIA					REKHA					TAN				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
V-L	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
L-M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V-S	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	✓
M-R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INTE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INTR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-K																							✓							
NAT	✓	✓	✓																		✓						✓			

class, discuss meaning of words, convey information in their card to friends in other group, in group sequence the story and read aloud to others. In this regard, the objective of the instruction was to accommodate and reinforce interpersonal intelligence among the students.

Application of Multiple Intelligences in Instructional Material

The teachers created or adapted and presented appropriate instructional material to generate and reinforce learning. As illustrated in Table 3, one theme that emerged from the application of multiple intelligences that was regularly employed in instructional material was: (1) instructional material based on verbal-linguistic intelligence. The research findings verified that the teachers used instructional materials based on verbal linguistic intelligence such as textbooks, hand-outs, books, CDs, writing tools, paper, diaries, dialogue, discussion, debate, and stories most of the time in every classroom instruction. In this context, the material designed is intended to accommodate and reinforce verbal-linguistic intelligence among the students. However, some teachers sometimes liked to add in visual-spatial intelligence-based materials such as video, movies, slides, imaginative games, mazes, puzzles, and pictures in their instruction.

Application of Multiple Intelligences in Classroom Assessment

Classroom assessment is conducted mainly to assess students' comprehension of the topic being discussed. As portrayed in Table 4, one theme that transpired from the application of multiple intelligences that were always employed in classroom assessment was (1) assessment based on verbal-linguistic intelligence. The research findings revealed that the teachers were prone to design classroom assessment based on verbal-linguistic intelligence, such as comprehension question, spelling test, information transfer, crossword puzzle, and summary writing. In this regard, the assessment arranged was intended to accommodate and reinforce verbal-linguistic intelligence among the students. The assessment was designed based on students' achievement level. This was explained by Mr Adam, Mr Badli and Mdm. Tan, as follows:

> "It depends on the students what kind of assessment is suitable for them."

> "….I will set up based on their level since they are quite weak."

> "So assessment will be actually done to see whether they understand the topic ….."

Meanwhile, the sub-themes that were identified for the theme of assessment based on verbal-linguistic intelligence were: (1) examination-based assessment; and (2) assignment-based assessment. Ordinarily, the assessment item was designed based on the standardized achievement test format. In this context, the assessment item was set

according to the PMR format. This was explained by Mr Badli, Miss Norin and Mdm. Alia, as follows:

> "It is always exam-based assessment. But if for monthly test I will set up based on their level since they are quite weak."

> "Assessment for me is yes the exam."

> "Assessment normally is based on exam format. Usually assessment will be done at the end of a topic. If we do classroom-based assessment it is still based on exam format. Any assessment we have to follow the format."

Some of the teachers assessed students' comprehension based on their assignments. Instead of written assessment, the teachers used other modes of assessment, such as giving feedback and group presentation. This was explained by Miss Norin, Mdm. Rekha and Mdm. Tan, as follows:

> "…But actually I assess the students from their exercises. I assess them verbally. If they managed to do the exercises then they meet the objective."

> "When it comes to the overall assessment I just still prepare activity basically in written form. And the questions will be based on the things that have been done with multiple intelligences. There will

be questions on their listening skill. There will be questions based on things that I asked them to explore. Maybe I would ask them to list down what are the things you could see right in front of the canteen for example."

> "…But if per topic it will be based on assignment that I have given to them. And sometimes it is also not in written work because sometimes I give them group presentation, so an assignment based on the topic they are going to present. If they are able to present what has been given to them means that they have actually understood the topic."

Application of Multiple Intelligences in Instructional Technology

The use of appropriate instructional technology may contribute to the effectiveness of classroom instruction as it provides the teachers with the tools that engage students in learning. However, the research findings revealed that the teachers very rarely integrated instructional technology into classroom instruction. This indicated that the teachers hardly used instructional technology to accommodate and to reinforce their students' multiple intelligences. As shown in Table 5, one theme that emerged from the application of multiple intelligences in instructional technology which hindered the teachers from integrating technology into classroom instruction was (1) drawback. The sub-themes that emerged from the theme of

TABLE 5
Multiple Intelligences in Instructional Technology

INTE	ADAM					BADLI					NORIN					ALIA					REKHA					TAN				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
V-L			✓																				✓		✓					
L-M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V-S			✓																				✓		✓					
M-R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INTE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INTR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAT			✓																											

drawback were: (1) time consuming; (2) inefficient lab management; (3) technical problems; and (4) no instructional technology expert. Some of the teachers argued that it was rather time-consuming to prepare technology-based lesson. This was explained by Miss Norin, as follows:

> "I seldom use ICT in teaching. For me the reason is time consuming. It is about preparation. We have to prepare the materials well. So it takes some time for us to prepare."

The teachers also claimed that they rarely used instructional technology due to inefficient lab management. This was explained by Mr Adam as follows:

> "I seldom use ICT this year compared to last year due to lab management problem."

Some technical problems, such as computer breakdown, malfunction of LCD projector, and inadequate computer and LCD projector in all classrooms also restricted the teachers from using instructional technology. This was explained by Miss Norin, as follows:

> "Even though we have LCD projector in class it is not functioning. We must have all the equipment in all classes because if we have it in one particular room it takes some time for the students to move. If each classroom has the LCD it makes the job easier."

Another drawback is that there is no expert in instructional technology in the school. The teachers stated their appreciation to have an expert to help them, particularly in preparing the technology-based lessons. In fact, they were willing to integrate instructional technology into their classroom instruction if they had such officer. This was explained by Mdm. Alia and Miss Norin, as follows:

"Let say if we have an officer to help us in preparing the materials then it can be done."

"Yes, absolutely I will if we have an officer to help out in preparing the materials."

DISCUSSION

Classroom observations verified that the teachers did apply multiple intelligences teaching approach in the classroom even though some of them had least idea about multiple intelligences teaching approach and how to go about it. Apparently, most of the teachers applied multiple intelligences teaching approach intuitively. The observational data coincide with Mckenzie's (2005) opinion that Gardner's theory of multiple intelligences (MI) validates what teachers have already done in the classroom. Mckenzie also claims that most of the time, teachers cater different intelligences in classroom instruction without even knowing that they are applying multiple intelligences teaching approach (Mckenzie, 2005). The researcher concluded that despite of their limited knowledge and exposure to MITA, the teachers had already applied multiple intelligences teaching approach in their classroom instruction though intuitively most of the time.

Observational data also proved that the teachers had integrated two to seven intelligences into a single lesson. The findings are quite consistent with Mckenzie's (2005) suggestion that it is not necessary or even advisable to try to accommodate all the intelligences in any one lesson. Instead, teachers should integrate three to five intelligences into one lesson because to work all intelligences into a single lesson usually results in an unnatural learning environment, whereby students are unable to benefit from saturation of inputs and experiences (Mckenzie, 2005). The researcher concluded that the teachers were on the right track in integrating multiple intelligences into classroom instruction.

The research findings indicated that the teachers were inclined to design instructional procedure based on verbal-linguistic intelligence, interpersonal intelligence and bodily-kinaesthetic intelligence, to construct instructional objective based on verbal-linguistic intelligence and interpersonal intelligence and also create instructional material and classroom assessment based on verbal-linguistic intelligence. Overall, the teachers had the tendency to apply verbal-linguistic intelligence in procedure, objective, material and assessment for classroom instruction. The researcher concluded that it is possible due to the nature of the subject itself which focuses on all language aspects. However, the researcher believes that if the teachers always cater only verbal-linguistic intelligence in the lesson, it will be unfair to low achievers or those students who cannot master the world of language through verbal-linguistic intelligence-based instructional strategies. Thus, the teachers should give such students opportunity to learn language in different modes which they are good at such as curriculum song, pictorial representation and classroom games.

Alternatively, all the teachers very rarely integrated technology into classroom instruction and therefore hardly applied any multiple intelligences in the instructional technology. They argued that it was in fact time-consuming to prepare the technology-based lesson as they had to rush finishing the syllabus to prepare their students for the examinations. The researcher concluded that the nature of the examinations in Malaysia and its impacts on the students and teachers hinder the teachers from integrating instructional technology into their lessons. As for the teachers, preparing a technology-based lesson demands a lot of time and they need that time to cover the syllabus. Consequently, not many teachers are willing to sacrifice their time to prepare technology-based lessons.

Teachers should consider integrating technology into their classroom instruction because the school of the future will be different. In fact, the roles of the teachers and the use of technology must change if the schools are to prepare the students who will contribute to and be successful in a technology-dependent global society (Smaldino *et al.*, 2008). The trend for today's teachers is a shift from traditional teaching methods and tools to digital approaches to better meet the needs of students. However, the transition from traditional to digital classroom environments varies greatly from teacher to teacher and school to school. Prensky (2006) describes technology adoption and adaptation in school in four-step processes: (1) dabbling, (2) doing old things in old ways, (3) doing

old things in new ways, and (4) doing new things in new ways. The process begins with "dabbling" with technology by randomly adding technology tools to a few classrooms or the media room or the library. Then, technology is used to do "old things in old ways," like teachers displaying lecture notes in MS PowerPoint rather than using overhead transparencies or verbal lectures. The next phase involves doing "old things in new ways", such as students using word processing and clip art rather than notebook paper and hand-drawn pictures to create a short story or hand-outs. The final phase is "doing new things in new ways." It requires each classroom to adopt and adapt its environment with digital tools that support and enhance digital teachers' and students' capabilities. Based on classroom observations, the researcher concluded that the teachers were still either at the first phase or the second phase. This is evident because the teachers could only use instructional technology, particularly computers, in computer lab or media room, plus they only used computer tool to display pictures or notes.

SUMMARY

The findings proved that the teachers did apply multiple intelligences teaching approach in classroom instruction, regardless of their limited knowledge and exposure to multiple intelligences teaching approach or MITA. Meanwhile, classroom observations verified that the teachers accommodated and reinforced two to seven intelligences in a lesson, which is either in

instructional procedure, or instructional objective, or instructional material, or classroom assessment, or instructional technology.

Verbal interactions with the teachers further validated that the teachers were interested to apply multiple intelligences teaching approach and at the same time integrate technology into classroom instruction effectively. They were also well aware that their students had different multiple intelligences profiles and thus required them to individualize the education and approach the curriculum content through multiple entry points. Nonetheless, it was time consuming to prepare multiple intelligences-based lessons and what is more, they had to focus more on the curriculum content rather than curriculum instruction as they had to prepare their students for the examinations.

In addition to the above, the teachers very rarely incorporated instructional technology in their classroom instruction for several reasons. The verbal interactions with the teachers revealed that they were keen to use technology particularly computer tools for their classroom instruction. However, it was time consuming to prepare a technology-based lesson as they were rushing to finish the syllabus. They also argued that some technical problems due to inefficient lab management, computer breakdown, malfunction of LCD projector, and inadequate computer and LCD projector in all classrooms also hindered them from using instructional technology. At the same time, they would really appreciate it

if they could have an expert in instructional technology, i.e. a person who would help them particularly in preparing the instructional materials in their school.

CONCLUSION

The research findings corroborated that the teachers need to be encouraged to apply multiple intelligences teaching approach and incorporate instructional technology in their classroom instruction. Multiple intelligences teaching approach not only individualizes the education but also approaches the curriculum content through multiple entry points. This will directly cater for students' differences in intelligences, learning abilities, styles and needs in the present classrooms.

Meanwhile, the POMAT model allows the teachers to consider applying multiple intelligences in instructional procedure, objective, material, assessment and instructional technology. At the same time, it indirectly promotes the teachers to integrate technology into their classroom instruction and eventually inspire them to become techno-constructivists. In fact, the integration of technology into classroom instruction should be enhanced among all teachers. Teachers should be encouraged to become techno-constructivists as they will become role models for their students in making technology as a tool for learning. This will indirectly rectify students' perspective that computer is simply for fun and leisure.

IMPLICATIONS

The implication of this study to educational institutions which offer teacher training programmes such as universities and teacher training institutions is the need to formally expose multiple intelligences teaching approach to trainee teachers, which can be included in pedagogical course. Multiple intelligences teaching approach should also be applied in teacher training programme to let the trainee teachers get used to it. Besides, trainee teachers need to be encouraged to apply multiple intelligence teaching approach during their teaching training as a solution to the problems in teaching heterogeneous students.

Since multiple intelligences teaching approach is in line with KBSM and smart school concept, the Education Ministry of Malaysia needs to come up with some comprehensive guidelines in the form of module or manual for teachers so that they can apply multiple intelligences in procedure, objective, material, assessment and technology for classroom instruction and at the same time, integrate technology into classroom instruction using the POMAT model. This is because the present module of '*Aplikasi Teori Kecerdasan Pelbagai dalam Pengajaran dan Pembelajaran'* (Application of Multiple Intelligences Theory in Teaching and Learning) is still not enough for the teachers to master the strategy. The Education Ministry in particular the Teacher Education Division needs to offer in-service training or short courses for teachers to help them master multiple intelligences teaching approach and design lessons based on the POMAT model. Appreciation should be given to teachers who make an effort to use this teaching strategy as it will promote them to become innovative, creative and techno-constructivist in enhancing classroom instruction in the future.

RECOMMENDATIONS

Based upon the insights gained from the study, it is recommended that teachers vary their instructional strategies used in classroom so that teachers could individualize the education and approach curriculum content through multiple entry points. The strategy applied should not be limited to delivering curriculum content in verbal lecture only to finish the syllabus without taking into consideration different students' multiple intelligences profiles, and presenting instructional materials that focus more on linguistic domain only.

Furthermore, application of multiple intelligences teaching approach in classroom instruction was proven to be able to enhance students' interest, comprehension and test achievement. Meanwhile, the POMAT model is able to guide teachers to prepare a multiple intelligences and technology-based lesson. In particular, the approach could guide teachers to apply multiple intelligences in five critical components of a lesson, namely, procedure, objective, material, assessment and technology. Additionally, the multiple intelligences teaching approach and the POMAT model are in line with KBSM and Smart School concept which value individualizing

education, approaching curriculum content through multiple entry points and integrating technology into classroom instruction that eventually help the educational system achieves the Vision 2020 and National Philosophy of Education.

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Enhancing the Self-Esteem of Undergraduates in a Malaysian Higher Education Institution through Bibliotherapy

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ABSTRACT

The purpose of this study was to explore the use of bibliotherapy or therapeutic experience of reading young adult literature among a group of young adults in developing their self-esteem. Participants consisted of six undergraduate students pursuing a degree in a Malaysian higher education institution. The phenomenological method was employed to explore the participants' reading of young adult literature. These participants read young adult literature, and shared their thoughts, feelings and experiences on the reading phenomenon through dialogue journals. Data triangulation was carried out by analyzing and comparing findings from observations made by two informants, researcher's field notes, in-depth pre-and-post interviews. The study discovered that the undergraduates are aware of the importance of self-esteem and how their personal struggles have affected their level of self-esteem. Some of their challenges include identity crisis, lack of self-confidence and poor family relationship. The reading process has contributed to the success of developing self-esteem among the participants. Reading young adult literature has helped the participants to experience a new level of self-confidence, gain new understanding of self, feel less different, and inspired them to grow positively. Five reading characteristics contributing to the effectiveness of reading young adult literature for self-esteem emerged. The five types of reading characteristics include intentional, relational, reflective, transporting and pleasure. The findings of this study suggest that literature can be a catalyst for personal development for young adults in the Malaysian educational institutions.

INTRODUCTION

Bibliotherapy, which is also known as book therapy, is a concept of reading for therapeutic healing or problem-solving, and has been utilized by scholars, physicians, social workers, nurses, parents, teachers, librarians and counselors for different purposes. In bibliotherapy, books are used as a therapeutic attempt to help people of all ages with problems. Bibliotherapy found its way into the educational system during the past decade (Smith, 1998). Documentation reveals that the majority of teachers from the United States of America have begun using bibliotherapy in their classrooms. In 1996, the American Library Association defined bibliotherapy as the use of selected reading materials as a solution of personal problem through directed reading (Santhanadass, 2006). To put it another way, the idea of reading literary texts or any other suitable materials for self-development is called bibliotherapy (Mardziah, 2002; Cohen, 1992; Pardeck & Pardeck, 1990; Rubin, 1978).

In the Malaysian context, teachers should take advantage of the teaching of literature by simultaneously adopting bibliotherapy. To be specific, teachers should adopt the "reading bibliotherapy", whereby they provide a reader with the right book, one which triggers a significant and growth-producing feeling-response. In Malaysia, the teaching of literature began four decades ago and in this span of time, it has undergone various changes and development (Vethamani, 2004). Firstly, the term literature was referred to

as "English literature", but now it is called "literature in English" (Vethamani, 2004). The initial years of literature teaching was geared toward studying literature (Vethamani, 2004; Hassan, 2007) rather than using it as a resource for language and personal enrichment. However, with the new literature syllabus (which is literature in English) being introduced in 1990, the purpose of studying literature was redefined. The goals include the following: 1) to develop an awareness of the value and pleasure of reading literary works in the students, 2) to appreciate and understand human relations, and 3) to appreciate different literary genres and the usage of literary devices (Vethamani, 2004). Through bibliotherapy or reading for therapeutic healing, young adults would be able to identify with characters similar to themselves in the stories, an association that helps them release emotions, gain new directions in life, and explore new ways of interacting (Gladding & Gladding, 1991). These young adults would feel relieved that they are not the only ones facing problems.

PURPOSE OF THE STUDY

The purpose of this study was to explore the use of bibliotherapy or therapeutic experience of reading young adult literature among a group of young adults in developing their self-esteem. Most studies on young adults have indicated that the young-adult phase is indeed a critical phase in one's life (Woolfolk, 2007; Rice & Dolgin, 2008; Rathus, 2008; Hirsch & Dubois, 1991; Harter, 1990). They are said to be

caught between two phases of life – they are no longer children; they are not yet adults. They are inundated with numerous challenges. If these obstacles are not addressed or overcome successfully, it may result in long-term shifts of losses in self-esteem. This in return will have adverse effects on academic performance, careers, relationships and self-image (Rogers, 1986; Sternberg & Williams, 2002; Benson *et al.*, 2004; Arnett, 2004; Rice & Dolgin, 2008). Literature on education psychology and adolescent's development have also pointed out clearly that low self-esteem, not only has serious consequences on the psychological and psychosocial aspects of an individual, but it also seriously impairs academic achievement (Marsh & O'Mara, 2008; Harter, 1999; Leondari, 1998; Hirsch & Dubois, 1991; Covington, 1989; Schrank & Engels, 1981). Bibliotherapy, which is a therapeutic endeavor, may offer understanding, questioning, and explanation, as well as articulating hope and comfort, thus helping young adults with low self-esteem. This study suggests bibliotherapy or reading literature as an alternative approach to raise students' self-esteem.

RESEARCH QUESTIONS

The following are the research questions used in this study.

1. How does a group of Malaysian young adults perceive self-esteem?

2. To what extent does reading of young adult literature help in developing self-esteem among these young adults?

3. What reading characteristics emerged as contributing towards the development of self-esteem among the participants?

4. How do these young adults describe the experience of reading young adult literature to develop their self-esteem?

READER-RESPONSE THEORY

Anyone who is interested in doing research in the area of reading literature for personal growth would be influenced by the reader-response theory. Louise Rosenblatt, who developed the reader-response theory, believes that meaning occurs when there is a transaction experience between the reader and the text (Rosenblatt, 1995; Bushman & Bushman, 1997). The theory involves any approach to teaching literature that has the ability to encourage students to respond to literature on a personal level. Reader response aims at increasing the readers' ability to achieve a full, meaningful reading of a text and to widen the personal context of emotions and ideas into which the response will be incorporated. It is an approach which empowers the readers to partake in an active reading process and take responsibility for much of their literary experience.

According to Louise Rosenblatt's reader-response theory, both reader and text are essential to the transactional process of making meaning and each reader "brings to it his/her own complex perceptions and reactions" (Rosenblatt, 1995, p. 27). Every reader brings to each reading encounter those feelings and experiences she holds within; thus, each new encounter with a work of literature creates a new experience

(Rosenblatt, 1995). When the whole personality becomes involved in the literary experience, it allows for the release of feelings, and subsequently creates catharsis and insight and this process is called bibliotherapy (Shrodes, 1949). Hence, reading literature for problem solving or personal development (bibliotherapy) needs meaningful transaction of both reader and text (reader-response).

Rosenblatt's reader-response theory provides a theoretical base for students to personally respond to reading material (Bushman & Bushman, 1997). She believes that reading without responding or reading without transacting with the text meaningfully, will not bring about the kind of affect one might want to experience. Thus, the relationship between the reader and the text gives an opportunity for the reader to be actively involved in the reading process. Readers are to take responsibility for their literary experience. As this study aimed at discovering the reading experience of a group of young adults for the development of self-esteem, the researcher was aware of the need to incorporate the reader-response element into the study.

LITERATURE REVIEW

Today's young adults are said to differ significantly from the individuals from 30 to 40 years ago (Rathus, 2008). Present young adults face issues such as eating disorders, alcohol, drugs, peer pressure, and physical and psychological safety concerns which previous generations might not have confronted as young adults (Bucher & Manning, 2006). According to Erik Erickson's stages of human development enumerated in 1950, a young adult is a person between the ages of 19 and 40 and he describes this phase as a stage whereby young adults encounter a number of issues (Boeree, 2006; Fetso & McClure, 2005). Erikson stated that the major problem faced by this group is the formulation, or reformulation of personal identity while expectations from various groups in the society may at time clash and these conflicts may have an effect on their self-esteem (Rathus, 2008; Rice & Dolgin, 2007; Woolfolk, 2007; Bucher & Manning, 2006). Rogers (1986) also pointed out that people in the young adulthood phase of life (18 – 25 years-old) are beginning to form adult lives and structure themselves for this new life-style. Although they go through an exciting phase, it can be stressful at times as they are too old to be considered adolescents but are not quite old enough to be adults. Thus, they struggle to find their place in the adult world because of the dreams they are trying to fold out for their future, along with the new responsibilities of adulthood. At this point in their lives, they need to learn to accept who they are and self-esteem can make a world of difference (Santrock, 1999; Rogers, 1986).

In the past twenty-five years, literature specially written for and about young people has emerged. Brown and Stephens (1995) define young adult literature as "books written specifically for and about youth" (p. 6). Stories are written for the young adult audience. They are about the lives of

the young adults, experiences, aspirations, and problems of young people. Bucher and Manning (2006) define young adult literature as the "literature in prose and verse that has excellence of form or expression" (p. 8). It is said that the traditional beginning point for the concept of young adult literature was Hinton's 'The Outsiders', published in 1967 (Hastings, 2005). This development took place in realistic fiction, both contemporary and historical, although today the genre of fantasy also has distinct young adult works. Young adult literature primarily explores the social institutions and conventions that shape adolescent lives and address specific problems and concerns particular to this age group (Bucher & Manning, 2006). Although young adult literature can be used to refer to books that are written or marketed for young adults, which may also include works that are originally meant for adults but have appeal to and are read by young adults (Brown & Stephens, 1995).

Bucher and Manning (2006) identified certain qualities that young adult literature should possess. Young adult literature should not only reflect the age and development of young adults but also address their reading abilities, thinking levels, and interest levels. It should deal with contemporary issues, problems and experiences with the characters that young adults can relate to. Young adult literature serves multiple purposes (Bucher & Manning, 2006). Broadly put, it teaches young adults about people and the world around them, demonstrates the range of human emotions and allows them to experience by reading quality literature.

Young adult literature reveals the realities of life, provides vicarious experiences and most importantly, provides pleasure reading.

Considering the qualities of young adult literature and its contributions to the development of self-esteem, young adult literature should be taught in the classroom. According to Nuccio (1997), the value of creating a classroom and educational environment that promotes positive self-esteem in students is evident. Firstly, since learning experience can be challenging, students with higher self-esteem would be able to cope with stress (Woolfolk, 2008). Students with higher self-esteem are also considered to be better equipped to cope with the adversity and diversity in the school place, as well as in other areas of their lives (Rice & Dolgin, 2008). They would also be able to develop and sustain relationships and are usually attracted to other students who have positive self value. Conversely, students with low self-esteem will most probably seek low self-esteem peers. Nuccio (1997), Rice and Dolgin (2008), and Woolfolk (2008) have all pointed out that students with high self-esteem are more confident in confronting obstacles and conflicts, and they are better able to solve problems. Since young adulthood is described as a challenging phase in life, possessing high self-esteem would help young adults face these obstacles confidently. They are more resilient to problems and failures. When faced with adversities, their self-esteem serves as a powerful coping mechanism (Rathus, 2008), while students with the low self-esteem on

the other hand, generally regard problems as grounds for quitting.

Malhi and Reasoner (2001) emphasized that self-esteem is opened to internal and external influences and thus it can vary according to one's experiences and feelings. They, however, claimed that self-esteem can be learned and enhanced over a period of time. In a study conducted with students at the W. J. Maxey Training School for boys in the United States, where the students were given paperback books to read, they showed significant gains over a control group on measures of self-esteem (Cornett, 2003). Although the study shows a positive correlation between reading and self-esteem among students, there are controversies surrounding the issue of whether self-esteem needs to be developed in the first place. For example, Kohn (1994) raises the issue of whether schools should try to help students to feel better about themselves.

Another controversy surrounding the issue of self-esteem is the association between self-esteem and academic achievement. Lawrence (2000) stated that there is a positive correlation between how people value themselves and the level of their academic attainments. When a student feels good about himself or herself, he or she will achieve more academically and vice-versa. However, there are other studies which although confirmed a positive association between self-esteem and academic achievement, the size of the relationship is not very significant. In a careful review of 128 studies related to this topic by Kohn (1994), it was found that the average correlation was in the range of .21 to .26, which means the differences in self-esteem can account for only about four to seven percent of variation in academic performance, or vice versa.

CONCEPTUAL FRAMEWORK

A conceptual framework explains, whether graphically or narratively, the main variables involved in a study (Miles & Huberman, 1994). It also describes the relationship of these constructs. The following diagram illustrates the conceptual framework of this study (see Fig.1).

The three circles in the diagram illustrate the three important variables framing this study: reading bibliotherapy, reader-response and young adult literature. The concept of reading for self-esteem is grounded in the concept of bibliotherapy, which strongly advocates the power of reading for self-improvement. Literature suggests that bibliotherapy procedure alone would not be effective enough to create the desirable changes that an individual seeks during the process. Insights are gained from meaningful readings and for reading to become meaningful, transaction with the text is essential, as proposed by the reader-response theory (Rosenblatt, 1995). Reader-response advocates that when readers are engaged with the stories (young adult literature), they will make connections and relate what they read to their lives and their world. The process of identification with a character or characters results in the release of feelings, which creates catharsis and insight. This process is called bibliotherapy (Shrodes, 1949).
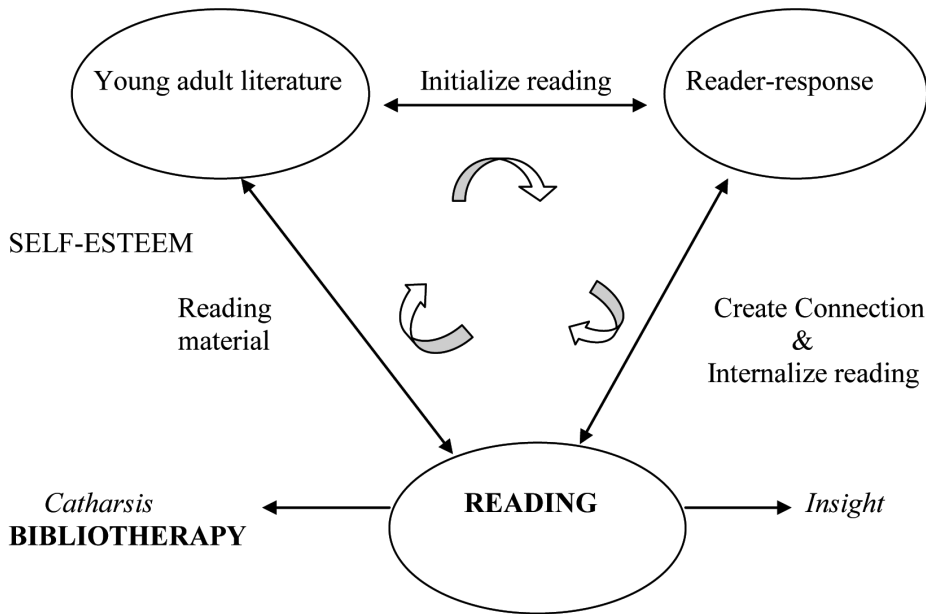
Fig.1 The Conceptual Framework

One of the ways to achieve the connection or identification is through the recommendation of suitable reading materials. How the individual responds to the plot, theme, and character can affect the bibliotherapy process. For the young adults to find reading meaningful, the choice of literature presented to them should reflect the lives and issues relevant to them. Since the participants for this study were young adults, young adult literature was deemed as most suitable. Most young adults are said to make better reading connection with young adult literature as the genre is written by and for young adults (Cole, 2009). The characters, events and struggles portrayed in the stories revolve around the lives of the young adults. Hence, making connections to reading (reader-response), which in return allowing readers to gain valuable insights,

can be obtained by recommending young adult literature for this study. The interplay among these three factors was predicted to have an impact on the self-esteem of the readers.

The process of initializing, connecting and internalizing are adapted from Brown's (1995) "young adult literature reader model." Young adult literature was used to initiate the reading process among the participants. When stories were found to be interesting and meaningful, the participants were able to connect with their readings. When readings were internalized, they were able to gain valuable insights and ideas. They were able to understand their predicaments and the world they live in. This reading experience led to the development of self-esteem. The development of self-esteem is an evolving process, indicated by the

use curved arrows. In addition, the curved arrows denoting a continuous cycle indicate that there is no beginning and end; rather, one thing follows from another.

METHOD

Research Design

This study employed the phenomenological research design, which sought to understand the meaning of experiences of individuals with regard to a phenomenon (Creswell, 2002; Bogdan & Biklen, 1992). Phenomenology focuses on the lived experiences and the structures of consciousness in human experiences. For a phenomenological study, the process of collecting information involves in-depth interviews (Creswell, 1998; Morse, 2002). Hence, this study involved an in-depth exploration of the lived experiences of the participants. In this study, the phenomenon was the reading experiences of young adult literature.

Participants - Criterion Sampling

Criterion sampling was the mode of selecting the participants of this study. The Rosenberg Self-Esteem questionnaire was used to identify students (participants) who lacked self-esteem. The Rosenberg Self-Esteem questionnaire was administered to all undergraduates pursuing a degree in Bachelor of Education at University Teknologi MARA in Melaka. In order to further verify the level of self-esteem among the identified participants, a qualified counselor conducted a pre-interview session

with these undergraduates. Students, who scored low or whose statements clearly indicated negative values of themselves, were invited to participate in the study. As the participants of this study were university students whose age ranged between 19 and 25, they were categorized as young adults. Through a pre-interview session, a qualified counsellor identified seven students as having serious issues with self-esteem. All these students agreed to become the participants of this study and signed the consent form. Finally, one student did not complete the study but helped by giving added insights into the self-esteem related problems faced by young adults in Malaysia.

Data Collection

The time taken to collect data was 5 months. Dialogue journal entries, interviews and observation by the informants were the primary tools for data collection in this study. By the end of the fourth month, data saturation was noticed in the journal entries among all the participants.

Interviews

Individual interviews (three phases) were conducted between the participants and the researcher. The three phases were pre-interview, a second interview and a post-interview. The pre-interview aimed at gaining baseline information of the participants and their perception on self-esteem. A second interview was carried out while the study was in progress and the aim of the interview was to discover initial responses to the reading of selected

books by participants. Only young adult literature written in the English language was chosen as they were easier to be found and identified. The post-interview between the researcher and the participants was carried out to obtain feedback on the reading experiences of the participants. Two experienced lecturers, who are familiar with bibliotherapy, participated as the key informants. They observed changes in the behaviour or the attitudes of the participants which indicated growth of positive self-esteem. Information from the observation of these key informants was used to support the claims made by the participants in their dialogue journals.

Data Analysis

This study used Moustakas's (1994) technique of data analysis which emphasized on the construction of individual's textural description and following its reflection, the researcher constructed an individual's structural description of the underlying dynamics of the experience. Themes that account for how thoughts and feelings connected with the phenomenon are brought to the fore. The final phase involves bringing together all the participants' individual textural description and individual structural description of the phenomenon in order to create the experiences (in terms of meanings and essences) of the group as a whole.

FINDINGS AND DISCUSSION

The findings of this study consisted of the descriptions of the participants' reading experiences. The presentation of the findings

is according to the research questions stated earlier. The participants were all given pseudonyms so as to protect their identities. The participants' names are as follows: Julie (who did not complete the study), Ezzy, Nur, Ayu, Syed, Fir, and Azim.

Research Question 1

How does a group of Malaysian young adults perceive self-esteem?

The findings of this study indicate that all the participants have perceived 'self-esteem' in relation to their level of self-confidence, appearance, the ability to perform well academically, possessing certain skills, happy with life and having good relationship with family and friends. These descriptions seem to fit into Carlock (1998), Malhi and Reasonar (2001), Rice and Dolgin (2008) and Rathus's (2008) descriptions of self-esteem, whereby self-esteem is defined as a person's impression or opinion of himself or herself or the overall evaluation of oneself in either a positive or negative way. The participants' descriptions of their self-esteem include liking oneself, ability to communicate with people, ability to do tasks and involve in activities, face challenges, face consequences, and ability to face problems, set good examples, have lots of friends, and have leadership quality, good appearance and people notice you. According to Lawrence (2000), one of the common origins of low self-esteem is 'emotional deprivation'. For example, in a normal process of development, children learn from parents that they are loved. However, some unlucky children may have

parents who are unable or unwilling to show consistent love, which is usually because of their own unresolved issues. Nur and Ezzy fit into this category of individuals who are deprived of emotional stability. Thus, these children learn quite early in life that they are not loveable and consequently begin to dislike themselves. Lawrence (2000) further stressed that during the childhood stage of life, children usually believe their parents' valuation of them and if this valuation is perceived as negative, children will slowly develop low self-esteem and these 'unloved' children will eventually become 'unloved' adults. Another origin of low self-esteem according to Lawrence (2000) is distorted self-image. Nur and Ezzy seem to fit perfectly into this profile. Both have issues with their appearance and are unable to communicate with friends. They live in their own isolated world and strongly believe that they could not get along with anyone and one of the sources of this distorted 'self-image' is their strained relationship with their parents.

In summary, the participants' perception with respect to their self-esteem seems to reflect the definitions provided by the experts in this field. In this study, every participant shared an unfortunate story, reflecting that their traumatic experiences of the past, distorted self-image and emotional deprivation have affected their self-esteem. The findings of this study seem to show that these participants understand the importance of having a positive self-esteem.

Research Question 2

To what extent does reading of young adult literature help in developing self-esteem among these young adults?

The findings of this study indicate that reading young adult literature has created an impact on the lives of the participants although the degree of effectiveness may differ from one individual to another. For example, Ezzy identified with the characters in the stories read and experienced catharsis more than the other participants; however, her evolution in this study seemed not to be obvious. From the varied responses witnessed among the participants, it can be concluded that reading literary texts has helped most of the participants to develop their self-esteem. Looking at these positive changes among the participants, the researcher remembered Rosenblatt's (1995) description of the power of active participation in literature. She pointed out the growth that happens when readers give themselves over to another "time and place and environment…these experiences open the readers to a partnership in the wisdom of the past and the aspirations for the future" (p. 276). By vicariously experiencing the life of a character in fiction or participating in another's emotion expressed in a story, the reader may be able to bring into consciousness similar elements in his or her own nature of emotional life.

It can be concluded that all the participants possessed the desire to change. They were honest in revealing their weakness, able to objectively analyze their

true selves and most importantly undertake conscious effort to change and improve on their area of weakness. In this case, literature is merely a tool, i.e. a catalyst that helps to illuminate and share with the readers the experience of others facing similar predicaments. Whether the reader is willing to integrate insights gathered and evolve from the therapeutic process lies solely in his or her hand as seen from this study. This principle is reflected in the conceptual framework of this study. The conceptual framework portrays literature as an initiator while reader-response helps to create reading connection. Bibliotherapy, through the process of reflection/discussion, helps readers to internalize insights gained. The participants who evolved positively in this study are those who had not only experienced all the three stages in the literary reading experience but most importantly, they were willing to change. In summary, reading literary texts has helped most of the participants to develop their self-esteem, hence, gaining greater benefits in life.

Research Question 3

What reading characteristics emerged as contributing towards the development of self-esteem among the participants?

The findings of this study indicate 5 reading characteristics of the participants which have contributed to the development of their self-esteem. These are intentional reading characteristics, relational reading characteristics, reflective reading characteristics, transporting reading characteristics, and pleasure reading characteristics. Cohen's (1992) study revealed only three reading characteristics, namely, intentional, relational and transporting. However, data from this study have revealed two additional characteristics – reflective and pleasurable. Reading was intentional when the participants read purposefully, and sought out ideas from readings to understand their personal struggles and overcome problems related to self-esteem. Relational reading was discovered when the participants interacted with the characters in the story. Readers who consider reading as a private affair or something to be shared with others demonstrate relational reading characteristics (Cohen, 1992). Most of the participants kept the reading as something personal and private. Perhaps, the fear that they would be judged by others might have influenced their decision to keep this reading experience as an aspect of their private life, not to be shared with others. Two out of the six participants reported that the reading of the stories was like having a conversation with a friend. They became involved with the characters in the books.

Reflective reading characteristics were found in all the participants' journal entries when they were fully engaged with the reading. Transacting with the text, comparing their lives with those in the stories, asking questions as they were moving along the stories all indicated reflective reading characteristics. Transporting reading characteristics were revealed when the participants were transported into the world

of fiction and at times showed evidences of carrying out dialogues with the characters in the stories. In particular, two participants were found to have immersed themselves in the reading constantly and thus, transported themselves into the worlds of the characters. This sense of losing yourself in the reading or feeling as if you are part of the story usually occurs when the reader is able to engage with the reading. Rosenblatt (1995) describes this engagement with the stories as participating, identifying and sharing our conflicts and feelings. At the same time, there is a stream of responses being generated. Pleasure reading characteristics were seen when the reader treated reading as merely for information-seeking. Although most participants were either able to relate or immerse themselves in the stories they read, Syed read for pleasure. Syed found the stories entertaining but did not see much value behind those stories. Yenika-Agbaw (1997) pointed out that "pleasurable reading does not help readers identify issues raised in books, question the ideologies informing the stories or understand how all these affect readers' daily live" (p. 446). These reading characteristics affirmed the presence of two pillars supporting the foundation of this study: reader-response and bibliotherapy. In addition, the different reading characteristics derived from this study indicate the merging of reader-response and bibliotherapy. In summary, 5 reading characteristics emerged in the reading experience of the participants. These are intentional reading characteristics, relational reading characteristics, reflective reading characteristics, transporting reading characteristics and pleasure reading characteristics.

Research Question 4

How do these young adults describe the experience of reading young adult literature to develop their self-esteem?

The findings of this study indicate a number of themes for the participants' development of self-esteem. The themes include experienced growth of positive qualities, gained new understanding of oneself, felt less isolated and different, challenged belief system, gained new ideas and friends, as well as inspired and enriched. From the inception of this study, the researcher noticed that all the participants struggled with understanding themselves and the world they live in. The participants, through the reading of young adult literature, were able to better understand themselves and the world around them. Brown and Stephens (1995) pointed out that young adult literature has the potential of fulfilling the needs of young people since it enhances self-knowledge, the knowledge of others, and the knowledge of a world view. One of the common traits which the researcher observed in all the participants was their tendency to feel different and isolated. Apparently, these individuals suffered from the fear of being different as experienced by young adults. However, every participant at one point or another mentioned that the reading experience helped them not to feel so isolated. As the participants read and shared their experience and ideas, they were shaped and reshaped as people. The

one comment that was universal for the participants who experienced a change in their belief system was, "The reading of stories really made me think of whom I am and what I have believed in thus far." These participants were experiencing what Wisenbaker (2008) described as 'the power of the story' which constructs or alters one's belief system. The participants frequently reported in the journals how the reading of stories has constantly challenged their existing belief system, such as "I realize that nobody is perfect" (Ayu), "…everyone is different" (Ayu), and "…everyone will fail one day" (Azim).

Reading is often said to expand and open our life to new ideas as well as provide an avenue for us to explore the new worlds portrayed in the stories. In this study, the participants obtained new ideas mainly from observing the characters in the stories, judging how certain crisis were resolved and finally evaluating the outcome of their struggles as portrayed in the stories. Nur wrote that she gained some ideas about herself and her world from the readings. She has learnt a lot about building relationships not only among family members but also among friends. The benefit of reading for idea was quoted by Alston (1962, as cited in Rubin, 1978), when he said that books help readers to gain greater insights into their problems and ideas with which to communicate their problems with others. Rosenblatt (1995) also stated that stories open up a new view of life or a new sense of the potentialities of human nature and thus give ideas to resolve struggles. One important concept emerging from the data

is that therapeutic reading inspired and enriched most of the participants. They professed that the reading experience gave them comfort, confidence, reassurance and hope. This finding supports Rosenblatt's (1995) reader-response theory on how reading and experiencing literature can enrich one's life. The reader-response theory empowers the readers to partake in an active reading process and the 'living-through' experience which is inherent in the literature provides a richer and meaningful reading experience. By connecting, responding and integrating insights gained from the stories, these participants experienced a new surge of positive self-esteem. Besides experiencing growth, this reading therapy seems to have indirectly inculcated the love of reading. Some of the participants stated that their love for reading has deepened. They have learnt to take reading at a deeper level and this ability seems to reflect Hynes and Hynes-Berry's (1994) opinion on how bibliotherapy is able to improve a reader's capacity to reflect and respond to reading. In summary, reading young adult literature has led to the positive development of the participants' self-esteem. To most of the participants, reading young adult literature has provided them with vicarious experiences to help them enhance their self-esteem.

IMPLICATIONS AND RECOMMENDATIONS

One of the implications of this study is that reading young adult literature can be therapeutic in terms of gaining a better understanding of self and the world around

the reader. Hence, teaching and learning of literature in English in Malaysia should focus on literary competence and personal development in order to produce well-balanced students who are mentally and physically healthy. Reading young adult literature can be utilized to help the students develop their self-esteem, an aspect of self which cannot be neglected. Obviously, bibliotherapy can play a significant role in the educational setting.

The findings of this study show that reading young adult literature is a good technique for helping the participants to understand their problems with self-esteem and gain insights into their solution. Future research is needed to assess the therapeutic effectiveness of reading young adult literature for other problems, such as anger management, grief and loss, or developmental disabilities. This study has also discovered that gender plays a role in the way an individual responds to a story. The male participants rejected books which were confrontational in nature, while the female participants did not exhibit similar dislikes. Future study is needed to understand this phenomenon.

CONCLUSION

Bibliotherapy or therapeutic reading of young adult literature was able to help a group of Malaysian young adults to enhance their level of self-esteem. Both the reader-response and bibliotherapy elements are needed to help the readers to connect, engage and create meaningful reading, and thus leading to an enhancement of self-esteem.

This study indicates that bibliotherapy has a place in language classrooms.

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Aggression among School Children in Malaysia

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ABSTRACT

This study aimed to investigate the level of aggression among primary school children in Malaysia. A total of 450 students aged 11 were randomly selected from nine schools in the Selangor State to participate in this study. Children Aggression Inventory (CAI) was administered to collect data from the respondents. The reliability of the CAI in this study was found to be high ($\alpha = 0.90$). The data obtained were analyzed using both descriptive and inferential statistics to address the research objectives. Findings from this study showed that the aggression level demonstrated by school children was moderate ($M = 2.18$, $SD = 0.392$). The highest mean score for aggressive behaviour exhibited by the children is hostility ($M = 1.88$, $SD = 0.37$), followed by anger ($M = 1.86$, $SD = 0.36$), verbal aggression ($M = 1.71$, $SD = 0.37$), indirect aggression ($M = 1.66$, $SD = 0.38$), and physical aggression ($M = 1.66$, $SD = 0.45$). Results also indicated a significant difference between the boys and girls in the mean scores of physical aggression [$t (443) = 6.034$, $p < 0.01$] and anger [$t (445.78) = -3.034$, $p < 0.01$]. Boys were found to be more aggressive than girls in terms of physical aggression while girls were found to be more aggressive than boys in terms of anger.

Keywords: Aggression, gender, school children

INTRODUCTION

Generally, aggression is defined as an aggressive act that intends to harm another person who is motivated to escape from being harmed (Geen, 2001). Children nowadays are easily exposed to different types of violence and aggression from their environment, such as community, family, peers and media. As a consequence, the exposure to aggression and violence will increase the risk on the development of children's aggressive behaviour.

In the study of the development of children aggressive behaviour, children who

show aggressive acts in the early childhood years are linked to criminal and delinquent behaviours in later adolescence and adulthood if it is left untreated (Christakis & Zimmerman, 2007). In the same line, Huesmann *et al*. (2002) also argue that the aggressive behaviour patterns at age eight are predictors of criminal, delinquent and antisocial behaviours over the next 22 years. Similarly, longitudinal studies have reported the continuity from early childhood aggression to early adolescents and adult aggression, criminality and antisocial behaviours (Moffitt *et al.,* 2001; Huesmann *et al*., 2002; Thompson *et al.,* 2011). Hence, the development of aggressive behaviour from early childhood is greatly related to future mal-adjustment in adolescents and adulthood in the forms of continued aggression, conduct problems, juvenile delinquency and adult criminality.

Aggressive behaviour is said to lead to various negative outcomes such as academic failure, peer rejection, juvenile delinquency and continued aggression (Van Lier *et al.,* 2007). According to Abd. Wahad (2006), the early stages of juvenile delinquency can be detected in the form of rule-breaking such as truancy, smoking, drinking, suspension, shoplifting and vandalism. The absence of effective intervention to overcome the early childhood aggression problems can lead to serious criminal misconducts such as bullying, injury to others, rape, theft and murder in later life.

Past studies have revealed that aggressive behaviour among children is influenced by a number of factors including personal characteristics such as gender (McGinley & Carlo, 2007; Lee *et al.,* 2007, Archer & Côté, 2005), emotional regulation ability (Marsee & Frick, 2007; Campos *et al.,* 2004; Romasz *et al.,* 2004), and environmental factors such as friendship (Bagwell & Coie, 2004; Hay, 2005; Soenens *et al.,* 2008) and media influences (Bushman & Huesmann 2006; Christakis & Zimmerman, 2007; Savage & Yancey, 2008). As children are not born violent, the origins and development of such behaviour need to be explored and described, to better understand this puzzling and disturbing phenomenon.

DEFINITION OF AGGRESSIVE BEHAVIOUR

According to Geen (2001), aggression cannot be explained by a single definition because there are different kinds of aggressive behaviour. In fact, aggressive behaviour has different forms (e.g. physical, verbal, direct, indirect, displaced, passive, and active aggression) and functions (e.g. reactive and proactive aggression). The form of aggression means the way of an aggressive act is expressed, such as physical aggression versus verbal aggression, direct aggression versus indirect aggression, and active aggression versus passive aggression (Buss, 1961, as cited in Bushman & Huesmann, 2010). According to Richardson and Green (2006), a direct form of aggression involves face-to-face confrontation between the aggressor and the victim. It comprises of both physical and verbal aggression. Physical aggression involves behaviour such as harming others with physical

forces like fighting, hitting, kicking, biting, punching, scratching, stabbing, assaulting with weapon, or damaging other's property (Geen, 2001). Verbal aggression involves the use of words to harm others such as name calling, screaming, yelling, or cursing (Richardson & Green, 2006). On the other hand, indirect form of aggression involves delivering harm to another person without direct confrontation (Richardson & Green, 2006). It may be delivered either in physical or verbal form such as puncturing the tire of a person's car when he is not around or spreading rumours at someone's back (Richardson & Green, 2006). In addition, indirect form of aggression has similar concept with relational aggression. Relational aggression refers to a behaviour that can cause damage to another person's social relationships with others which involves social exclusion, ostracism, and threatening to end the friendship (Crick & Grotpeter, 1995).

Aggressive acts can also be explained through two underlying functions or motives - reactive aggression and proactive aggression (Card & Little, 2006; Fite, Stoppelbein, & Greening, 2009). The concept of reactive aggression can be explained by the frustration-aggression theory. From this perspective, reactive aggression refers to behaviour that is defensive, retaliatory, and actuated by a provocation such as attack or insult (Hubbard, McAuliffe, Morrow, & Romano, 2010). On the other hand, proactive aggression is defined as an aggressive act that is being motivated to reach a goal.

For instance, harming others, dominating, obtaining goods, asserting power, and assuring the approval of reference groups and other goals (Geen, 2001). The concept of proactive aggression can be explained through social learning theory (Bandura, 1963) which proposes that aggression is learned through observing and imitating the aggressive model and the whole processes is being controlled by rewards and punishments. Vitaro and Brendgen (2005) suggest that it is useful to distinguish between reactive and proactive aggression to understand childhood aggression. However, Bushman and Anderson (2001) suggest that it is impossible to distinguish between these two functions of aggression because they are highly correlated.

In this study, the forms of aggressive behaviour being investigated are physical aggression (Geen, 2001), verbal aggression (Richardson & Green, 2006), indirect aggression (Richardson & Green, 2006), anger (Ramírez & Andreu, 2006), and hostility (Buss & Perry, 1992). These dimensions of aggression were investigated as the aggression variables in this study. A brief description of these aggression dimensions are shown in Table 1.

THE DEVELOPMENT OF AGGRESSIVE BEHAVIOUR

Social Learning Theory (SLT)

According to social learning theory, aggressive behaviour is both learned through observation or imitation of a model and reinforced through reward and punishment contingencies (Bandura, 1973). According

TABLE 1
Description of the Aggression Dimensions

Aggression Dimensions	Description	Source
Physical Aggression	Harming others with physical forces like fighting, hitting, kicking, biting, punching, scratching, stabbing, and assaulting with weapon, or damaging another's property.	Geen, 2001
Verbal Aggression	Involves the use of words to harm others such as name calling, screaming, yelling, or cursing.	Richardson and Green, 2006
Indirect Aggression	Delivers harm to another person without direct confrontation.	Richardson and Green, 2006
Anger	Refers to feelings and attitudes, and represents the emotional or affective component of aggressive behaviour.	Ramírez and Andreu, 2006
Hostility	The attitude of resentment and suspicion towards others.	Buss and Perry, 1992

to Geen (2001), SLT suggests that a child develops a rudimentary knowledge of certain rules to conduct progressively in his everyday life based on his/her observation from numerous examples and consequences of aggressive acts in his environment (e.g. at school, at home and in the fantasy world of television programs, computer games and video games) (Geen, 2001). However, whether the child acts out and maintains the behaviour he has learned depends on the reward and punishment contingencies that he receives based on his behaviour (Geen, 2001). This implies that the child is more likely to behave aggressively if he experiences rewards from his aggressive acts. Eyal and Rubin (2003) suggested that when an aggressive act was repeatedly met with positive outcomes such as social approval or pleasantries, it would lead the child to act in the same way again in the future. For example, a child who desires

for pleasure or control is met with positive outcomes when he bullies smaller children or his friend, he is likely to exhibit the same action again in the future.

Bandura (1973) proposed that children did not just learn new behaviour through observation and imitation, but also made cognitive inferences according to their observation and imitation. These cognitive inferences will then lead to generalizations in their behaviour. For instance, children who observe violence in the family will not only increase the likelihood to behave aggressively but may also increase the belief that acting aggressive is acceptable. In short, the social learning theory explains the mechanisms leading to acquisition and performance of aggression in accordance with the principles of observational learning, learning through conditioning and direct experience.

Gender Differences in Aggressive Behaviour

Studies have provided evidences that there are gender differences in aggressive behaviour (McGinley & Carlo, 2007). According to Salzinger *et al.* (2008), boys were found more likely to demonstrate aggressive behaviour than girls. This finding was in line with Toblin *et al.*(2005) who found that boys are more likely to behave aggressively and they are more emotionally and behaviourally deregulated than girls (Schwartz, 2000).

In addition, Krahé (2000) suggested that gender differences in aggressive behaviour are dependent on the types of aggressive behaviour studied. In a study conducted by Lagerspetz and BjÖrkqvist (1994), boys were engaged in direct aggression such as physical aggression more often than girls, while girls use indirect aggression such as gossiping and excluding others more often than boys.

Moreover, females tend to engage in pro-social behaviours by showing more perspective taking, empathy, sympathy, and nurturing than males, while males have been found to be more physically aggressive and engaged in more risky and instrumental forms of pro-social behaviours (Eisenberg, 2003; Carlo & Randall, 2002; Ostrov & Keating, 2004; Carlo *et al.,* 2003).

RESEARCH BACKGROUND

According to a study conducted by Lee *et al*. (2007) in Malaysia, 27.9% of secondary students involved in physical fights, 6.6% were injured in a fight, 5.9% carried a weapon, 7.2% felt unsafe, 18.5% had their money stolen and 55.0% had their property stolen.

Some of the breaking news highlighted in the mass media has portrayed schools with students of misbehaving characters. Some even go to the extent of considering the case of misbehaviour as a criminal problem. For instance, eleven teenagers aged between 15 and 17 from a secondary school in Marang, Kuala Terengganu were arrested by police after attacking and assaulting a student from a religious school in the same district (*Utusan Malaysia*, 2011). In another incident, Zaman and Nadchatram (2007) reported that two secondary school students were afraid to go to school after they had experienced taunt and name calling from other students. The same thing happened to a 10 year-old boy who was feeling frustrated and hurt due to the incessant teasing directed to him by the older boys at school (Tee, 2009). All these cases have raised public concern about violence and aggressive behaviour among students in Malaysian schools.

From the theoretical aspect, it is noted that there are numerous literature in regard to children aggressive behaviour development especially in some Western countries such as Canada (Cote *et al.,* 2006), Finland (Kokko *et al.,* 2009), New Zealand (Donnellan *et al.,* 2005), United States (Kokko *et al*., 2009; Campbell *et al.,* 2000) and Australia (Prior *et al.,* 2001). In Malaysia, most of the research was conducted to study bullying (Lee *et al*., 2006; Rahimah & Rohani, 1997), but not aggressive behaviour among school

students. Thus, there is a gap in terms of the understanding of aggressive behaviour among school students. Hence, this study is warranted to determine the level and gender differences in relation to aggressive behaviour among Malaysian primary school children.

RESEARCH OBJECTIVE

This study aimed to explore the level of aggression among primary school children in Malaysia. In addition to that, gender differences in relation to aggression among the subjects would also be determined. Based on the specific objectives stated above, the research questions addressed in this study are as follows:

1. What is the level of aggressive behaviour reported by the respondents?

2. Is there any gender difference in the aggressive behaviour between boys and girls?

METHODOLOGY

This study employed a cross sectional research approach. A total of 450 students aged 11 were selected from nine schools in three districts (Hulu Langat, Gombak, and Petaling Utama) in Selangor to participate in this study by using multistage cluster sampling. The sample comprised of 229 (50.9%) males and 221 (49.1%) females. Data collection involved the provision of directly administered questionnaire to the respondents.

Instrumentation

Children Aggression Inventory (CAI) was developed based on the definitions proposed by Geen (2001), Richardson and Green (2006), Ramírez and Andreu (2006), and Buss and Perry (1992) to assess the aggressive behaviour among the subjects. It is a self-report questionnaire that can be administered to children aged between 10-12 years old. This inventory is scored based on a three-point Likert scale. CAI consists of 38 items from five aggression dimensions, namely, physical aggression, verbal aggression, indirect aggression, anger, and hostility. CAI was translated into the Malay language before it was administered to the subjects. The scale was content validated by a panel of experts which comprised of three local psychologists. The reliability of the CAI in this study was found to be high ($\alpha = 0.90$). A brief description of the CAI is presented in Table 2.

A total score for the 38 items in CAI provide information on the overall level of aggression among the respondents. In addition, the total scores for each aggression dimension determine the level of aggression for that particular dimension. The level of aggression was determined by using a formula proposed by Zuria *et al.* (2004) such as maximum Likert scale (3) divided by median (2). Hence, the values for the three categories for the overall level of aggression and the five dimensions are High (2.34-3.00), Moderate (1.67-2.33), and Low (1.00-1.66).

TABLE 2
Description of the CAI Subscales

Subscales	Measured Aspects	Items
Physical Aggression No. Item: 9	Measures of the tendency to use physical force when expressing anger or aggression. (e.g.: Item 8: I beat people who challenge me.)	8, 10, 11, 17, 23, 24, 25, 27, 38
Verbal Aggression No. Item: 7	Measures the tendency to be verbally argumentative. (e.g.: Item 4: I fight when other people who disagree with me.)	1, 4, 6, 20, 26, 35, 36
Indirect Aggression No. Item: 7	Measures of the tendency to express anger in actions that avoid direct confrontation. (e.g.: Item 13: I spread rumours about people whom I do not like.)	13, 14, 15, 18, 30, 34, 37
Anger No. Item: 8	Measures anger related arousal and sense of control. (e.g.: Item 19: I will be upset when I did not get what I want.)	2, 3, 7, 12, 19, 22, 29, 32
Hostility No. Item: 7	Measures the feelings of resentment, suspicion and alienation. (e.g.: Item 28: At times, I think people are bad mouthing about me at the back.)	5, 9, 16, 21, 28, 31, 33

FINDINGS AND DISCUSSIONS

Level of Aggression among School Children

The findings in Table 3 indicate that most of the respondents demonstrated a moderate level of the overall aggression (N= 366, 81.30%). In particular, 18.50% (N= 83) of the respondents showed a high level of the overall measured aggression and only 1 respondent (0.20%) showed a low level of overall aggression in this study. This finding showed that majority of the respondents who participated in this study demonstrated a moderate level of aggressive behaviour.

The level of the respondents' aggression was further analysed based on each aggression dimension, such as physical aggression, verbal aggression, indirect aggression, anger and hostility. The results in Table 3 show that the aggression levels displayed by the respondents were moderate for verbal aggression (52.70%), anger (56.0%), and hostility (63.60%). Meanwhile, physical aggression (60.90%) and indirect aggression (50.40%) were found to be low among the respondents.

This findings indicate that the primary school children in this study are moderately aggressive in their behaviour. The aggression dimensions involved are verbal aggression, anger and hostility. This phenomenon needs special attention as aggressive behaviour will lead to various negative outcomes, such as academic failure, peer rejection, juvenile delinquency and continued aggression (Van Lier *et al*., 2007).

Gender Differences in Aggressive Behaviour

A comparison between boys and girls in terms of aggressive behaviour was done by

TABLE 3
The Distribution of the Mean Score for Aggression

	Mean Score	Std. Deviation	Frequency	Percentage (%)
Overall Aggression	2.18	0.39		
Low (1.00-1.66)			1	0.20
Moderate (1.67-2.33)			366	81.30
High (2.34-3.00)			83	18.50
Physical Aggression	1.66	0.45		
Low (1.00-1.66)			274	60.90
Moderate (1.67-2.33)			125	27.80
High (2.34-3.00)			51	11.30
Verbal Aggression	1.71	0.37		
Low (1.00-1.66)			192	42.70
Moderate (1.67-2.33)			237	52.70
High (2.34-3.00)			21	4.70
Indirect Aggression	1.66	0.38		
Low (1.00-1.66)			227	50.40
Moderate (1.67-2.33)			205	45.60
High (2.34-3.00)			18	4.00
Anger	1.86	0.36		
Low (1.00-1.66)			146	32.40
Moderate (1.67-2.33)			252	56.00
High (2.34-3.00)			52	11.60
Hostility	1.88	0.37		
Low (1.00-1.66)			118	26.20
Moderate (1.67-2.33)			286	63.60
High (2.34-3.00)			46	10.20

performing independent-samples t-test on the mean aggression scores obtained. The results from Table 4 indicated that there was no significant difference in the mean overall aggression score between boys and girls. This finding supported the suggestion by Krahé (2000) that gender differences in aggressive behaviour are dependent on the types of aggressive behaviour studied. The findings showed that there was a significant difference between them in the mean scores of physical aggression [t (443) = 6.034, p < 0.01] and anger [t (445.78) = -3.034, p < 0.01]. This shows that boys exhibit more

TABLE 4
T-test on Aggressive Behaviour between Boys and Girls

Variables	n	*M*	*SD*	t-value	Sig. (2 tailed)
Overall Aggression					
Boys	229	1.756	0.311	1.938	0.053
Girls	221	1.701	0.291		
Physical Aggression					
Boys	229	1.779	0.459	6.034	0.000
Girls	221	1.534	0.399		
Verbal Aggression					
Boys	229	1.739	0.378	1.763	0.079
Girls	221	1.678	0.349		
Anger					
Boys	229	1.808	0.347	-3.034	0.003
Girls	221	1.909	0.359		
Hostility					
Boys	229	1.859	0.369	-1.177	0.240
Girls	221	1.901	0.377		

Note**:** *M*= Mean; *SD*= Standard Deviation; Sig.= Significance.

physical aggression (*M*= 1.779, *SD*= 0.459) as compared to girls (*M*= 1.534, *SD*= 0.399). On the other hand, girls exhibit more anger (*M*= 1.909, *SD*= 0.359) as compared to boys (*M*= 1.808, *SD*= 0.347).

This research findings have highlighted gender differences in relation to the type of aggressive behaviour rather than the overall aggressive tendency. This finding support the study by Ronen, Rahav, and Moldawsky (2007) who found that students reported no significant gender differences in the overall aggression tendencies among children. This study also supports the previous research with regards to gender differences for the aggression dimensions. For example, gender differences were found in the studies by Lagerspetz and BjÖrkqvist (1994), Bettencourt and Miller (1996), Xing *et al.*(2011), Bradshaw *et al.* (2009), Baillargeon *et al*. (2007), as well as Zimmer-Gembeck *et al*. (2005) for direct and physical aggression dimensions. They have found that boys displayed more direct aggression such as physical aggression compared to girls, while girls tended to display more indirect aggression such as gossiping and excluding others.

CONCLUSION

Consequently, this study is able to provide fruitful information about the aggression level among primary school children in Malaysia. The results from this study revealed that school children in Malaysia are moderately aggressive in their behaviour. The types of aggression involved are verbal aggression, anger and hostility. Boys were found to be more aggressive than girls physically while girls showed more aggression in term of anger as compared to boys. Having an enhanced understanding of the aggression level demonstrated by school children in this study, it is suggested that appropriate intervention programmes, such as parent training programme, child-focused programme, community-based programme, and mental health treatment to be designed and implemented to reduce the level of aggression among school children. By doing so, it is anticipated that incidents of delinquent and bullying can be minimized or inhibited.

RECOMMENDATIONS

As this study employed a cross-sectional research approach, the developmental factors such as maturation could not be accounted for. Hence, it is suggested that longitudinal approach to be utilized in future research to overcome this shortcoming. In addition, this study employed quantitative research approach in collecting and analyzing data. The data and information obtained from this study were limited because these were obtained based on the structured instrument. Hence, both qualitative and quantitative approaches should be utilised in the future research to enrich and enhance the understanding of the relationships among the variables concerned. Meanwhile, demographic factors such as family socio-economy status, parents' marital status and academic achievement can also be taken into account in the study of children aggression in any future research.

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SOCIAL SCIENCES & HUMANITIES

An Intervention Programme to improve Spiritual Intelligence among Iranian Adolescents in Malaysia

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ABSTRACT

The aim of this study was to determine whether an intervention program on Spiritual Intelligence will help to improve spiritual intelligence among Iranian female adolescents studying in an Iranian School in Kuala Lumpur, Malaysia. The sample comprised of 32 female students, 16 assigned to the experimental group and another 16 in the control group. The study utilized the quasi experimental design with a pre-test and a post-test. The experimental group was given 5 sessions of training in spiritual intelligence (SIG Training) over a period of 5 weeks. The control group was given life skills training for the duration of the experiment. Spiritual intelligence was measured by Integrated Spiritual Intelligence Scale (ISIS) by Amran and Dryer (2007). Results showed that the SIG training improved spiritual intelligence in the experimental group as well as the subscales in spiritual intelligence. The subscale 'Gratitude' showed a significant increase when a comparison was made between the pre-test and post-test in the experimental group. The control group showed a significant increase in one subscale namely 'purpose' but there was no significant change for the other subscales. Hence, the training given to the experimental group was effective in enhancing spiritual intelligence.

Keywords: Spiritual intelligence, SIG Training, Iranian Adolescents

INTRODUCTION

During the last three decades, the crime age in Iran has decreased from 40 to 15 years old (The National security commission of Iran Parliament, 2009). Meanwhile, the theft statistics among Iranian adolescents increased about 300 percent from 10 to 17 years old in the period from 1996 to 2006.

At the same time, the rate of addiction increased about 300 percent among the same age group (Iranian adolescents who are 10 to 17 years old) from 56 people in 1996 to 179 people in 2006 (Geravand A. Mehr News Agency, 2006). With the present conditions, it seems that the study of the methods in order to effectively improve people can help them to fight with these problems. For instance, some newer forms of psychotherapy focus upon the development of positive emotions and adaptive coping strategies rather than focusing upon negative emotions, internal conflicts, and anxieties formed in childhood. These forms of psychotherapy can be quite successful in helping people emerge from debilitating psychological problems (Seligman 1999).

Recent research has suggested that spiritual beliefs, commitments, and practices appear to be related to such positive outcomes such as physical, emotional, and psychological well-being, positive interpersonal functioning, marital satisfaction and stability, and enhanced quality of life (Emmons, 2000). A contributing factor to these positive outcomes may be having a spiritual orientation towards life protects human beings against undesirable and maladaptive behaviours such as acting in personally or socially destructive ways (Emmons, 2000).

Obviously, spiritual intelligence has a significant influence on the quality of life and it goes without saying that adolescence is a sensitive period which requires specific training to make a brighter future and be exposed to the difficulties. However, there is no systematic program to educate the adolescents for spiritual intelligence, and consequently the present research made an attempt to address this question, i.e. whether we could design a training plan to increase spiritual intelligence among adolescents.

THE DEVELOPMENT OF SPIRITUAL INTELLIGENCE

A high degree of conscious awareness about and adaptiveness to the events and experiences in one's life and cultivation of self-awareness may be considered as crucial for the ongoing development of spiritual intelligence (Sisk & Torrance, 2001; Zohar & Marshall, 2000). In fact, a number of strategies, techniques, and practices have been recognized to be useful for the development and improvement in spiritual intelligence. For instance, Vaughan (2002) has proposed that spiritual intelligence improves with increased openness and the ability to empathise with broad points of view. It will also improve with greater sensitivity to and experience of delicate realities such as transcendent states and spirit scopes. Spiritual intelligence will also improve with deeper comprehension of mythical, symbolic, and archetypal manifestations of the unfolding of consciousness. Hence, from this point of view, an open and contemplative mindset that tolerates uncertainty, paradox, and mystery, is beneficial to the growth of spiritual intelligence, whereas a rigid, closed, and definitive acceptance of a particular belief system may hinder its development (Noble, 2000; Sisk & Torrance, 2001).

In fact, as mentioned earlier, open mindedness has been identified as both a contributing factor to and result of the development of spiritual intelligence (Noble, 2001; Zohar & Drake, 2000). In this case, it may be said that the development of spiritual intelligence follow the path of Fowler's (1995) stages of faith development, which show the progress from spiritual immaturity to maturity and from another aspect, commitment to any selected spiritual practice has also been said to very much ease the growth of spiritual intelligence. Such practices may include prayer, contemplation, self-reflection, yoga, meditation, psychotherapy, charitable service to others, and entering periods of silence or solitude (Vaughan, 2002). Spiritual or mystical experiences are also able to play a significant role in the development of spiritual intelligence, especially if they happen in a supportive and grounding setting which eases their combination into everyday life. If the physical, psychological, and interpersonal effect of these experiences is contemplated and acknowledged, they can have a positive transformative effect on the individual's psychological functioning and well-being (Noble, 2001; Vaughan, 2002).

SQ is a set of abilities like awareness, synthesis, purpose, service and acceptance. Hence, using these abilities in our life can help us to outgrow our immediate ego selves and to reach beyond those deeper layers of potentiality that lie hidden within us. It helps us to live life at a deeper level of meaning. Finally, we can use our SQ to wrestle with problems of good and evil, problems of life and death, the deepest origins of human suffering, and often despair. Too often, we try to rationalize such problems away, or else we become emotionally swamped or devastated by them (Zohar, 2000).

In addition, it is worth mentioning that some of the abilities and qualities of spiritual intelligence such as wisdom, self-awareness, creative reasoning, integrity, compassion, and asking 'why' questions (Sisk & Torrance, 2001; Zohar & Drake, 2000), can be argued to be relevant to a much broader range of problems and issues apart from existential or spiritual matters (Emmons, 2000). They may, for example, be applied to the conceptualisation and resolution of relationship problems, and may also be used in work contexts for planning and formulating company policies and mission statements (Bowell ,2005).

ADOLESCENCE STAGE

The adolescence period is the best time to develop positive emotions and training skills because adolescents are seeking to find their identity and their future personality at this period (Bar-on, 2000). Adolescence as a formative stage plays a significant role in the study of psychopathology because after this maturational interval, it is difficult to change some behavioural and emotional patterns. Youth mostly are spiritually disconnected. This is the complaint of many concerned adults who sense that problems among young people are growing greater, and even those young people growing up in 'religious' homes are among the victims of a number of social ills. The disconnect causes young

people learning religion but not practicing it, not realizing it, and not having it influenced their lives in a meaningful way. In fact, the disconnect occurs between the knowledge that they are receiving and that knowledge translating into meaningful actions, and positive, healthy human and spiritual development. Youth researchers across the globe acknowledge the war of values taking place inside the hearts and minds of young people. Youth are in desperate need of the skills, knowledge and competencies to moderate the worldliness of our age with the understanding that can only come from the wisdom and applies spirituality, also known as spiritual intelligence (Abdul Lateef, 2009).

METHODOLOGY

The purpose of this research was to investigate the effect of training on spiritual intelligence among adolescents. Hence, this is a quasi-experimental study based upon the non-equivalent Groups Design, as suggested by Campbell and Stanley (1963). Table 1 shows the Quasi experimental design utilized in the study.

The quasi-experimental designs are commonly employed in the evaluation of educational programs when random assignment is not possible or practical. For quasi-experiments, the groups are equivalent on a set of pre-test measures and demographic measures. For this research, a sample group was chosen according to pre-test result. The scale used in this study was an adaptation of the Integrated Spiritual Intelligence Scale (ISIS) by Amram and Dryer in 2007. This survey was conducted among Iranian adolescent girls who are living in Malaysia and studying in an Iranian school (about 120 subjects). In this study, the pilot test was, first, administered to 30 students, and the results of the pilot test were then analyzed and the reliability of the scale was measured. Based on the findings of the pilot test, the lowest scored subscale in ISIS scale was included in the training programme. Then, the pre-test was carried out among the population of 90 students (those 30 students taking part in the pilot study were excluded). This was following by selecting 34 students scoring the lowest in SQ test as the sample of the

TABLE 1
Research design

Groups	pre-test	treatment	post-test	Follow-up test
Experimental group	O1	X	O2	O3
Control group	O4	-	O5	O6

O1 : The pre-test for measuring SQ in experimental group conducted before the treatment.
X : SI-G (spiritual intelligence-gratitude) training in 5 sessions for the experimental group.
O2 : The post-test conducted after 5 sessions for the experimental group.
O3 : The follow-up test conducted after 3 weeks to evaluate the sustainability of the results in the experimental group
O4 : The pre-test conducted for measuring SQ in the control group
 - : The control group did not experience any treatment programme
O5 : The post-test conducted among the control group after 5 sessions.
O6 : The follow-up test conducted for the control group after 3 weeks for evaluating the sustainability of the results

study who were later randomly divided into two groups comprising of 17 students in the experimental group and 17 students in the control group.

Five training sessions were planned for the experimental group. The duration of each session was about 130 minutes per week. Therefore, it took about two months to complete the training program. After 5 sessions, a post-test was conducted among the two groups and the achieved data were analysed to evaluate the effect of the training. After 3 weeks, the same Spiritual Intelligence Scale (ISIS) was administered as a follow up test to the control and experimental groups in order to study the results of the training stability after that duration.

Scoring Procedure

The scoring procedure in this instrument was based on a six-point Likert scale with 1 (never, or almost never) to 6 (always, or almost always). If the overall mean of the participant's ISIS score is above 4.30, it indicates a greater spiritual intelligence; conversely, if the overall raw score of the participant falls below 4.30, it indicates a lower degree of spiritual intelligence.

Instrument Validity and Reliability

Dr. Yosi Amram and Dr. Hristopher Dryer developed and conducted the preliminary validation of a measure of spiritual intelligence (SI), the Integrated Spiritual Intelligence Scale (ISIS). SI is explained as the ability to use, show and embody spiritual resources, values, and qualities to develop routine operating and well-being. ISIS is an 83-item long form, and a 45-item short form, self-report instrument. ISIS has shown satisfactory factor structure, internal consistency, test-retest reliability and construct validity. It includes 22 subscales evaluating separate SI potentialities related to Beauty, Discernment, Egolessness, Freedom, Gratitude, Higher-self, Holism, Immanence, Inner-wholeness, Intuition, Joy, Mindfulness, Openness, Practice,Presence, Purrpose, Relatedness, Sacredness, Service, Synthesis, and Trust.

In order to assess the internal consistency of the scale and subscales, Amram and Dryer (2007) calculated Cronbach's Alpha. The internal consistency of the Integrated Spiritual Intelligence Scale was high, with Cronbach's Alpha = 0.97.

Training Programme

For this research, the researcher designed 5 sessions of training for spiritual intelligence: 4 sessions for training spiritual intelligence according to Bowell's programme (2005) and 1 session for training gratitude because according to the results analysis of the pilot test, it has shown the lowest score among the subscales. As experiencing and expressing gratitude does not come naturally (Miller, 2006), it needs training and fortunately, many individuals have described specific exercises for promoting gratitude (Lyubomirsky *et al.*, 2005; Miller & Nickerson, in press) which were used by the researcher for designing the training programme. The researcher chose SI-G (spiritual intelligence – gratitude) as a

name for this programme and it includes 5 sessions. The total duration of the programme was five weeks and it had each session in one week. Each session includes two hours and ten minutes break between them. In this study, the training programme was conducted during the school hours.

In the first session, the activities were as follows:

1. Students get to know each other through an ice breaking session

2. Students discuss about factors that help people to become successful and satisfied in their life.

3. Students are able to increase their awareness about each situation.

The trainer presented an introduction to get them ready for discussion on related topics. The trainer started a group discussion with examples and students participate. After that, the trainer asked for students' ideas regarding the subject during the group discussion. This takes about 30 minutes. After that, the trainer summarizes the discussion and draws a chart on the board, writes the important points and then explains about the exercises which the students should accomplish prior to and for the next session.

In the second session, the following objectives were set:

1. Students are able to find the meaning of each situation in their life.

2. Students are able to evaluate situations with open minds and listen to another person without judgment.

3. Students are able to use proper expressions for evaluation.

For the third session, the trainer set the following objectives:

1. Students will be able to manage time for every situation according to the importance of each situation in their life.

2. Students will be able to understand the reason that they are doing certain activities.

3. Students will be able to consider all the aspects of each situation.

Objectives for the fourth session were:

1. Students will be able to write short-term and long-term aims in their life.

2. Students will be able to discipline themselves by following simple rules daily.

3. Students will be able to explain their mission in the world.

In the fifth session, the objectives were:

• Students will be able to list the things that they should be grateful for them (from God and people)

• Students will be able to use proper expressions for gratitude.

All the sessions followed a similar structure as follows:

1. Introduction or Review

2. Presentation/Discussion/Activity

3. Practice

4. Homework

The students in the control group as usual had one session each week on life skills training. It includes skills for saying No, skills for enhancing the relationship among friends, skills for having a purpose in life (short aims and long aims), skills for creating better relationship with parents, and skills for improving self-control.

Statistical Analysis

Descriptive statistics, such as mean scores and standard deviation, was used to describe the demographic profiles of the respondents and also to describe the information of SQ and its subscales in the pre-test and post–test for the experimental and control groups. In order to determine the effect of training on increasing SQ and its subscales, the t-test was used to compare the experimental group from the control group.

FINDINGS

According to the results presented in Table 2, the total student's spiritual intelligence (SQ) demonstrated that the students in the control group had low SQ in the pre-test (SQ= 3.95) and post-test (SQ=4.08) based on the scoring of the ISIS by Amram and Dryer. If the total mean for the SQ is below 4.30, it is considered as low SQ.

The findings of the study showed that the other subscales also have low means, with the lowest score is for gratitude in the pre-test (M=2.65) and post-test (M=3.03). The highest score is the practice factor in the pre-test (M=4.44) and post-test (M=4.41), and this is a good point that could be of help in the course of the training programme.

Table 3 presents the descriptive information of the students' SQ and its subscales in the experimental group before the training programme and after the training. As for the experimental group, gratitude had the lowest score (M=2.75) in the pre-test, while practice had the highest mean score of 4.50. The mean SQ was 3.96, and all the means of the subscales in the group were lower than 4.30. Overall, the results of the pre-test in this group are similar to the results of the pre-test in the control group, which means, all the subscales are weak.

After the training, the analysis on the distribution of mean scores demonstrated that the mean SQ was 4.80. Table 3 indicates that self-acceptance, as a subscale, had the highest mean score of 5.07, while most of the subscales had a mean score higher than 4.30. In comparison with the pre-test scores, the study discovered the difference between the mean scores in the subscales. Most of the mean scores for the subscales were increased. Gratitude, with the lowest mean in the pre-test, was improved after the training session (M=4.79).

Table 4 reveals the results of the t-test for the control group. Though the control group did not receive any training in the field of spiritual intelligence, at the same time, they received regular training on life skills and religious lessons from the school. The findings revealed that the purpose subscale with ($t = 2.40$, $p < .05$) has changed considering its mean (M=0.47), which is an improvement. Thus, regular training in schools maybe effective on the

TABLE 2
Descriptive information of SQ and its subscales according to the results of the pre-test and post-test for the control group

Variables	N	Mean pre test	ST.DV Pre test	Mean post test	ST.DV Post test
SQ	16	3.95	0.21	4.08	.25
Awareness	16	4.34	0.77	4.36	.68
Synthesis	16	4.15	0.77	3.95	.49
Beauty	16	3.82	0.94	4.13	.95
Gratitude	16	2.65	0.83	3.03	1.06
Joy	16	4.11	0.99	4.50	.74
Discernment	16	4.23	0.76	4.15	.67
Freedom	16	3.70	0.53	3.96	.65
Purpose	16	3.65	0.70	4.12	.41
Service	16	4.04	1.03	4.00	.94
Embodiment	16	3.97	0.49	3.81	.60
Intuition	16	4.07	0.68	3.99	.73
Acceptance	16	3.14	0.69	3.65	.81
Mindfulness	16	3.37	0.79	3.23	.90
Optimism	16	3.61	0.61	3.58	.63
Peacefulness	16	3.53	0.76	3.76	.80
Self acceptance	16	3.76	0.70	3.69	.74
Holism	16	4.12	0.97	4.00	.72
Relatedness	16	3.95	0.91	4.30	.99
Sacredness	16	3.74	0.67	4.06	.72
High self	16	4.09	0.57	3.98	.48
Practice	16	4.44	0.45	4.41	.47
Egoless	16	3.98	0.61	4.27	.85

purpose subscale but not on SQ (as a whole) or its other subscales. Overall, most of the subscales had p >.05, so generally there was no significant difference between the pre-test and post-test in the control group.

According to the data presented in Table 5, the data obtained from the t-test for the pre-test and post-test in the experimental group indicated that the training programme had a significant effect on the relationship between SIG training and SQ (t = 8.49, p < .0001). The results suggested that there were significant differences between most of the subscales mean score in the pre-test and post-test. This means the training had effects on most of the subscales. Gratitude, with the mean value of 2.04 (t = 7.42, p < .0001) had the largest effect by training as compared to the other subscales.

TABLE 3
Descriptive information of SQ and its subscales according to the results of the pre-test and post-test for the experimental group

Variables	N	Mean Pre test	ST.DV Pre test	Mean Post test	ST.DV post test
SQ	16	3.96	0.25	4.80	.32
Awareness	16	4.22	0.73	4.78	.57
Synthesis	16	4.21	0.67	4.79	.81
Beauty	16	4.13	0.61	4.76	.74
Gratitude	16	2.75	0.87	4.79	.58
Joy	16	4.00	0.57	4.85	.77
Discernment	16	4.12	0.71	4.55	.86
Freedom	16	3.85	0.86	4.51	.95
Purpose	16	4.07	0.72	4.71	.98
Service	16	4.20	0.97	4.55	.83
Embodiment	16	3.92	0.67	4.56	.88
Intuition	16	3.93	0.65	4.63	.85
Acceptance	16	3.50	0.67	4.71	.90
Mindfulness	16	3.28	0.85	4.64	.85
Optimism	16	3.67	0.96	4.76	1.04
Peacefulness	16	3.70	1.06	4.86	.78
Self acceptance	16	3.53	0.73	5.07	.75
Holism	16	3.96	0.89	4.83	.84
Relatedness	16	4.49	0.83	4.97	.86
Sacredness	16	4.08	0.50	4.86	.61
High self	16	4.12	0.86	4.45	1.17
Practice	16	4.50	0.53	4.91	.84
Egoless	16	4.19	0.75	4.51	.76

DISCUSSION OF THE FINDINGS

The findings suggested several issues for consideration. SI-G training programme can enhance spiritual intelligence quotient. In fact, spiritual intelligence is not an innate quality, it is changeable. Secondly, for the design of a training programme, it is better to focus on the subscales which have the lowest scores; for example, when the subjects showed low scores in gratitude, they were given more input for gratitude training. In addition, it can help respondents in managing time and getting the best results from the training programme. Finally, it is better to continue the training programme for more than five sessions until the students have completely learned how to practice and continue the exercise in their homes.

This study was designed to investigate the effect of training on spiritual intelligence quotient among Iranian girls adolescents. In fact, some researchers, such as Noble (2000), Vaughan (2002) and Bowell (2004),

TABLE 4
The results of the t-test between the pre-test and post test for the control group

Variables	N	Mean	*t* value	p
SQ	16	0.12	1.36	0.19
Awareness	16	0.02	0.09	0.92
Synthesis	16	-0.19	-0.87	0.39
Beauty	16	0.30	0.93	0.36
Gratitude	16	0.28	0.81	0.43
Joy	16	0.39	1.71	0.10
Discernment	16	-0.07	-0.36	0.72
Freedom	16	0.26	1.23	0.23
Purpose	16	0.47	2.40	0.03
Service	16	-0.04	-0.11	0.91
Embodiment	16	-0.15	-0.77	0.45
Intuition	16	-0.07	-0.29	0.77
Acceptance	16	0.51	1.80	0.09
Mindfulness	16	-0.13	-0.56	0.58
Optimism	16	-0.02	-0.16	0.87
Peacefulness	16	0.23	0.75	0.46
Self acceptance	16	0.06	-0.37	0.71
Holism	16	0.11	-0.51	0.62
Relatedness	16	0.35	1.36	0.19
Sacredness	16	0.31	1.56	0.14
High self	16	-0.10	-0.45	0.65
Practice	16	0.03	-0.17	0.86
Egoless	16	0.30	1.45	0.16

have suggested that with training, SQ can be changed. However, currently there is no experimental research to ascertain this particular assumption. According to the role of spiritual intelligence, researchers have suggested that spiritual beliefs, commitments, and practices were related to positive outcomes such as physical, emotional, psychological well-being, positive interpersonal functioning, marital satisfaction, stability and enhanced quality of life (Hintikka, 2001; Roth, 1988; Seybold & Hill, 2001).

A contributory factor to these positive outcomes may be having a spiritual orientation toward life that protects human beings from undesirable and maladaptive behaviours such as acting in personally or socially destructive ways (Emmons, 2000). On the other hand, youth researchers across the globe acknowledge the war of values taking place inside the hearts and

TABLE 5
The results of the t-test between the pre-test and post-test for the Experimental group

Variables	N	Mean	*t* value	p
SQ	16	0.83	8.49	<.0001
Awareness	16	0.56	2.47	0.02
Synthesis	16	0.58	1.94	0.07
Beauty	16	0.63	2.51	0.02
Gratitude	16	2.04	7.42	.00
Joy	16	0.85	3.37	0.00
Discernment	16	0.42	2.00	0.06
Freedom	16	0.66	2.20	0.04
Purpose	16	0.63	2.16	0.04
Service	16	0.24	0.83	0.41
Embodiment	16	0.63	2.58	0.02
Intuition	16	0.70	2.35	0.03
Acceptance	16	1.21	4.57	0.00
Mindfulness	16	1.36	4.48	0.00
Optimism	16	1.09	3.83	0.00
Peacefulness	16	1.16	2.80	0.01
Self acceptance	16	1.53	4.98	0.00
Holism	16	0.86	2.62	0.02
Relatedness	16	0.46	2.04	0.06
Sacredness	16	0.77	4.83	0.00
High self	16	0.36	1.16	0.26
Practice	16	0.01	0.07	0.94
Egoless	16	0.72	2.96	0.00

minds of young people. Youths are in desperate need of skills, knowledge, and competencies to moderate the worldliness of their age with the understanding that can only come from the wisdoms accrued from spiritual intelligence (Abdul Lateef, 2009). Hence, the current research can provide a programme for the development of spiritual intelligence among adolescents.

In addition, evaluating the result in pre-test aided the understanding of the sample of the study and the improvement that was needed in the training programme of the sample. One of the regular training programmes in high schools in Iran is life skills. It includes the skills for saying No, skills for enhancing the relationship among friends, skills for having a purpose

in life (short aims and long aims), skills for creating better relationship with parents, as well as skills for improving self-control.

The five sessions of life skills training for the control group had effects on purpose, but they did not have any effect on SQ and the other subscales. However, students in the experimental group who had participated in the SI-G training programme for five sessions were found to have improved in SQ and all the subscales.

Therefore, in improving SQ, students training must be tailored according to their weaknesses, so that life skills training or regular training in school like religious training cannot affect SQ or its subscales. When the researcher conducted a follow up test after three weeks from the post-test to assess the sustainability of training, the results demonstrated that the score of SQ and some of its subscales decreased as compared to the post-test. Though the decrease was not much when compared to the results of the follow-up test and the pre-test, the study revealed a significant difference between the score of SQ and its subscales. In line with the above, the study concluded that SI-G training had effects even after the training.

IMPLICATIONS AND CONCLUSION

The results of this study indicated that the skills training was most effective in improving Spiritual intelligence and its subscales. Hence it is recommended that schools, family and community introduce programs such as skills training to help students. Parents can participate in school based centres in programs which help them to be aware of the importance of skills training for their children.

The study revealed that spiritual intelligence is a necessary prerequisite in the development of a normal adolescent. Hence the present study complemented the works of earlier scholars on the concept of spiritual intelligence since it demonstrated that SQ is a trait which can be learned. In other words the result of this study reveal an actual dimension of Spiritual Intelligence Theory which highlights the capability of SQ as a training source to improve the quality of life and general well being especially for adolescents.

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The Effects of Combined Training on Interluken-6 and C Reactive Protein as Non-traditional Cardio Risk Factors in Inactive Students

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ABSTRACT

Studies have shown a positive association between regular physical activity and reduction of cardio risk factors. The objective of this research was to examine the effects of combined training on some cardio risk factors in inactive students. Thirty healthy inactive men were assigned into two groups: 1) combined training (CTG) (n=15), 2) no-training (NTG) (n=15). The CTG performed 5 resistance exercises and this was followed by 30 minutes of endurance training with 60% -80% HRmax for 8 weeks (3 days per week). Meanwhile, the NT group continued the same activity routine that they had used prior to becoming a study participant. Pre- and post-measures included VO_2max, muscle strength, body composition, and blood cardio risk factors. The VO_2max and muscle strength significantly ($P<0.05$) increased in CTG. The percentage of body fat tended to slightly decrease ($P>0.05$) and skeletal muscle mass significantly increased in CTG (+0.85kg, $P = 0.003$). However, these parameters did not show any change in NTG. The concentrations of total cholesterol, TG and LDL in the blood did not significantly change during the study in the two groups ($P> 0.05$). HDL significantly improved after week 8 of combined training in the CTG. Furthermore, CRP did not change in the two groups ($P> 0.05$), while the level of interleukin-6 had decreased significantly in the CTG. The results of this study have shown that combined training improves some cardio risk factors, cardiorespiratory fitness, as well as muscle strength and body composition in inactive students.

INTRODUCTION

Cardiovascular diseases are among major diseases in the world, which are responsible for nearly 30% of global mortality rates (WHO, 2009). Physical inactivity is found to be the major independent risk factor for the development of cardiovascular diseases (Thompson *et al.*, 2003).Several studies have shown that exercise has a significant impact on the so-called atherogenic dyslipidemia, which is characterized by high triglycerides, low high-density lipoprotein cholesterol (HDL-C) and small-dense low density lipoprotein cholesterol (LDL-C) particles (Tambalis *et al.*, 2009; Cornelissen & Fagard, 2005).

Traditionally, many studies focused on endurance exercise for prevention or rehabilitation of cardiovascular diseases and there is a widespread acceptance of the benefits of regular endurance training in reducing the risks of cardiovascular diseases (Janssen & Jolliffe, 2006; Fahlman *et al.*, 2002). In addition, a few studies have looked into the effects of resistance training on the risk factors and reported that by increasing muscle strength and muscle mass after resistance training, the percentage of body fat decreased, while there was an improvement in glucose tolerance, resting energy expended (REE) and insulin resistance (Schmitz *et al.*, 2003).

Taking into consideration the positive effects of endurance and strength training on the prevention and improvement of certain cardiovascular diseases, there have been suggestions that these two types of training be combined (Pescatello *et al.*, 2004; Sigal *et al.*, 2004). In the recent decades, some studies have focused on the effects of combined training on cardiovascular risk factors, while cardiovascular disease patients (Lee *et al.*, 2001) and diabetics (D'hooge *et al.*, 2011) were the subjects of these studies. However, these studies did not carry out on inactive young people and also cover enough inflammatory biomarkers of the blood as non-traditional risk factors.

Apart from the traditional cardio risk factors, some researchers have also focused on the effects of exercise training on some inflammatory biomarkers, such as C reactive protein (CRP) and interleukin 6(IL-6) that are known as non-traditional cardio risk factors (Balducci *et al.*, 2010; Keller *et al.*, 2005). These markers are acute phase proteins, in which their levels in blood increase in response to inflammation. These markers are recognized as potential tools in the prediction and detection of atherosclerosis and its complications because inflammation is occupied in mediating all stages of the atherosclerotic process (Pearson *et al.*, 2003).

Some studies have indicated that physical activity level is inversely associated with plasma levels of IL-6 (Dekker *et al.*, 2007) and CRP (Stewart *et al.*, 2007), and these factors have been recommended for clinical assessments of cardiovascular risks (Brinkley *et al.*, 2009). Meanwhile, some evidence has indicated that exercises have a

full anti-inflammatory effect (Dekker *et al.*, 2007; Stewart *et al.*, 2007). However, a few studies have been carried out on the effects of combined training on CRP and IL-6 and the results of these studies were found to be inconsistent (Martins *et al.*, 2010; Oberbach *et al.*, 2006).

According to WHO (2008), cardiovascular risk factors have increased among young people in the world, and hence, it is necessary to find new exercise protocols that are healthy and least costly for decreasing or the prevention of CVD. The purpose of this study was to investigate the effect of combined endurance and strength training on some cardiovascular risk factors, traditional and non-traditional, and fitness in inactive young men.

METHODS

Subjects

The sample of this study comprised 30 male students aged between 18 and 24 years, who had been invited to participate in the study. They were selected from among volunteer students (96 persons) at the beginning of the semester using a simple random sampling method. Those selected were then randomly assigned into one of the two groups, the combined training group (CTG) and no-training group (NTG).

The volunteers were young and healthy but inactive, i.e. and they had not participated in any regular physical activity during the preceding 6 months (< 2 days/week; <20 minutes/day). They were admitted for evaluation two days prior to the commencement of the exercise protocol. A physician at the Shomal University laboratory in Iran compiled the medical history and conducted the physical examination and simple screenings to gather demographic information and determine the eligibility of the volunteers. Specific exclusion criteria were: 1) History of cardiovascular disease, smoking, orthopaedic or diagnosed diabetes; 2) Currently engaged in physical activity at least 2 days/week for 20 minutes or more each time; 3) Currently participating in an organized weight management programme; and 4) Taking drugs that could modify exercise performance, metabolism or desire for food. The Shomal University in Amol, which is located in the north of Iran, was selected as the location for the study as the university sponsored the subjects and all the instrumentations for this research.

Assessment of the Body Composition and Performance Characteristics

Total body composition was determined using a Bioelectrical Impedance Analyzer (Inbody 320). Beck (2007) reported that the InBody 320 model could be used. Beck (2007) reported that the InBody 320 model is a valid instrument (R=0.99) for estimating the parameters related to body composition among adults with a normal to overweight BMI.

The subjects were fasting as a prerequisite four hours prior to the testing and also they did not perform any exercise 24 hours before the examination which was according to the guidelines of ACSM (Dwyer & Davis, 2008, pp. 56-57). Having their age, height and gender recorded, the

analyzer was adjusted and the subjects were asked to stand on the anterior and posterior electrode plates, with minimum clothing and without having their shoes on. The subjects were motionless on the device during test. At the end of the test, all the parameters were put out by the analyzer.

Blood pressure (BP) was measured using a digital sphygmomanometer and heart rate (HR) of rest and exercise was measured by electric HR monitor/watches (polar; Fs3c). These were measured for all the volunteers according to the standard guidelines outlined by the American College of Sports Medicine (Dwyer & Davis, 2008).

The subjects completed an all-out, progressive Bruce protocol on treadmill (indirect test) for estimating maximal oxygen consumption (VO_2max) (Bruce, Kusumi, & Hosmer, 1973). Given the maximum time in minutes that the subjects run on treadmill (T), VO_2max was calculated using the following formula for men:

$$VO_2max = 14.76 - (1.379 \times T) + (0.451 \times T^2) - (0.012 \times T^3).$$

One repetition maximal (1RM) was used for estimating dynamic muscle strength by weight machine (Model: Olympia, Italian). Both upper and lower body strengths were assessed using the bench press and leg press exercises, respectively. For research purposes, 1RM is recommended to estimate dynamic muscle strength (Maud & Foster, 2006, p. 129 & 141).

Biochemical Analysis

Blood samples were taken at baseline, prior to the beginning of the exercise programme, and at the end of 8 weeks of the training programme for the two groups. The volunteers fasted for 12 hours and fasting blood samples were taken by a trained nurse. They sat on chairs and standard venipuncture techniques were used to collect the blood from the antecubital vein. The total blood collection for each testing session was 20 cc per volunteer. Serum total cholesterol (TC), low density lipoprotein (LDL), high density lipoprotein (HDL), and triglyceride (TG) concentrations were measured using enzymatic methods.

Interleukin-6 was determined using an enzyme-linked immunosorbent assay (Human IL-6 Platinum ELISA, BMS213/2, eBioscience). C-reactive protein was determined by using quantitative sandwich enzyme immunoassay (Monobind Inc. Product code: 3175-300).

Mixed Training Protocol

For improvement of cardiovascular and muscle fitness, ACSM recommended a combination of aerobic activities and resistance exercise (Thompson, Gordon, & Pescatello, 2009, p. 154). The training programme included at least three days per week, with a duration of 20-30 minutes of aerobic activity (60-90% HRmax) and resistance training with 2-3 sets of 8-12 repetitions, as suggested by ACSM (Nieman, 2003, p. 258).

The combined training group performed exercise training protocol included the resistance training and endurance training for 8 weeks (3 alternating days during the week). The combined training group first performed the resistance training consisted of 5 exercises (the unilateral knee extension, unilateral knee flexion, double leg press, seated chest press and seated row) with weight machine for the lower and upper body with 3 sets of 8-12 repetitions for each resistance exercise with 2 minutes of rest between the sets. The target load of this particular protocol was 80% of 1-RM, which was achieved after 3 weeks of progressive resistance training. After estimating the 1-RM, each subject initiated the resistance training with 60% of 1RM for the lower body and trunk and 50% of 1-RM for the upper body which the load gradually increased to 80% of 1-RM. Once the four and eight weeks resistance training was completed, the 1RM tests were repeated (Toloee, 2012).

Endurance training was followed after the end of the resistance training in each session for 30-minutes. This training included 25-30 minutes of moderate to high intensity exercise (from 60% HRmax in week one to 85% in week 6) comprised of jogging and running on the track. Meanwhile, the exercise intensity of subjects during the sessions was monitored by Polar Beat heart rate monitor (polar; Fs3c). Five minutes of warm-up and five minutes of cold-up were performed by the subjects for all the major muscle groups before and after the training sessions (Toloee, 2012).

Procedures

After the selection of the final sample and prior to commencement of the study, the volunteers were informed of the study process. The subjects were required not to engage in any physical activity 2 days prior to attending the laboratory. For two days, they recorded their daily dietary intake through a questionnaire. All the measurements were gathered after a 12-hour, overnight fasting period. Within two days, i.e. prior to the commencement of the exercise programme, all the pre-test measurements of the subjects from the two groups were taken.

Following that, the combined training group participated in the special exercise programme. The exercise sessions were the same for each volunteer and held for a 3-day-a-week cycle (48–72 hours between sessions) for a total of 8 weeks. The subjects were refrained from engaging in any other physical exercise programme to minimize confounding variables. During this experimental period, the control group went about with their daily activities and remained inactive. After the 8-week training exercises, post tests were conducted on all the subjects. All the post-test measurement methods were similar to those of the pre-tests.

Statistical Analysis

SPSS.18 software was used for the data analysis. The descriptive statistics of the dependent variables were mean and standard deviation. An independent sample t-test analysis was used to compare the values

of the dependent variables in baseline and the post-test between the CTG and NTG. Paired Student's *t* test, as a valid statistic method, was used to compare the baseline versus post intervention (post-test) values within the groups. A value of p<0.05 was considered to be statistically significant.

RESULTS

Body Composition Characteristics

Comparisons of body composition between baseline and post tests are presented in Table 1. The results of the analysis indicated that there were no significant differences between the CTG and the NTG in the baseline values of the body composition characteristics. However, there was a significant difference in the amount of baselines and after the combined training for skeletal muscle mass (Diff. Mean = 0.87kg, P = 0.002) and the percentage of body fat (Diff. Mean = -1.59%, P = 0.01). Similarly, there were no significant differences in the

amount of baselines and after the combined training for weight and a waist-hip ratio. Furthermore, these parameters showed no significant differences in the amount of baseline and post-tests in the NTG (P >0 .05).

Biochemistry Cardio Risk Factors and Blood Hemodynamic Variables

The results of the biochemistry cardio risk factors during the baseline and post-tests are shown in Table 2. All the blood variables were in the clinically specified normal ranges. There were no significant differences in baseline values of biochemistry cardio risk factors between the CTG and the NTG. There were significant differences in the amount of baselines and after the combined training for HDL (Diff. Mean = -2mg/dl, P = 0.002), and interleukin 6 (Diff. Mean = -0.23pg/dl, P = 0.003). The triglycerides tended to slightly decrease in the CTG (P= 0.72). In addition, the triglycerides and HDL in the CTG were significantly lower

TABLE 1
General and Body Composition Characteristics of the CTG and the NTG at Baseline and at the End of 8 Weeks of Training

	Mixed Training Group (n=14)		Control group (n=14)	
	pre	Post test	Pre	Post test
Age (year)	19±1	-	21±2	-
Height (cm)	175±4	-	173±6	-
Weight (kg)	71.3±13.6	71.44±13.86	72.7±12.2	72.96±12.26
Dietary Intake (kcal)	2392±102.5	2401.29±107.14	2373.1±13	2378.93±129.58
Skeletal Muscle Mass (kg)	32.42±5	33.30±4.87**	31.81±3.9	31.66±3.90
Percent Body Fat (%)	18.12±7.1	16.80±6**	19.27±7	19.67±6.97
Waist-Hip Ratio	.83±.05	.83±.05	.85±.05	.85±.05
Body mass index (kg/m^2)	23.42	23.35	23.71	24.56

Values are the mean ± standard deviation. * Significant change within group at p < 0.05. ** Significant change within group at p < 0.01.

TABLE 2
The Comparison of Biochemistry Cardio Risk Factors between Baseline and at the End of 8 Weeks of Training in the CTG and the NTG

| | Mixed Training Group (n=14) | | Control group (n=14) | |
	pre	Post test	Pre	Post test
Total Cholesterol (mgdl)	151±27.3	159.57±26.10	149.9±23	151.57±21.70
Triglycerides (mg/dl)	80.6±39.5	78.14±26.71†	109.2±58.4	110.50±44.86
Low Density Lipoprotein (mg/dl)	87.8±24.6	94.94±26.63	80.86±21	82.19±20.94
High Density Lipoprotein (mg/dl)	47±3.4	49.00±2.48**†	47.14±3	47.29±1.64
High sensitivity CRP (mg/dl)	1.02±1.02	.97±1.02	.68±.23	.69±.22
Interleukin -6 (pg/dl)	1.50±.42	1.26±.38**	1.57±.49	1.56±.52
Systolic Blood Pressure of Rest (mmHg)	128.1±15.1	126.21±14.41	126.5±4.2	127.07±4.95
Diastolic Blood Pressure of Rest (mmHg)	82±8.63	78.36±10.17	82.21±	81.93±3.05

Values are the mean ± standard deviation. HOMA, Homeostatic Assessment Model. * Significant change within group at $p < 0.05$. ** Significant change within group at $p < 0.01$. † Significant difference between the CTG and NTG at $p < 0.05$. †† Significant difference between the CTG and NTG at $p < 0.01$.

TABLE 3
A comparison of some Fitness Parameters between Baseline and the End of 8 Weeks of Training in the CTG and the NTG

| | Mixed Training Group (n=14) | | Control group (n=14) | |
	pre	Post test	Pre	Post test
Heart Rate at Rest (bpm)	79.3±11.9	77.00±13.78*	80.64±7	79.79±6.93
VO_2max (ml. kg^{-1}. min^{-1})	35.83±5.1	41.65±4.30**††	36.84±2.9	35.89±3.32
leg press (kg)	41.9±6.26	62.91±15.7**††	36.73±6.2	38.41±4.51
chest press (kg)	36.5±11.2	42.21±12.68**	38.59±6.3	39.13±7.04

Values are the mean ± standard deviation. *Significant change within group at $p < 0.05$. **Significant change within group at $p < 0.01$. † Significant difference between the CTG and NTG at $p < 0.05$. †† Significant difference between the CTG and NTG at $p < 0.01$.

(P = 0.023) than in the NTG during post-testing. However, a comparison between the baseline and post tests in both the groups revealed no significant differences in the total cholesterol, LDL, hs-CRP, systolic blood pressure and diastolic blood pressure (P>0.05).

Fitness Parameters

The results of the analysis showed that post training resting HR was significantly lower (Diff. Mean = -2.28, P = 0.023) than the baseline values for the CTG. Similarly, VO_2max was also significantly higher (Diff. Mean =5.81, P = 0.001) than the baseline values in this group. There

were no significant changes in the NTG. Furthermore, there was a significant increase in leg press record (Diff. Mean = 20.97kg, p = 0.001) and chest press record (Diff. Mean = 17.94kg, P = 0.001) from the baselines to the post-tests in the CTG.

DISCUSSION

It was hypothesized that a mixed intervention of resistance and endurance training would improve some non-traditional cardio risk factors, together with lipid profiles, body composition and fitness parameters in inactive youth men.

In the current study, after 8 weeks of the combined training, IL-6 level showed a significant decline in the CTG. The findings of the present study are in line with those of Balducci *et al.* (2010) who indicated that IL-6 level significantly declined in the mixed resistance and aerobic training group after 10 months of exercise programmes in type 2 diabetic patients. In the study mentioned above, the duration of the exercise protocol was long (i.e. 10 months), but the training programme was only twice a week and the exercise intensity was also lower than the present study. The study also evaluated the effects of combined training for 12 weeks on some risk biomarkers in obese older individuals. It was shown that plasma IL-6 level and TNF-α mRNA decreased significantly after the intervention (Lambert, Wright, Finck *et al.*, 2008).

An increased sensitization of skeletal muscle to IL-6 at rest after exercise training may decrease IL-6 expression due to elevated basal IL-6R mRNA levels. Endurance training can increase muscle glycogen, in response to training, and it may decrease IL-6 production because there is an inverse relationship between muscle glycogen level and muscle-derived IL-6 production (Keller *et al.*, 2005). However, some researchers suggested that exercise training-induced decrease in inflammatory biomarkers are associated with alteration of weight or body mass index (Aronson *et al.*, 2004), and these variables did not significantly change in the CTG of the present study. Our findings suggest that 8 weeks of a combined training intervention in inactive young men has a positive influence on IL-6 as the cardiovascular diseases biomarker.

Daray *et al.* (2009) examined the effects of combined endurance and resistance training on C-reactive protein (CRP) levels in healthy adults (aged 18–24) and indicated that after 10 weeks of training, the plasma CRP concentration in the combined group decreased, although not significantly. These results are in line with our findings in the CTG. Martins *et al.* (2010) also reported that high-sensitivity CRP showed no significant change after 16 weeks of training in the resistance or aerobic groups. However, it substantially decreased in the two groups after 32 weeks of training. They concluded that short-term resistance or endurance training did not decrease the serum high-sensitivity CRP level. The lack of effects on CPR in the present study in the CTG might be linked to the slightly decreasing fat mass (%1.9) and BMI, as well as the short-term nature of the exercise programmes (Aronson *et al.*, 2004; Rawson *et al.*, 2003).

The daily dietary and average caloric intake can affect the lipid profiles (Grundy & Denke, 1990). In the present study, the analysis of daily dietary data revealed no differences in the average caloric intake of the subject's diets between the two periods or among the groups.

The results of the previous studies related to the effect of mixed training on the total cholesterol, triglyceride, LDL and HDL are inconsistent and limited. For example, LeMura *et al.* (2000) pointed out that the combined resistance and endurance training of 8 and 16 weeks respectively had not significantly improved total cholesterol, triglycerides, LDL and HDL in young women. Meanwhile, Sillanpää *et al*. (2009) showed that triglycerides and HDL did not significantly change in the combined training group and resistance training group after 10 and 21 weeks. On the other hand, some researchers revealed that the total cholesterol, and LDL had improved after mixed training (Park *et al.*, 2003).

In the current study, after 8 weeks of the mixed training, no significant changes were observed in the total cholesterol, triglyceride and LDL, while HDL showed a significant increase in the CTG. Lack of improvements in the total cholesterol, triglycerides and LDL may be associated with the short duration of the training programme. However, these inconsistencies in the results of the studies could be attributed to factors such as the differences in the exercise training volume (caloric expenditure), type of exercise, duration of training, baseline serum lipid level, differences in daily dietary intake, baseline fitness level, and timing of blood sampling after intervention (Fletcher *et al.*, 2001; Crouse *et al.*, 1995).

The results of the analysis indicated that there was no significant change in the weight, BMI, as well as the waist and hip ratio for the CTG and the NTG, while reduction of the body fat percentage and an increase in skeletal muscle mass were shown to be significant after 8 weeks of the combined training. However, many studies have indicated that the combined training has a positive effects on the body composition, and that resistance training increases skeletal muscle mass (Tsuzuku *et al.*, 2007), while aerobic training decreases body fat mass (McTiernan *et al.*, 2007).

Some studies have shown an inverse relationship between aerobic capacity fitness and cardiovascular disease and VO_2max was identified as an independent predictor of cardiovascular events (Myers *et al.*, 2002; Williams, 2001). The results of the current study also indicated that VO_2max had significantly increased (16.24%) and HR rest (-2.89%) had significantly decreased in the CTG. These findings showed that 8 weeks of the combined training could improve cardiovascular fitness in inactive young people. Furthermore, leg press and chest press **s**trength also increased significantly after 8 weeks of the combined training. These findings are similar to those previously reported in the literature (Lambers *et al.*, 2008; LeMura *et al.*, 2000).

In conclusion, eight weeks of the combined training may be effective in improving some cardio risk factors, non-

traditional (Interlucine-6) or traditional (HDL), body composition (body fat percentage and muscle mass) and fitness (VO_2max and muscle strength) in inactive young men.

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Usage of Group AHP Approach in Karate Agility Test Selection

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ABSTRACT

Karate is one of the most popular martial art styles in the world as well as a popular sport in Iran. Successful performance in karate requires a high level of agility that enables the karateka (karate player) to avoid the opponent's attacks, and to assume optimal position for efficient performance of karate techniques. In order to measure agility in karatekas, karate coaches make use of general and available agility tests. However, there are many agility tests but coaches need to know which one is the best test for karatekas. Analytic Hierarchy Process (AHP). Data were collected from six karate experts' opinions in order to weight and rank agility tests specifically to select the best agility test. AHP approach allows the weight of each criterion from each expert to be computed in geometrical mean. As a result, based on experts' opinion and using Group AHP approach, the best validated agility test for Karate is Illinois test. This paper describes the usage of the group AHP approach in selecting the most appropriate agility test for karate. It discusses some of the advantages and disadvantages of using this approach. It also suggests how the approach can be used in sports research.

INTRODUCTION

Karate is one of the most popular martial art styles in the world (Urban, 1993) as

well in Iran (Iran Karate Federation, IKF, 1995). Currently, more than 180 countries are members of the World Karate Federation (WKF) (WKF, 1999). In karate, agility (for example, the mobility of the karateka in various directions) contributes greatly to successful performance of the karateka. Good agility enables the karateka to avoid the opponent's attacks and to assume optimal position for efficient performance of karate techniques (Blaevi *et al.,*2005).

Agility is the physical ability that enables an individual to rapidly change the body position and direction in a precise manner (Johson, 1988). It is not a single ability but a complex of several abilities (Blume, 1978; Dey, Kar, & Debray *et al.,* 2010; Meinel & Schnabel, 1976). These abilities are primarily dependent upon the coordinative processes of the central nervous system that are important, specifically in karate.

In order to measure agility, there exist some general standard tests (Lacy & Hastad, 2007). These test results can be used both to motivate self-improvement and help individuals to plan their fitness goals. Test is a tool or instrument of measurement; measurement is a major step in evaluation, and evaluation is an encompassing process, making qualitative decisions based on the quantitative data derived from tests and measurement. Therefore, tests of agility provide objective measure of agility ability among karatekas.

Agility is an important component of fitness for success in a wide variety of sports. It assumes a vital role in predicting the success of individuals in sport and physical activity (Lacy & Hastad, 2007). According to Sheppard and Young (2006), reported agility is a multi-factorial physical ability affected by explosive strength, speed, balance, muscular coordination, and flexibility. Besides, agility tests are best used for diagnostic purpose to determine which karateka is the most agile, and which one requires more additional practice to perform better. A good agility test depends on strength, speed, coordination, and dynamic balance (Chelladurai, 1976; Miller, 2006).

Many researchers have reported that agility is the most discriminating factor of performance among players (Reilly *et al.,* 2000) and it has a key role in improving performance (Pauole *et al.,* 2000). It is the most critical factor for sport competitors in fighting off the competition from their rivals in karate. For instance, a karateka requires changing direction speed and position in response to the movements of adversary and must be of a dominant agility to an opponent (Blaevi *et al*., 2006). As mentioned above, agility is the most critical factor for sport competitors in karate. Tests of agility are best used for the purpose of diagnostic and classification of players. However, there is no karate-specific validated agility test to achieve the above goals.

Based on some previous studies (see Ellis *et al*., 2000; Harman *et al.*, 2000; Hasegawa *et al*., 2002; Kirkendall, 2000; Lacy & Hastad, 2007; Miller, 2006; Pollitt, 2003; Vescovi & McGuigan, 2008), the researcher selected eight general and

validated agility tests. These are referred to as alternatives according to AHP approach. These alternatives include Illinois test (Cureton, 1951), Zig Zag test (Barrow, 1953), SEMO Agility test (Kirby, 1971) Shuttle Run test and 505 Agility test (*AAHPER,1976*), Side Step test (Johnson & Nelson, 1986), T test (Semenick, 1990) and Hexagon test (Roetert *et al.,* 1995) due to their specific characteristics that are in line with the main concern of the study. In addition, eight components of agility, which are named criteria based on AHP approach, are as follows: speed, strength, power, coordination, balance, reaction time, flexibility and body mechanism (Chelladurai, 1976; Sheppard & Young, 2006). Since AHP is one of the most validated Multi Criteria Decision Making (MCDM) methods, its uses solving and includes advantages which are the first quantitative and qualitative criteria that help us in the decision making. It also embraces a large quantity of criteria that can be considered and it constructs a flexible hierarchy that can be constructed according to the problem. Therefore, the purpose of this study was to select the best and most appropriate agility test for karateka using the AHP method.

ANALYTIC HIERARCHY PROCESS (AHP)

The AHP is a theory of relative measurement with absolute scales of both tangible and intangible criteria based on the judgment of knowledgeable and expert people (Ahmad & Qiu, 2009). It is introduced by Saaty (1980) and is one of the widely used Multi Criteria Decision Making approach. It resolves decision-making problems by structuring each problem into a hierarchy with different levels of criteria. In other words, AHP structures a decision problem into a hierarchy and evaluates multi-criteria tangible and intangible factors systematically. AHP also has been applied in numerous fields including many software selection decisions (Forman & Gass, 2001; Vargas, 1990; Zahedi, 1986).

This method is also discussed in a number of books (Bourke, Stagnitti, & Mitchell, 1993; Golden, Wasil, Harker, & Alexander, 1989; Saaty, 1980). The AHP method involves four steps to solve a decision problem (Lin & Yang, 1996; Tam & Tummala, 2001; Zahedi, 1986). The steps are: 1) Structuring the decision problem; 2) Creating pairwise comparison Matrix; 3) Determining normalized weights, and 4) synthesize the priorities.

The AHP is a structured technique for organizing and analyzing complex decisions. Based on Mathematics and Psychology, it was developed by Thomas L. Saaty in the 1970s and has been extensively studied and refined since then. It has particular application in group decision making and is used the world in a wide variety of decision situations in fields such as government, business, industry, healthcare, sports and education (Saaty & Peniwati, 2008). The research methodology involved two separate phases. The phases are described as follows:

Phase 1: The first phase of this paper was formed in order to explore suitable agility tests and components of agility, respectively. The instrument of data collection applied for this phase is questionnaire. By using the comparison matrix that has been prepared by the experts, the weights of components of agility were calculated. Having gathered data from experts, the consistency was determined. If the consistency is more than 0.1, the data must be refined until this number decreases to less than 0.1. This phase is important because it provides the knowledge platform for the next phase.

Phase 2: The applied methodology for this phase is based on the output of phase one and the approach used is AHP. In this phase, computing weights of components of agility and also validated agility tests with respect to each components of agility was constructed. At the end of this phase, all the components of agility and validated agility tests which had been considered were sorted.

A three-level hierarchy model was used to choose the best agility test for Iranian karatekas. Fig.1 shows the three-level hierarchy model. The first level presents the goal of the problem, which is to find the best validated agility test among potential candidates. As shown in the second level, the criteria of the model are divided into eight ones, namely, speed, coordination, strength, reaction time, power, flexibility, balance and body mechanic. The third level consists of eight potential validated agility tests for Iranian Karatekas, which include Hexagon test, 505 Agility test, Illinois test, SEMO Agility test, Shuttle Run test, Side Step test, T test and Zig Zag test. The tests were given at the final level of the proposed hierarchical mode. In a hierarchy, the criteria are assumed to be independent among them. This is called independence case between the criteria (Saaty, 1987). Please refer to Fig.2.

METHODOLOGY

Research Design

This research employs a descriptive design. The most important aim of this design is to find the best agility test among available agility tests. Descriptive research design is a valid method for researching specific subjects and as an antecedent to more quantitative studies. Although there are some valid concerns about the statistical validity, as long as the limitations are understood by the researcher, this type of study is a valuable scientific tool (Ary, Jacobs, Razavieh, & Sorensen, 2009). In the current research, independent variable is the best agility test in karateka, while dependent variables are eight validated and general agility tests and their components.
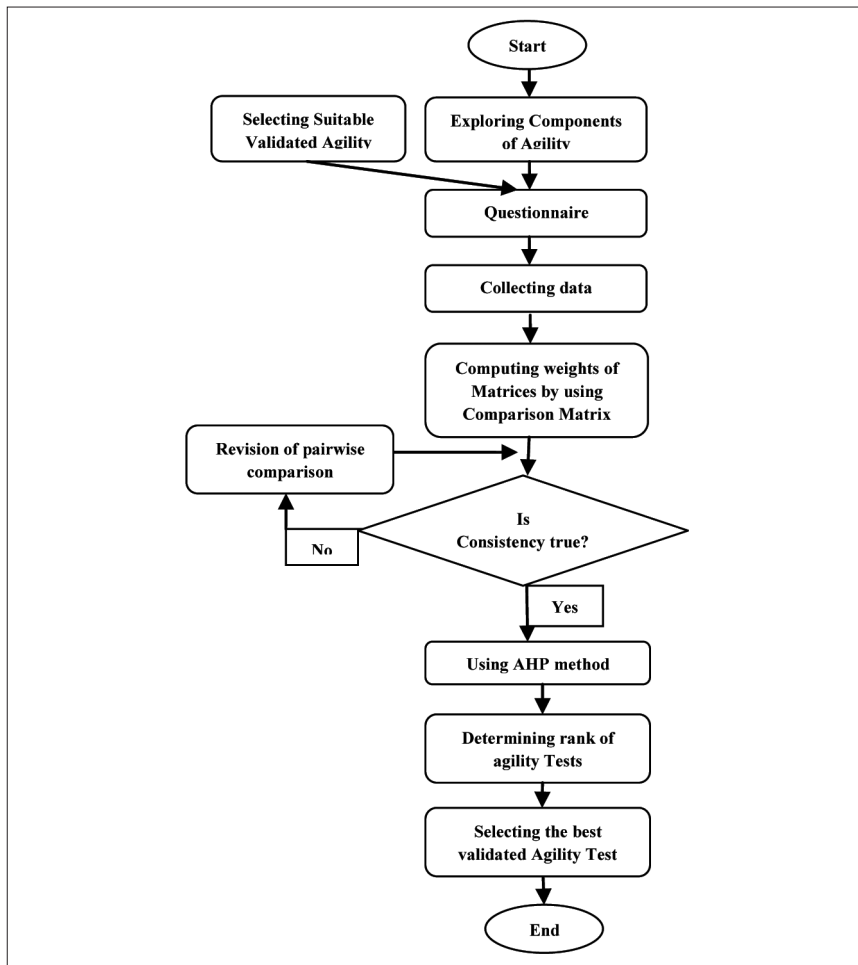
Fig.1 Research Framework

Population and Sampling

All the Iranian international and national karate coaches at various levels (i.e. youth and cadet, adults, and karate league) formed the population of this study. The population of the study should be in the level of at least bachelor or higher degrees in physical education and sports science. The other reason for choosing the above people as the population of this study is that they are experts and have in-depth knowledge and experiences which assure reliability and validity of the tests. Based on their weightings of the test components, the researchers selected the best test. This is very important because adequate knowledge can improve reliability and validity of the study (Saaty, 1996; Saaty & Ozdemir, 2003).

Based on statistics from Iran Karate Federation (1995), there are only 21 expert karateka coaches in the country. The population has been all former karate national and international champions. Saaty (2003) indicated that the number of experts
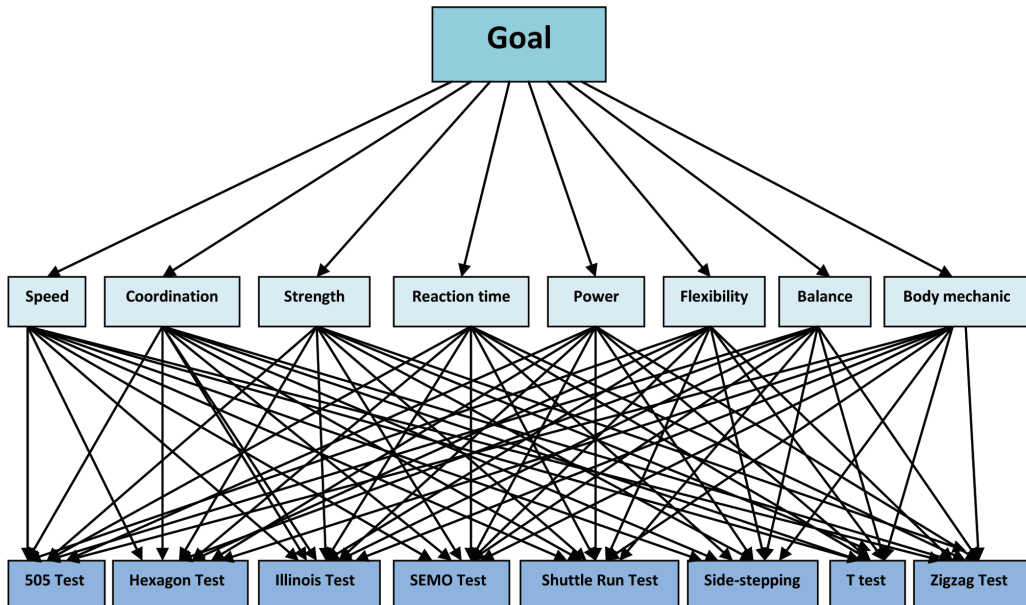
Fig.2 Hierarchy model of research

as interviewees should not be too many, and in general, five to fifteen interviewees is most suitable (Saaty, 1996). However, in the current research to increase the reliability of the research six expert karateka coaches were chosen as the research sample.

The AHP Approach Procedures

The AHP approach used in this study involved several procedures. First, selecting suitable, validating agility tests and exploring components of agility. Second, preparing questionnaire and sending it to expert karateka coaches. Third, gathering data and analysing these data. Fourth, computing consistency ratio. Fifth, using decision making software for weighting the criteria and ranking of alternatives. Finally, selecting the best agility test based on the ranking.

By using the AHP, the computing weights of components of agility and also validated agility tests with respect to each component of agility, should be calculated. In addition, all the components of agility and validated agility tests which had been considered would be sorted and the best one could also be distinguished.

Comparison Matrix

Comparison matrix is a part of the model structure of the analytical hierarchy process, which is a widely used Multi criteria decision-making methodology. It is useful where priorities are not clear, where there are chosen due to conflicting demands on resources or are competing in importance. It is a tool that provides a framework for comparing each criterion against all others, and helps to show the difference in

importance between the criteria. In other words, it is used to compare each factor with each other factor, one-by-one. For each comparison, which of the two criteria will be decided as the most important, and then a score will then be assigned to show how much more important it is. It can compare positive and negative criteria simultaneously. The main difficulty is to get the inconsistency of the pairwise comparison matrix obtained from the decision makers in real-world applications (Choo & Wedley, 2004). It should be accepted if the amount of inconsistency is less than 0.1. Otherwise, the experts' opinion must be revised. The steps of preparing comparison matrix can be generally described as follows:

Step 1: To define the problem and specify the research objective.

Step 2: To construct a squared pair-wise comparison matrix (n × n) for criteria, with respect to objective by using Saaty's 1-9 scale of the pair-wise comparisons shown in Table 1. The pair-wise comparisons are done in terms of which element dominates the other.

TABLE 1
Saaty's 1-9 scale of pair-wise comparisons

Intensity of importance	Definition
1	Equal Importance
2	Weak Moderate
3	Importance
4	Moderate Plus
5	Strong Importance
6	Strong Plus
7	Very Strong
8	Very, very Strong
9	Extreme Importance

Step 3: There are $\frac{n \times (n-1)}{2}$ judgments required to develop the set of matrix in step 2. Reciprocals are automatically assigned in each pair-wise comparison.

Step 4: Synthesizing the pair wise comparison matrix is performed by dividing each element of the matrix by its column total.

Step 5: The priority vector can be obtained by finding the row averages.

Step 6: Weighted sum matrix is found by multiplying the pairwise comparison matrix and priority vector.

Step 7: Dividing all the elements of the weighted sum matrix by their respective priority vector element.

Step 8: Compute the average of this value to obtain λ_{max}.

Step 9: Find the Consistency Index (CI), as follows:

$$CI = \frac{\lambda_{max} - n}{n-1} \qquad (1)$$

(1) Where n is the matrix size.

Step 10: Calculate the Consistency Ratio (CR) from dividing CI on RI (Randomize Index)

$$CR = \frac{CI}{RI} \qquad (2)$$

(2) Judgment consistency can be checked by taking the CR of CI with the appropriate value in Table 2.

TABLE 2
Average random consistency (RI)

Size of matrix	Random consistency
1	0
2	0
3	0.58
4	0.9
5	1.12
6	1.24
7	1.32
8	1.41
9	1.45
10 and more	1.49

The CR is acceptable, if it does not exceed 0.10. If it is more, the judgment matrix is inconsistent. In order to obtain a consistent matrix, judgments should be reviewed and improved.

In this study, these steps were carried out through the use of expert choice software. By using this software, the agility tests could be ranked with respect to all the criteria that were applied in this paper.

Procedure of Group AHP

The AHP procedure in theory has different steps as specified below:

Step 1: Structuring the decision problem. Structure the hierarchy from the top (goal) through the intermediate levels (criteria, sub-sequent levels depend on) to the lowest level which usually contains the list of alternatives.

Step 2: Creating the pair-wise comparison Matrix.

After constructing the AHP model, the priorities should be done. By priorities here we mean weights, comparing objectives, and relative scale measurements. Weights are assigned to each criterion and sub-criterion. These weights are assigned through a process of pair-wise comparison. In the pair-wise comparison, each objective is compared at a peer level in terms of importance. In this time, a set of pair-wise comparison matrices (size $n \times n$) for each of the lower levels with one matrix for each element in the level immediately above by using the relative scale measurement shown in Table 1 is constructed. The pairwise comparisons are done in terms of which element dominates the other. In group AHP, the weights of each criterion for each expert should be computed in the geometrical mean and the result of this step will be done in the next step.

Step 3: Determining normalized weights.

Therefore, by using each pair-wise comparison matrices, the weight of each row was computed by the matrix of "W".

$$C_{ij} = \frac{a_{ij}}{\sum_{k=1}^{n} a_{kj}} \quad i=1,2,\dots n; j=1,2,\dots m \quad (3)$$

$$W_i = \frac{\sum_{j=1}^{m} C_{ij}}{n} \quad i=1, 2,\dots n \text{ (denominator}$$

must be size of matrix) (4)

TABLE 3
Comparing the components with respect to goal

	Speed	Strength	Power	Balance	Co-ordination	Reaction time	Flexibility	Body mechanic
Speed	**1**	2.44	0.58	3.14	0.73	0.51	3.6	1.26
Strength	0.41	**1**	0.22	0.54	0.73	0.33	2.31	0.67
Power	1.72	4.56	**1**	4.92	3.58	2.74	4.78	2.49
Balance	0.32	1.86	0.2	**1**	0.33	0.39	1.94	0.62
Co-ordination	1.37	1.37	0.28	3.05	**1**	0.59	2.85	1.63
Reaction time	1.96	3.06	0.37	2.58	1.7	**1**	3.99	1.98
Flexibility	0.28	0.43	0.21	0.51	0.35	0.25	**1**	0.61
Body mechanic	0.79	1.49	0.4	1.61	0.61	0.51	1.63	**1**

Step 4: Synthesize the priorities.

The final step is to synthesize the solution for the decision problem in order to obtain the set of priorities for alternatives. After computing the weight of the alternatives in respect to sub-criteria and then the sub-criteria in respect to criteria and also the criteria in respect to goal from step 3 (in the level immediately above), they are aggregated to produce composite weights which will be used to evaluate decision alternatives.

RESULTS

The data of this kind of tables were gathered from the same experts' viewpoints. Each expert filled it up and then computed the geometrical mean which had been done by authors. Consistency Ratio (CR) of the matrices calculated is less than 0.1. They are gathered in Table 4. Therefore, it shows sufficient consistency. By using the matrix in this study, the inconsistency Index was calculated at 0.012555, that is less than

0.1, indicating a sufficient consistency and it is accepted. As a result, based on the karateka experts' opinions and using the AHP method, the best validated agility test is the Illinois test, and this is followed by Hexagon test, Zig Zag, 505 Agility test, SEMO Agility test, Shuttle Run test, T test and Side Step test respectively. The results are given in Table 7.

TABLE 4
List of consistency ratio

Comparing agility tests	
With respect to:	Consistency Ratio
Speed	0.0125
Strength	0.0141
Power	0.0152
Balance	0.0137
Coordination	0.0164
Reaction time	0.0155
Flexibility	0.0129
Body mechanic	0.0109

Karateka coaches make use of the general agility tests to measure agility. Hence, selecting and validating karate specific agility test to assess the karateka is

TABLE 5
Comparing the validated agility tests with respect to speed

	Speed	Strength	Power	Balance	Co-ordination	Reaction time	Flexibility	Body mechanic
Speed	**1**	3.37	1.44	2.82	2.74	4	1.94	1.92
Strength	0.3	**1**	0.38	0.71	0.49	1.35	0.44	0.37
Power	0.69	2.61	**1**	1.47	0.91	1.7	0.99	0.72
Balance	0.35	1.4	0.68	**1**	0.65	1.74	0.87	0.48
Coordination	0.37	2.03	1.1	1.54	**1**	2.88	1.47	1.4
Reaction time	0.25	0.74	0.59	0.57	0.35	**1**	0.41	0.31
Flexibility	0.51	2.29	1.01	1.15	0.68	2.47	**1**	0.66
Body mechanic	0.52	2.71	1.38	2.09	0.71	3.17	1.51	**1**

essential. To this end, data were collected from 6 karateka experts' opinions in order to weight and rank agility tests, and especially to select the best agility test for the Iranian karateka players. After specifying the relative components as criteria and also considering the validated agility tests as alternatives respectively, data collection was done (see Table 3).

The weights of the criteria based on the group decision making were computed and are shown in Table 4. The table was completed based on six karate experts' point of view in Iran. Each expert filled it up by using Table 1 separately and then by computing the geometrical mean and after rounding off, Table 3 was completed. For example in column 7 and row 6, the number 3.99 ($\cong 4$) shows that *Reaction time* is moderate and is important than *Flexibility*, while number 4.92 ($\cong 5$) in the 4th column and row 3 indicate that *Power*

is stronger and important than *Balance*. The inconsistency Index was calculated at 0.0125, that is less than 0.1, so it shows sufficient consistency. Table 4 illustrates the Consistency Ratio (CR) of matrices with respect to the components of agility. In addition to Table 3, there are eight Tables, as each expert should fill them up, and they are called "comparing validated agility tests with respect to each component". To illustrate this clearly, please refer to Table 5.

TABLE 6
Weight of the components

Components	Weights
Speed	0.14
Strength	0.06
Power	0.3
Balance	0.07
Co-ordination	0.13
Reaction time	0.18
Flexibility	0.04
Body mechanic	0.09

TABLE 7
Rank of the validated agility tests

Validated agility tests	Ranked
Illinois test	0.175
Hexagon test	0.165
Zigzag test	0.142
505 test	0.119
SEMO test	0.118
Shuttle run test	0.104
T test	0.102
Side step test	0.076

CONCLUSION AND RECOMMENDATIONS

In this study, the selection of the best agility test for karateka was done using the AHP approach. This method was applied in this study using the data from a real case in Iran. In order to increase the efficiency and ease-of-use of the proposed model, a simple software such as MS Excel can be used. The limitation of this article is that AHP ignores the uncertainty of executives' judgement during the decision-making process. Besides, some criteria could have a qualitative structure or an uncertain structure which cannot be measured precisely. In such cases, fuzzy numbers can be used to obtain the evaluation matrix, and the proposed model can be enlarged by using fuzzy numbers. For future research, the authors suggest that other multi-criteria approaches such as TOPSIS and ELECTRE with or without fuzzy methods be used, and to be compared as justification for the agility test selection in karate. The method may also be applied to other areas of sports. As a result of this paper, the best validated agility test for Iranian karatekas is the Illinois test

and this is followed by Hexagon test, Zig Zag test, 505 Agility test, SEMO Agility test, Shuttle Run test, T test and Side Step test, respectively.

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Understanding How Malay Language Student Teachers Perceive Their Subject Matter Knowledge

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ABSTRACT

Teachers' subject matter knowledge is believed to be an essential attribute for effective teaching and promoting successful student learning. It is important for teachers to know deeply about the subject they are teaching and how to link the knowledge to other disciplines. Ambiguity remains, however, warranting further research as to how student teachers' view subject matter knowledge. This study aimed to look into student teachers' subject matter knowledge as they are still in the stage of learning to teach. Semi-structured interviews with ten Malay language student teachers were carried out. Six themes emerged from the analysis: subject contents, fluent grammar, current issues, depth of knowledge, method of teaching and importance of the subject taught. The results of this study may help in increasing teachers' awareness of the importance of having deep subject knowledge or in-depth of the subject in their own disciplines of teaching. These would also help in designing an effective teacher education programme that emphasizes on the development of student teachers' subject matter knowledge.

Keywords: Teacher education, Malay language, subject matter knowledge, student teachers

INTRODUCTION

Since the early 1980s, the study of teacher knowledge has received increasing attention from educational researchers of various disciplines and of different school subjects, particularly in the United States, Canada, and other western countries (Shulman, 1986b; Clandinin & Connelly, 1995; Putnam & Borko, 2000). Overall, most studies have focused on the following two broad issues: 'What knowledge do teachers need?' and 'What knowledge do teachers have?' The third important issue in this area, namely, 'How do teachers develop their knowledge?' has received much less attention (Fan & Cheong, 2002). Nonetheless, a number

of researchers have begun from this third perspective, recognising the need to address this particular issue and calling for more studies in this direction (Shulman, 1986b; Fan & Cheong, 2002). For example, Shulman raised the following questions in his presidential address at the 1985 Annual Meeting of The American Educational Research Association:

1. What are the sources of teacher knowledge?

2. When did he or she come to know it?

3. How are new knowledge acquired, old knowledge retrieved, and both combined to form a new knowledge base? (Shulman, 1986b).

Stones (1992) stresses that it is sufficient for teachers to have a thorough knowledge of subject matter and practical classroom experiences, the former to ensure that they are up-to-date on the product they are to 'deliver', and the latter to ensure that they know how to 'deliver' it. According to Stones (1992), a few would agree that a teacher should have a good grasp of the subject knowledge and should be familiar with schools and classrooms. Although teacher educators may hold differing views about what should be included or emphasized at different points in a teacher's formal education, much of what we know about teaching and learning is common to the majority of teacher education programmes. The following discussion concerns the categorisation of KBT, as proposed by some scholars.

There are a few accounts regarding the categorisation of knowledge base for teaching. In this regard, Putnam and Borko (1996) suggested three categories as shown in Fig.1:

The first category includes general pedagogical knowledge and beliefs. According to Putnam and Borko (1996), the domain of the general pedagogical knowledge encompasses a teachers' knowledge and beliefs about teaching, learning, and learners that transcend particular subject matter domains. It includes knowledge of various strategies and arrangements for effective classroom
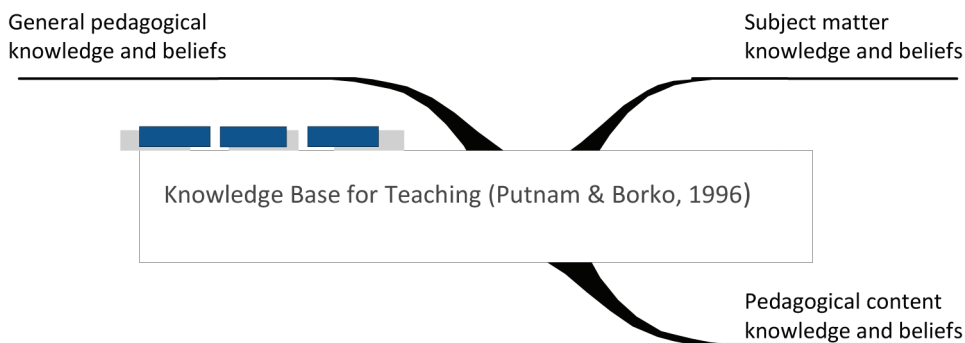
Fig.1 Knowledge Base of Teaching (Putnam & Borko, 1996)

management, instructional strategies for conducting lessons and creating a good learning environment, and fundamental knowledge and beliefs about learners, including how they learn, and how that learning can be fostered by teaching.

The second category is subject matter knowledge and beliefs. Putnam and Borko (1996) argue that having a flexible, thoughtful and conceptual understanding of the subject matter is critical for effective teaching. In this manner, they claim that teachers need to know more than just the facts, terms and concepts of a subject matter. The knowledge of organizing ideas, connection among ideas, ways of thinking and arguing, as well as knowledge growth within the discipline is an important factor in how a teacher will teach the subject.

The third category of knowledge base for teaching is pedagogical content knowledge and beliefs. According to Putnam and Borko (1996), pedagogical content knowledge serves as an important catalyst for considering ways of representing and formulating the subject matter knowledge to make it comprehensible to students. It is seen as an integration of knowledge from several domains, such as subject matter knowledge and general pedagogical knowledge.

On the other hand, the Malay language is an Austronesian language spoken not only by Malaysians but by all Malays who reside in the Malay Peninsula, southern Thailand, the Philippines, Singapore, central eastern Sumatra, the Riau islands, parts of the coast of Borneo, as well as Cocos and Christmas

Islands in Australia (Asmah Hj. Omar, 2005). It is spoken natively by 40 million people across the Malacca Strait including the coasts of the Malay Peninsula of Malaysia and Southern Thailand, the eastern coast of Sumatra and the Riau Islands in Indonesia and has been established as a native language of the part of western coastal Sarawak and West Kalimantan in Borneo (Asmah, 2005). In Malaysia, the language is officially known as Bahasa Melayu, which is translated as the "Malaysian language." In the Malaysian Education System, the importance of maintaining the Malay Language as the national language is endorsed in Article 152 of the Federal Constitution. Malay Language is not an obstacle to the emergent, development and expansion of knowledge; instead, it serves as a successful link to the knowledge of different disciplines. Therefore, effective teaching and learning of Malay Language is currently a fundamental issue in enhancing Malay language competency in the Malaysian education system. In line with that, one important aspect is the preparation of Malay Language student teachers towards the application of subject knowledge in the classroom as a key element in the reform of knowledge of subject matter. Internationally, such as in Britain and the USA, policy makers are promoting student teachers' knowledge of subjects and their teacher education programme. The educational arguments which support this policy are reviewed together with the recent studies which have investigated the ways in which students' knowledge

of subjects may inform their teaching. Issues emerging from the discussion which need to be addressed by teacher educators responsible for the main subject study and application which include the scope of students' knowledge and coverage of subject matter, an appreciation of the manner in which students' application of subject matter is shaped by classroom practice, and the need to ensure that knowledge of the subject is combined with an understanding of the child (McNamara, 1991). However, this is not an exception in the teaching and learning of Malay Language. The lack of research on the subject matter knowledge to enhance the quality of teaching and learning of Malay Language must be overcome.

In order to help students understand ideas in subject matter knowledge (SMK), teachers need to understand the facts, procedures and the concepts of the subject they teach, and also how these ideas relate to other ideas in the discipline. This is known as the *substantive* structure of the discipline (Borko & Putnam, 1996). According to Turner-Bisset (2001), substantive knowledge is the fact and concepts of a subject. Clearly, the substance of a discipline is the framework used to organise the facts, concepts, ideas, understandings, principles, and propositions that characterise the discipline.

The other kind of SMK is s*yntactic* knowledge. This knowledge is the ways and means by which prepositional knowledge has been generated and established. It refers to the way in which scholars accept new knowledge. It, therefore, involves more

than procedural knowledge and routine enquiry. Syntactic knowledge means the 'scientific method', whereas in history, it is the investigative and interpretative procedures of enquiry, or in literature, the analytical tools of criticism.

One example of substantive knowledge in physics is that the concepts of atom, electron, and subatomic particles are understood in terms of an organizing framework called the Kinetic Theory. The study of the latest developments in Kinetic Theory is a form of syntactic knowledge. Also in language, writing structure such as metaphors or similes, using dialogue to develop characters or particular words to set a mood (categorised as literary techniques/ author styles) are considered as substantive knowledge. However, criticism or study of the literary techniques/author styles of a certain novel is syntactic knowledge.

A number of studies (e.g., Borko & Putnam, 1996; Schifter & Fosnot, 1993) have suggested that, in general, teachers with greater subject knowledge tend to emphasise the conceptual, problem solving, and inquiry aspects of their subjects. Less knowledgeable teachers tend to emphasise facts, rules and procedures and stick closely to detailed lesson plans or the text, sometimes missing opportunities to focus on important ideas or connections among ideas. Wilson (1989, as cited in Borko & Putnam, 1996), found that student teachers with deeper knowledge of their subject placed more emphasis on conceptual explanations and more often drew connections among the topics within the curriculum than did

their colleagues with less deep knowledge. Grossman *et al.* (1989) noted that student teachers sometimes try to avoid teaching topics that they do not know well. When they cannot avoid teaching the unfamiliar topic, they may rely heavily on the textbook and stick closely to a detailed lesson plan.

In-depth understanding of subject matter knowledge enables teachers to convey their lessons effectively and link the subjects they are teaching to other disciplines, hence, applying the knowledge to real-life situations. According to Wilson (1988), depth of knowledge, while elusive in its definition and measurements, appears to be one of the features of subject matter knowledge that affects instruction. Teachers who understand the larger map of their subject matter, who understand the relationship of individual topics or skills to more general topics in their field may also be more effective in teaching their subjects (Grossman *et al.,* 1989). A number of studies have also indicated that teachers' subject matter knowledge per se undergoes a transformation as they prepare and begin to teach, and as the initial knowledge of content is enriched by the knowledge of students, curriculum and teaching context (Calderhead & Miller, 1985; Feiman-Nemser & Buchmann, 1985; McEwan, 1987; Shulman, 1986, 1987; Wilson *et al*., 1987).

Shulman (1986) indicated that in the teaching field, the one most frequently taken for granted and overlooked is teachers' own knowledge of the subject matter. There is a lack of awareness of the importance of having

deep subject matter knowledge among educators, especially for the beginning teachers. Most of those who are still in the phase of learning to teach often neglect this issue. It remains unclear, therefore, as to how beginning teachers perceive subject matter knowledge. Specifically, there appears to be a gap in understanding student teachers' own knowledge and beliefs about their subject matter knowledge. Thus, the purpose of this study was to understand how Malay Language student teachers perceive their subject matter. The main research question that guided the study was 'how do student teachers perceive their subject matter knowledge?'

Understanding how knowledge is structured is important to enable teachers to communicate their subject matter knowledge effectively. Kindsvatter *et al.* (1996) described a simple and useful approach to structuring knowledge by placing categories of knowledge into a pyramid consisting of *facts* (verifiable, specific information about people, events, or objects) at the lowest level, followed by *concepts* (ideas or abstractions based on grouping or categorizing facts) at the next level, and *generalizations* (broad statements or organizing principles that integrate multiple concepts) at the top. Therefore, by structuring knowledge into categories as in the pyramid, it enables teachers to understand the subject matter knowledge better and thus, helps in communicating it more effectively.

METHODOLOGY

A Case Study Research Design

In order to give specific in-depth attention to the nature of subject matter knowledge among student teachers on the teacher education programme within a limited time scale, the case study was chosen as a research design. The design proposed is consistent with an exploration of the development of student teachers' subject matter knowledge and is also consistent with a constructivist perspective. It is appropriate for this research, as it studies behaviour and thought in the contexts in which they occur, and considers multiple forms of evidence (Yin, 1984).

The decision to use a case study research design is also based on the claim that a case study focuses on the meaning in the context of the study and develops an understanding of the case from the perspective of those being studied (Merriam, 1998). These points are in keeping with the intention to explore student teachers' own perspectives, as well as their reflections on their knowledge of subject matter. Furthermore, many educational researchers point to case study as an appropriate method for research within limited time frame to explain particular situations, phenomena or institutions (Yin, 1994).

Sample Selection

In this study, research sampling focused on the participants which consisted of final year student teachers from the Faculty of Educational Studies at one Malaysian public university. The sample was further narrowed down to student teachers from a specific Bachelor of Education programme, namely, Teaching Malay as a First Language. The selection of the samples in this study was based mainly on student teachers' willingness to collaborate with this research. Purposive sampling was used in the study to build up a sample that was satisfactory for specific purposes. Ten student teachers were selected and agreed to participate in the interviews. They were in their last semester and at the time of the study, were in the midst of their school experience (practicum) placements.

Data Collection

In the current study, the type of interview was the semi-structured interview. Several general questions were outlined for the interviewees, but the interviewees were relatively 'unguided' as the researcher remained as open and adaptable as possible to the interviewee's responses. The interviews were done face-to-face with each participant, one at a time. These sessions were recorded using a digital audio recorder to "ensure that the whole interview is captured and provide complete data for analysis so cues that were missed the first time can be recognized when listing to the recording" (Mathers, Fox & Hunn, 1998, 2002). These audio data were then transcribed to be analyzed with open coding and systematically searched and arranged to answer the research questions. Handling data was continued by defining themes and lastly interrelating themes were connected

to make sense out of the data, as reported below.

FINDINGS AND DISCUSSIONS

The focus of the current study was on how the student teachers sampled perceived their subject matter knowledge in relation to the importance of the specific subject that they taught in the school. From the data, the findings were summarized into six (6) main themes: subject contents; fluent grammar; current issues; depth of knowledge; method of teaching; and importance of the subject taught. Each of these results is displayed with supporting data from the interviews.

In this section, each respondent excerpt from the interview transcripts is referenced according to the following legend:

S = Respondent number

P = Page

L = Line number

Subject Content

In the conducted interviews, the respondents mentioned important elements in teaching Malay language such as writing, format, comprehension, literature, summary and concepts of the subject. One respondent alluded to this when she said that the Malay language subject could be divided into two categories. She said:

> In teaching Malay language, it is divided into two. One consists of writing, comprehending and grammar and the other one is the literature context. Could be said

that one is 'novel' and the other is anthology. In anthology, there are components … such as traditional poems, modern poems such as rhyme and short stories. Verses are included in the traditional poems and then there's drama… (S6, P. 11, L. 328).

Other respondents talked about the important parts of the subject. One male teacher mentioned that:

> They (student teachers) need to know the format in writing, what is needed in composition. Introduction, important contents or when teaching summarizing, need to know the hidden meaning and then the ending. So, have to relate the contents of teaching with the topic. They must know everything and not necessarily know the contents only because when we are with students, they might ask us question that might be out of our expectation. Therefore, the teacher needs to have general knowledge as well (S8, P. 16 , L. 492).

Fluent Grammar

The respondents also agreed that another important element that needs to be mastered by the student teachers is grammar, which is considered as basic knowledge in Malay language. One respondent referred to it as "The basic of teaching Malay Language is grammar. Grammar includes wordings and

building correct and dramatic sentence" (S2, P. 3, L. 80; 81). Respondent S1 elaborated on the importance of being fluent in grammar:

> … the basic concept that a teacher should have is that their grammar should be fluent. This is because, even when we teach composition, we still need to have an understandable language in education. Language is needed for understanding. Therefore, the teacher should be fluent (S1, P. 1, L. 8).

Other respondents also mentioned the importance of grammar in Malay language. One respondent said that grammar is very important because it is critical for use in day-to-day conversations and is needed to achieve fluency in the language (S5, P. 9, L. 273: 275). Meanwhile, respondent S9 talked about his experience in teaching grammar. He said:

> Usually there is not sufficient time when teaching grammar because we have to teach a new passage and then identify the grammar … Through my experience with my teacher, she asked us to include the elements of the grammar in the passage … meaning that it is done orally (S9, P. 17, L. 524).

Current Issues

When it comes to general knowledge, the respondents indicated that it is indeed needed by the teachers when they are teaching. During the interviews, the respondent talked about the importance of having general knowledge and an awareness of current issues. Respondents S6 and S10 agreed that teachers' awareness of the current situations could be very useful to their teaching. S6 explained that:

> Knowledge of the current situation is also important. We have to read newspapers, magazines and refer to Internet as well for our own general knowledge. If we do not have that knowledge it could be difficult because in doing composition, we need to elaborate and explain the main contents. The students will also inquire if they do not understand certain things and if we were unable to answer, that would be difficult (S6, P. 12, L. 366).

Meanwhile, the other respondents mentioned the benefits of having knowledge of the current issues and how to relate these issues to their own teaching:

> Our knowledge regarding the current information is also important. For example, yesterday I taught the subject Education in Malaysia. It is compatible to students who have just sat for their PMR exam. For the text's illustration, I showed them the picture of a graduate student. Therefore, I am able to relate to them, their experience, and their achievement for sitting for their

PMR exam. It is about relating to the contents of the teaching (S8, P. 15, L. 469).

Depth of Knowledge

There are also many other important forms of knowledge that a student teacher should possess in order to effectively teach their subject. Student teachers need to prepare themselves with all the necessary knowledge about the topic that they are going to teach in order to convey the lessons effectively. In the interview session, respondent S2 mentioned that:

> As a teacher, he has to be ready in terms of having all the necessary knowledge about the topic that he is going to teach. Not by memorizing but by spontaneously using own ideas and make sure that the ideas are compatible to the students' situation … The preparation of teaching tools has to be done according to the students' level of achievement … the teacher needs to have movement in class and not be static at one place only (S2, P. 4, L. 104).

One respondent also mentioned about the knowledge that student teachers should be prepared with before they go into practical teaching. He emphasised that they need to have a deep understanding and mastery of their subject knowledge so that they could deliver the knowledge more comfortably and confidently.

We have to know all of the aspects of the object matter. For example, in grammar we have to know everything meaning that we master in that field. We also have to master all aspects of composition, all types of composition. Therefore, when our students ask, we can answer and we don't have to question ourselves whether we had answered correctly to avoid situation … (S10, P. 19, L. 590).

Method of Teaching

The respondents also spoke about effective methods of teaching the subject as one of the knowledge areas that student teachers should possess. For example, respondent S1 suggested that the teaching should be done using mind mapping. S1 said, "… the teaching technique should be done using mind mapping concepts to make the students understand easier and main points can be obtained" (S1, P. 1, L. 11).

Another respondent also emphasized the importance of the method of teaching. Respondent S3 mentioned that:

> … the method of teaching is important. Some time we have the knowledge but we are not good or efficient in conveying our knowledge to the students … pedagogue, expertise and knowledge are related (S3, P. 6, L.170).

One respondent also mentioned about her previous teacher's teaching method which affected her interest in learning the subject. It proves that suitable and interesting teaching methods can influence students' motivation to learn in the classroom:

> …my teacher taught us Malay Language and Literature and I was interested because I could understand easily what was being taught. For example, when teaching vocals, she showed the methods of using vocal. That was what intensified my interest and made me want to be like her (S5, P. 6, L. 282).

CONCLUDING REMARKS

The findings of this study could give the student teacher a guide and preparation before they start teaching in school. Teachers have to understand more details about the subject that they want to teach. Teachers have to master the contents of the subject as these can give the teacher confident in their teaching. It is not just understanding the contents of the subject but the student teachers have to know the current issues as well. From the current issues, the student teachers can relate them to their own teaching and help the students understand more in the class.

Student teachers of Bahasa Melayu have fluent grammar which is basic knowledge in Malay language. Make a good composition, the teachers should use correct grammar to express the meaning of the sentence. Grammar includes wordings and building

correct and dramatic sentence. The student teachers should be creative in teaching method to attract their students' attention in classroom. Therefore, by knowing the themes, it can help the student teachers to understand the subject matter knowledge better and thus, help them to communicate it more effectively.

Despite the study sample being limited to student teachers from one university faculty in Malaysia, the results of this study may help to increase awareness among teachers, especially student teachers, to strengthen and enrich their knowledge of the subject matter knowledge in order to improve their quality of teaching. With deep knowledge in the discipline they are teaching, teachers can convey their teaching more effectively, use many useful and creative learning activities to get students' attention and interest in the classroom. Moreover, it also can help in designing a better teacher education programme that emphasizes on the development of subject matter knowledge among student teachers.

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The Burnout Phenomenon: Changes in Psychosocial Profiles of Secondary School Teachers

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ABSTRACT

In Malaysia, apart from teaching, teachers are burdened by clerical and administrative works as well. This phenomenon requires them to constantly learn new skills, take good care of their students' well-being and mediate the school and the community. The present study investigated the secondary school teachers' psychosocial profiles, such as (a) commitments, (b) motivation (c) self-confidence, (d) efficiency, (e) competence, and (f) social skills. Other influencing factors being studied were: (a) work load, (b) work conditions, and (c) burnout. A total of 304 teachers from 16 schools, inclusive of rural and urban schools, as well as at-risk and normal schools were involved in the study. A self-report survey was developed by the researchers to be administered to the respondents and to collect the research data. Five dimensions of teachers' psychosocial profile and one aspect of teachers' perception towards change in working conditions were studied using items measured in a 5-point scale, except for burnout which was measured using a 4-point scale. Reliability of items measured was obtained using Cronbach's alpha. In general, the findings revealed that there were changes in the teachers' psychosocial aspects that should be taken seriously and their burnout levels have increased significantly over the years, i.e. from 1.7713 (SD=1.7713) to 1.9387 (SD=1.9387) (df=299, t=6.39, p<.05). Thus, it was suggested that teachers need support from all quarters to ensure a positive change in their psychosocial profiles.

Keywords: Burnout, psychosocial profile, teacher work load, social skills

INTRODUCTION

Teachers are undeniably the main role players in ensuring the success of education of a nation. All the processes involved in education, from planning, delivery,

managing classroom and evaluation are mainly carried out by teachers. Teaching, therefore, is a complex and demanding profession.

A teacher enters the profession with a set of psychosocial characteristics, which are normally shaped by their background and training. Most novel teachers are eager to implement what they have learned during the pre-service training and to see the results of their ideas, innovations and efforts. However, teaching in Malaysia involves not only imparting and dispensing knowledge, but also encompasses a wide range of activities, including clerical and administrative work. Teachers are also expected to be members of working committees at the school, state and national levels, which may go beyond their duties as teachers and educators. On the other hand, every school has its own culture that may or may not be in congruent with a teacher's preferences and characteristics. The principal, fellow teachers, students, parents and local community together will influence the psychosocial characteristics of the teacher. Some teachers will gain positively from these factors while others may not.

PURPOSE OF THE STUDY

The purpose of this study is to investigate the perception of secondary school teachers on the changes in their psychosocial profiles through years of teaching. In this regard, psychosocial includes aspects involving both social and psychological behaviours. Some of the psychosocial behaviours

investigated were teachers' commitments, motivation, self-confidence and social skills. Other influencing factors being studied were work conditions and work load, as well as the subsequent effects of teachers' burnout. While the literature suggests that change in teachers' psychosocial behaviour is gradual and at times idiosyncratic, we still do not know much about why some teachers change more than others, and why some circumstances bring about a significant change for some teachers but not others (Grant *et al.*, 1998).

FACTORS AFFECTING THE PSYCHOSOCIAL ASPECTS OF TEACHERS

Teachers' Level of Commitment

Some of the pertinent factors effecting the changes of teachers' psychosocial profile are the teachers' level of commitment, which is crucial to effective schools and teachers' satisfaction (Fresko *et al.*, 1997; Singh & Billingsley, 1998). A decrease in commitment is usually associated with a teacher's feelings of being unsuccessful and lack of self-confidence. The latter is often fostered by the teacher's inability to influence the students' learning. Failure to influence students' learning has been attributed to a combination of factors, such as inadequate training and/or experience, role conflict and work load, and disorderly class environments. In a study by Barmby (2006), the reasons for the weakening of commitment, or worse still, leaving the profession entirely, centre upon the issues of workload and students' behaviour. He

further suggested that in order to have an impact on teachers' commitment and on the declining number of teachers, the two issues regarding work load and pupil behaviour should be tackled from the perspectives of teachers. Similarly, Kyriacou and Coulthard (2000) also identified coping with disruptive, heavy workload and classroom management as de-motivating factors for teachers.

Studies on teacher commitment have found that the foremost factor affecting these changes is the intrinsic motivation of a teacher him/herself (Bredeson *et al.*, 1983). This means that if the intrinsic motivation is retained throughout their teaching years, teachers are more likely to be committed. Surprisingly, career ladder and merit pay system were not found to be related to increase in teachers' commitment (Rosenholtz, 1989). Another study by Reyes (1990) found that teachers' sense of commitment deteriorates from one year to the next.

Another factor which influences teacher commitment is where the principal fails to provide teachers with "constructive, regular, and specific" performance feedback, to promote cultural norms such as collaboration, mentorship and professional development fostering information exchange and teachers' learning, which in the end, acerbated teachers' feelings of inadequacy (Joffres & Haughey, 2001). Malaysian teachers are found to be more motivated to stay with the organisation when there are motivation and individual consideration from the principal's part (Sharif, Dullah,

Osman, & Sulaiman, 2010).

Another important psychosocial factor is teachers' motivation. Amongst the more important aspects related to a teacher's level of motivation are the behaviour and the enthusiasm shown by the students they teach. Addison and Brundrett (2008) found that "well-behaved, interested and motivated children" generally motivate teachers, especially the younger ones. The older teachers tend to be less motivated by their students as they face challenges in the form of workloads and long working hours. This is shown in their findings that more middle management position teachers are more motivated than their senior teachers. However, better qualification overcomes the age factor, as better qualified staff is more likely to be motivated. In terms of gender, male teachers are slightly more de-motivated than their female counterparts (Addison & Brundrett, 2008). The principle factor cited by the male teachers was students' misbehaviour.

Teachers' Self-efficacy

In addition to the abovementioned factors, psychosocial aspects also include self-efficacy beliefs of teachers. According to Bandura (1977), people's belief of their capabilities to perform is intimately associated with behaviour. Subsequently, self-efficacy is found to be correlated with successful teaching (Tobin *et al.*, 1994). High self-efficacy in teachers is considered a motivating factor for them to work better, even in lacking circumstances (Roberts, Henson, Tharp & Moreno, 2001).

Usually, fresh teachers have high levels of self-efficacy due to the preparation they have made for teaching and the support they received; in the later years, however, the level of self-efficacy in teaching has decreased due to the realities of teaching difficulties (Hoy, 2000).

The Burnout Phenomenon

The decrease in self-efficacy, motivation, and commitment of teachers can be a result of teacher burnout. Burnout can be described as emotional exhaustion resulting from chronic tension and stress (Maslach & Jackson, 1981). Stress is often caused by high demands in job setting and resulting in reduced personal achievement, while emotional exhaustion is very similar to depression. A variety of work stressors have been found to be consistently related to the levels of self-reported psychological burnout such as work satisfaction, work load and attitudes, especially amongst teachers who are intimately involved with students, peers and administrators (Schaufeli *et al.*, 1993). In Malaysia, the level of burnout in terms of workload is significantly high among teachers in the public schools, especially among English language teachers (Mukundan & Khandehroo, 2010).

OBJECTIVES OF THE STUDY

The objective of the paper is to discuss findings of a research pertaining to the changes in psychosocial profiles of secondary school teachers. The questions forwarded with regards to the psychological and social changes of the teachers are as follows:

1. Is there a change in the teachers' current psychosocial profile, in terms of the level of commitment and motivation to teaching, their level of confidence and social skills as teachers, as compared to in the past?

2. Is there a change in the current level of burnout experienced by teachers as compared to in the past?

3. What is the perception of teachers regarding the changes in their work place?

4. What are the reasons for the increase and/or decrease in the teachers' psychological profiles?

5. Are there any significant differences in the teachers' present psychosocial profile based on their gender and type of school they teach in (rural/urban schools) (at-risk/normal schools)?

METHODOLOGY

This study employed the survey research method, involving 304 teachers from 16 schools in the state of Selangor. These schools were deliberately sampled to represent rural and urban schools, as well as schools identified as at-risk and normal schools by the Selangor Department of Education. Approximately eleven urban schools and five rural schools in the state of Selangor were sampled. Out of these, three schools were identified as at-risk.

At–risk schools are schools with serious discipline problems and low academic achievement. Secondary school teachers who have taught more than three years were randomly sampled. Questionnaires were utilized to obtain data which were then descriptively analysed using means, percentages, correlation coefficients, and *t*-test.

Five dimensions of teachers' psychosocial profile and one aspect of teachers' perception towards change in working conditions were studied. Each dimension has several items to measure the changes in that dimension. The response to all items in the psychosocial dimensions except for burnout is based on a five-point scale, ranging from very low to very high. In this study, burnout was measured using a four-point scale: 1-never, 2-sometimes, 3-often, and 4-very often. The mean scores obtained by the respondents (lowest 1, highest 4 for burnout and 1-5 for the other profiles) in a particular dimension were computed by adding up the score of each item in the dimension. The mean was then computed and it represented the mean score of the dimension.

Reliability of the items measured was obtained using Cronbach's alpha after the pilot study. The reliability coefficient of each dimension is shown in Table 1 (see Appendix).

RESEARCH FINDINGS

Demographic Background

Majority of the respondents are females (79.8%), married (95.3%) and are of Malay ethnic descent (60.9%). The respondents' mean age is 39.67 years old, ranging from 24 to 56 years of age (See Table 2 in the Appendix).

Educational and Professional Background

Majority (85.3%) of the teachers studied have degree level qualifications. Their teaching experience on the average is 14.44 years (ranging from 3 to 34 years), with an average of 22.54 periods per week. The respondents are heterogeneous majoring in Languages, Arts, Science, Mathematics, Guidance and Counselling and Islamic Studies. In terms of recognition, the percentage of the teachers who have received various awards of excellence is 65.3 per cent compared to only 34.7 per cent who have never received any. The number of teachers who are holding some type of posts in the schools (including guidance and counselling teachers) is 243, while 61 others indicated that they are only subject matter teachers.

Change in Psychosocial Profile

As a whole, the findings reveal that the teachers' levels of commitment, motivation, self-confidence and social skills both in the past and at present are only average. The mean score for each dimension ranges from 3.7 to 3.9 (out of the maximum mean score of 5). Meanwhile, the mean for working conditions is moderately low, i.e. slightly more than 2.0. However, the mean score for burnout is lower, i.e. below 2 (out of maximum 4). Nevertheless, it is still present and the importance of discerning

the changes teachers go through throughout their career as teachers must be recognized.

Change in the level of Commitment

One of the dimensions of the psychosocial profile is that of the past and present commitment of teachers towards teaching. In this study, commitment was measured using/based on twelve items. The findings revealed that there is a decrease in the present level of commitment (m=3.82, sd=.6493) among the respondents as compared to previously (m= 3.93, sd= .5218) and the difference in mean is significant (df = 298, t=2.75, p<.05). The findings also reveal that every item in the commitment dimension shows a decrease in their mean score with the item "Joy in spending my entire career in the teaching profession" howing the biggest mean difference (Table 3 in Appendix).

Change in the Level of Motivation

Motivation was measured using 13 items. As with the teachers' commitment, the teachers' present level of motivation in doing their job (m=3.81) also has decreased as compared to previously (m=3.93). The difference is significant (df= 298, t=2.972, p<.05).

With the exception of Item 1, 'Determination in executing duties as a teacher" which showed an increase in mean score, all the other indicators revealed a decrease in the teachers' present level of motivation, with the item "Joy in going to work every day" showing the highest mean difference (Table 4 in Appendix).

Change in the Levels of Self Confidence, Efficacy and Competency

Unlike the teachers' levels of commitment and motivation, the findings revealed that the mean for teachers' perception of their self-confidence, efficacy and competence have increased from 3.78 (SD= .5945) to 3.86 (SD=.6100). The change is rather significant (df= 295, t=2.09, p<.05). All the indicators of self-confidence show an increase, with the item "Confidence in executing co-curricular duties/task" showing the highest mean difference (see Table 5 in Appendix).

Change in the Level of Social Skills

The findings also show that teachers' social skills have increased from 3.85 (sd= .55696) to 3,9117 (sd=.5643). However, the difference is not significant (df = 294, t=1.654, p> .05). With the exception of 'following administrators' directions' which shows a slight decrease, all the other indicators show an increase in this aspect of teachers' psychosocial profile with "Caring for the pupil's state of emotion" showing the highest mean difference (see Table 6 in Appendix).

Change in the Level of Burnout

Teachers were asked to indicate the level of their burnout (feeling of extreme fatigue) at present compared to the past. The findings showed that there was a significant increase from 1.7713 (SD=1.7713) to 1.9387 (SD=1.9387) in teachers' level of burnout (df=299, t=6.39, p<.05). A detailed observation shows that there is an increase

in mean score for every indicator of burnout with item "Feeling pressured to achieve specified targets (by principal, school, parents and others)" showing the highest mean difference (see Table 7). Meanwhile, the overall mean for burnout is moderately low for both past and present, the increase in the teachers' burnout needs to be taken seriously, as with the case of the decrease in the teachers' motivation and commitment.

The correlation analysis shows that there is an increase in the strength of negative correlation between the teachers' level of burnout with all the other psychosocial profiles at present as compared to the past except for social skill. This means that the teachers' commitment, motivation, social skills and working condition are more likely to be affected by their burn-out level after several years of teaching compared to when they first entered the profession (see tables 8 and 9 in Appendix). These findings further strengthen the previous finding that all age groups of Malaysian teachers are affected by the burnout phenomenon as opposed to the previous findings which indicated that it affects younger teachers more (Mukundan & Khandehroo, 2010).

A further analysis also revealed that there is a significant correlation between teachers' work load and burnout, while the strength of the correlation is higher amongst the teachers who have less than 10 years of teaching experience. This means that the influence of workload towards burn out is higher amongst the teachers with less teaching experience.

Perception towards Change in Working Conditions

As a whole, teachers' perception of their working conditions is low, with the mean score of less than 3. There is no significant difference in the teachers' perception of their working condition (past mean=2.26, SD= .371, present mean=2.26, SD= .410) t= -2.610, df=298. However, there is a decline in the mean scores for six indicators of working conditions. They are 'support from the authorities', 'freedom to make decisions', 'cooperation of administrators, work load and other teachers and students' discipline (see Table 10 in Appendix).

However, there is an increase in the means for eight indicators of working conditions, with the teachers' present workload showing the biggest mean difference (m=3.98, SD= .843).

The frequency analysis revealed that only 36% of teachers perceived their workload as high and very high in the past, but 76% perceived it as it is in the present. Discipline of the students is another aspect of teachers' working conditions that has deteriorated. Around 12.5% of the teachers perceived that it was low in the past, and 27.3 % perceived it to be low at present.

Reasons for the Changes in Psychosocial Profile

Reasons for the Increases in Commitment, Motivation, Self Confidence, Efficacy and Competence, and Decrease in Burnout

The respondents were asked to indicate reasons for the positive changes in their psychosocial profiles. More than 80% of

the respondents indicated their personal development resulted in the positive changes, such as 'increase in self-confidence to teach', 'increase in knowledge', and 'learn from work experience'. Other reasons cited by 60-79% of the teachers are related to their increased competency in the teaching and learning processes, feeling more responsible towards their job and an increase in their social skills. It is interesting to note that the chance to showcase their leadership qualities and their abilities, their readiness to ask and receive help and the support from their peers are also indicated by 50 to 59 % of the teachers as reasons for the positive change (see Table 11 in Appendix). Therefore, it is our view that the factors which influence how teachers feel about their work need to be enhanced in schools.

Reasons for the Decrease in the Level of Commitment, Motivation, Self-confidence, Efficacy and Competence and Increase in Burnout

According to 40 to 60% of the teachers, the decrease in the above dimensions and an increase in burnout are due to 'too heavy work load', 'boring clerical jobs' and 'lots of pressure from school'. Other reasons indicated by 20 to 30% of the teachers are related to administrators' lack of empathy, the physical condition of their school, unfair requirements for pay increase and an income which does not reflect their qualifications. Students' discipline and the teachers' inability to cope emotionally and physically are also indicated as relevant reasons (see Table 12 in Appendix). The reasons stated

above may be the factors in the increased number of the teachers who wished to look for other jobs, i.e. from 12% in the past to 18% at present.

The Relationship between Teachers' Demographic and Professional Variables with Present Psychosocial Profile

Gender

The data showed that whilst female teachers obtained higher mean scores for commitment, motivation, social skills and burnout as compared to their male counterpart, but the difference is not significant. On the other hand, the male teachers obtained higher mean scores for self-confidence, efficacy and competency and perception towards the work place. However, the difference is also not significant. As such, it can be concluded that both male and female teachers do not differ significantly in their present psychosocial profile.

The Difference in the Teachers' Present Psychosocial Profile between At-Risk and Normal schools

The findings of the study show that there are significant differences at .05 level between normal schools and at-risk schools pertaining to teachers' present commitment, social skills and burnout. The mean for the normal schools is higher for commitment and social skills, while the mean for at-risk schools is significantly higher for burnout. Nonetheless, all the other aspects of psychosocial profile do not differ significantly (see Table 13 in Appendix).

The Difference in The Teachers' Present Psychosocial Profile between Rural and Urban Schools

Only teachers' present level of motivation was found to significantly differ between the rural and urban schools undertaken in the current study. Surprisingly, the rural school teachers' mean score is higher when compared to teachers in urban schools. The data show that there are no significant differences between both types of schools pertaining to the other psychosocial profiles of the teachers. It should be noted that rural schools studied are not too different from urban schools as they are not far from Kuala Lumpur.

Age, Number of Years for Teaching, and Workload

As for the other variables, only the relationship between the teachers' levels of commitment and motivation with their age, number of years teaching and total teaching workload were analysed. The findings show that these variables are also not correlated to teachers' present levels of motivation and commitment.

SUMMARY

This paper discusses the findings of a study pertaining to the changes in psychosocial profiles of 304 secondary school teachers. Using the survey research method and employing the questionnaires, the profiles studied were teachers' commitment, motivation, sense of self-confidence, efficacy and competency, burnout and social skills. Changes in these profiles from the past to the present were discerned. Meanwhile, changes in the perception of the teachers pertaining to their working conditions were also investigated. Reasons for the changes were also noted. Teachers' views on the factors that influence their performance the most, as well as the suggestions to improve the status of the teaching profession were also gathered.

The findings revealed that the teachers' commitment to teaching and their motivation to teach had decreased, but their burnout increased significantly. On a positive note, the teachers' self-confidence, sense of efficacy and competency and social skills had increased and they were also found to be more positive towards their working conditions, with the exceptions of workload and students' discipline. It is interesting to note that the psychosocial profiles, such as teachers' commitment, motivation and burnout, tend to experience negative changes because they are more influenced by external environment. Meanwhile, increased workload, excessive non-teaching assignments and increasing pressure from the schools are some of the contributing factors. On the other hand, the teachers' ability to improve themselves, personally, socially and professionally have contributed positively to their self-confidence, sense of efficacy and competency, along with their social skills. Thus, it is conceivable that schools' administrators need to do much more to serve their teachers by taking care of their well beings, as well as their professional and personal growth.

Meanwhile, the teachers' workload was found to be negatively correlated to all the psychosocial indicators and positively correlated to burnout. It is pertinent to observe that less experienced teachers are experiencing more burnout due to their workload. This needs to be looked into as these less experienced teachers need more help in sustaining their interest in the profession. They may need to work harder to do work quite new to them as their more experienced counterparts may find the work as routine.

Teachers' workload and students' discipline problems are some of the factors teachers have cited as contributory to the increase in burnout and the decreases in the levels of commitment, motivation, self-confidence, efficacy and competency and social skills. This is in line with the findings of Barmby (2006) and Kyriacou and Coulthard (2000). It is also interesting to note that only a few teachers stated reward as influencing their performance, a finding which is similar to Rozenholtz's (1989).

Nonetheless, teachers' age, number of periods and years of experience in teaching do not seem to be correlated to teachers' present levels of commitment and motivation. This contradicts with the finding of Addison and Brundrett (2008). This may be due to fact that most teachers have heavy teaching load. The finding also showed that there are no significant differences between the male and female teachers in their psychosocial profiles, although the mean scores for the male teachers are higher for self-confidence, efficacy and competency, while female teachers obtained higher scores in motivation, commitment and social skills. This finding is also similar to that of Addison and Brundrett (2008), who found that male teachers were less motivated as compared to female teachers.

The findings of the study have important implications and have strengthened our belief that positive school climate, improved school facilities, support from administrators and increased efforts at helping teachers develop personally and professionally are crucial in helping teachers enhance their psychosocial profiles. The findings that show significant differences between normal schools and at-risk schools in terms of teachers' levels of commitment, social skills and burnout have driven to us the point that the conditions of the school and students' behaviour are crucial to teachers' commitment and well-being.

The main limitation of this study is that it is not a longitudinal study. This is because changes over time can be measured more accurately in longitudinal studies.

CONCLUSION

Teaching is a challenging job. Some teachers can take up the challenges and survive in the teaching profession by giving excellent service to the students, school and community. However, some teachers fail to meet the challenges, they either drop out or leave teaching or they drop out mentally and in spirit. They survive unwillingly and in the process, they may do more harm than good to their students and school. Positive changes in the teachers' psychosocial profile as they go through their teaching career are

important. For this reason, teachers need the supports from all quarters in order to be able to do so. In Malaysian context, factors such as higher salary, limited workload, and a more systematic delegation of responsibilities could be implemented (Mukundan & Khandehroo, 2010) in order to provide these positive changes.

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APPENDIX

TABLE 1
Cronbach's Alpha for Reliability of the Items

Items	Cronbach's Alpha
Commitment	.904
Motivation	.949
Confidence, efficacy and competence	.967
Sociology	.956
Burnout	.889
Working condition	.863

TABLE 2
Distribution of Teachers' Demographic Variables

Demography	Frequency (n)	Percentage (%)
Gender:		
Male	61	20.2
Female	241	79.8
Marital Status:		
Single	14	4.6
Married	286	94.1
Others	4	1.3
Age:		
Mean = 39.67 SD= 6.545		
< 25	2	.7
25 - 30	22	7.5
31 - 40	142	48.3
41 - 50	108	36.7
> 51	20	6.8
Race:		
Malay	184	60.9
Chinese	68	22.5
Indian	46	15.2
Others	4	1.3

TABLE 3
Change in the Level of Teachers' Commitment

Item	Mean past	SD	Mean present	SD	Mean Difference
Joy in spending my entire career in the teaching profession	3.91	.721	3.65	.853	0.26
Accepting that problems in school are my own problems	3.10	.944	3.04	1.032	0.06
The sense of belonging towards the school	3.76	.708	3.68	.828	0.08

TABLE 3 (*continued*)

Feeling comfortable working in this field	3.97	.730	3.77	.914	0.2
Effort to do the best job	4.02	.654	3.96	.804	0.06
Effort to increase job performance	4.10	.634	4.08	.728	0.02
Effort to increase school's quality	3.97	.687	3.92	.781	0.05
Commitment towards the career	4.08	.661	4.00	.775	0.08
Providing service with satisfaction in this career	3.91	.702	3.74	.871	0.17
Being responsible towards work	4.16	.607	4.12	.702	0.04
Dedication towards work	4.08	.616	4.03	.702	0.05
Desire to seek another job	4.00	.1.079	3.83	1.185	0.17
Total	3.925	.52186	3.8194	.64926	0.1056

TABLE 4
Changes in the Level of Teachers' Motivation

Items	Mean past	SD	Mean present	SD	Mean Difference
Determination in executing duties as a teacher	4.00	.663	4.02	.656	-0.02
Diligence in making preparation for teaching	3.94	.652	3.83	.763	0.11
Being energetic in giving the best in your career	3.99	.639	3.84	.751	0.15
Excitement in producing ideas geared towards increasing the quality of teaching & learning	3.92	.652	3.81	.765	0.11
Joy in going to work everyday	3.90	.681	3.66	.885	0.24
Passion in working in the field	3.88	.690	3.70	.877	0.18
Effort to increase level of profession	3.98	.661	3.93	.771	0.05
Effort to increase knowledge to become a better teacher	4.10	.659	4.07	.791	0.03
Effort to obtain excellence in performance evaluation	3.77	.740	3.67	.858	0.1
Determination to obtain recognition in this field	3.75	.764	3.63	.885	0.12
Interest in the teaching career	4.08	.719	3.98	.795	0.1
Having high aims and hope for yourself	4.06	.712	3.91	.816	0.15
Satisfied with the current achievement even though is not as good as the others	3.63	.805	3.51	.915	0.12
Total	3.9256	.53664	3.8149	.65323	0.1107

TABLE 5
Changes in the Levels of Teachers' Self Confidence, Efficiency and Competency

Items	Mean past	SD	Mean present	SD	Mean Difference
Confidence in delivering the teaching content effectively	3.83	.754	4.14	.700	-0.31
Confidence in moulding pupils behaviour	3.79	.705	3.83	.837	-0.04

TABLE 5 (*continued*)

Confidence in managing the classroom	3.83	.744	3.93	.771	-0.1
Confidence in disciplining the pupil	3.80	.754	3.86	.802	-0.06
Confidence in increasing pupil's academic performance	3.92	.670	3.99	.733	-0.07
Confidence in completing administrative duties	3.73	.721	3.76	.801	-0.03
Confidence in executing co-curricular duties/task	3.67	.739	3.64	.834	0.03
Systematic in executing tasks	3.72	.695	3.80	.722	-0.08
Being meticulous at work	3.80	.663	3.89	.710	-0.09
Multitasking at one particular time	3.61	.816	3.73	.798	-0.12
Ability to achieve teaching and learning objectives	3.83	.673	3.90	.703	-0.07
Total	3.7762	.59458	3.8599	.61000	-0.0837

TABLE 6
Changes in the Level of Teachers' Social Skills

Items	Mean past	SD	Mean present	SD	Mean Difference
Caring for the pupil's learning needs	3.83	.732	3.98	.615	-0.15
Caring for the pupil's state of emotion	3.78	.728	3.95	.684	-0.17
Caring for the pupil's welfare	3.85	.712	4.00	.641	-0.15
Willingness to help other teachers in the teaching and learning process	3.88	.686	3.97	.672	-0.09
Other teachers cooperation in implementing co-curricular duties.	3.94	.670	3.96	.700	-0.02
The thrill in socializing with other teachers in school.	4.05	.654	4.07	.689	-0.02
Adherence in executing administrator's instructions.	4.07	.598	4.05	.667	-0.02
Interacting comfortably with administrators.	3.81	.715	3.82	.820	-0.01
Understand administrator's requirements.	3.82	.677	3.83	.784	-0.01
Willingness to get in touch with pupil's parents	3.70	.729	3.74	.779	-0.04
Interacting comfortably with pupil's parents	3.78	.687	3.82	.758	-0.04
Willingness to help pupil's parents in the social aspect	3.72	.710	3.76	.760	-0.04
Total	3.8523	.55696	3.9117	.56433	-0.0594

TABLE 7
Changes in the Level of Teachers' Burnout

Item	Mean past	SD	Mean present	SD	Mean Different
Feeling low spirited and less energetic physically or emotionally	1.97	.554	2.18	.650	-0.21
Prone to thinking negatively about your job	1.65	.596	1.78	.691	-0.13
Difficult or less sympathetic towards other people	1.57	.648	1.60	.657	-0.03
Easily offended by colleagues on trivial problems	1.72	.555	1.77	.606	-0.05
Feeling not being understood or appreciated by colleagues	1.76	.601	1.79	.668	-0.03
Feeling no individuals who are willing to listen	1.54	.608	1.57	.654	-0.03
Feeling less successful than one should be	1.81	.645	1.90	.691	-0.09
Feeling pressured to achieve success	1.77	.615	1.92	.723	-0.15
Feeling pressured to achieve specified targets (by principal, school, parents and others)	1.89	.612	2.09	.723	-0.2
Feeling that one is in the wrong profession	1.40	.590	1.52	.706	-0.12
Feeling frustrated with job demands	1.69	.641	1.93	.821	-0.24
Feeling stressed with pupil's behaviour	2.07	.661	2.39	.856	-0.32
Feeling stressed with parent's behaviour	1.71	.607	1.89	.773	-0.18
Not enough time for making good quality work	1.97	.620	2.30	.799	-0.33
Not enough time to make lesson plans	1.97	.595	2.25	.804	-0.28
Feel like a robot – only follow the instruction	1.84	.712	2.12	.880	-0.28
Total	1.7713	.40176	1.9387	.50616	-0.1674

TABLE 8
Correlation Between Burnout and Teachers' Psychosocial Profiles

Psychosocial Profile	Burnout
Past Commitment	- .461**
Present Commitment	- .506**
Past Motivation	-.356**
Present Motivation	-.482**
Past Self Confidence	-.392**
Present Self Confidence	-.352**
Past Social Skills	-.358**
Present Social Skills	-.417**
Past Working Condition	-.372**
Present Working Condition	-.465**

TABLE 9
Correlations between Workload and Burnout

Work Load	Burnout
< 10 years of teaching experience	.365[**]
>10 years of teaching experience	200[**]

TABLE 10
Teachers' Perceptions of Working Conditions

Item	Mean past	SD	Mean present	SD	Mean Different
Support from the Authorities	3.46	.818	3.43	.804	0.03
Access to TAM (teaching aid materials)	3.35	.742	3.45	.745	-0.1
Freedom to make decisions	3.28	.717	3.23	.772	0.05
Workload	3.35	.843	3.98	.791	-0.63
Comfort of the workplace environment	3.44	.751	3.47	.811	-0.03
Cooperation from the Administration	3.66	.674	3.65	.778	0.01
Cooperation from other teachers	3.74	.627	3.73	.696	0.01
Development in T & L	3.44	.671	3.65	.718	-0.21
Development in Curriculum	3.41	.689	3.61	.753	-0.2
Discipline of students	3.28	.827	3.10	1.075	0.18
Opportunity to attend courses	3.23	.853	3.24	.912	-0.01
Prospect for promotion	2.82	.874	2.92	.964	-0.1
Prospect for increment	2.93	.772	3.10	.892	-0.17
Total	2.2582	.37147	2.2625	.40959	-0.0043

TABLE 11
Reasons for Increase in the Levels of Commitment, Motivations, Self Confidence, Efficacy and Competency and Decrease in Burnout

The cause/reason for improvement (personal, school factor, student factor, etc.)	Frequency (%)
Increase in confidence as a teacher	242 (79.6%)
Raise in earnings	210 (69.1%)
Enhancement of work enjoyment	159 (52.3%)
A sense of achievement in educating the students well	192 (63.2%)
Increase in knowledge	245 (80.6%)
Past working experience	261 (85.9%)
Encounter more challenging work	218 (71.7%)
Ability to be more independent	205 (67.4%)
More opportunity to showcase leadership	168 (55.3%)
More opportunity to showcase ability	174 (57.2%)
Increase in professionalism	201 (66.1%)
Better support from family	178 (58.6%)

TABLE 11 (*continued*)

Better support from friends	164 (53.9%)
Increased willingness to receive assistance	170 (55.9%)
Increased willingness to offer assistance	187 (61.5%)
Better physical school environment	173 (56.9%)
Motivational boost when working in urban schools	115 (37.8%)
Motivational boost when working in rural schools	109 (35.9%)
Attended team building programmes (increase in team work spirit)	151 (49.7%)
Able to attend more in house programmes	165 (54.3%)
Able to attend more service training	151 (49.7%)
Experienced a more positive T & L	187 (61.5%)
Practicing a more suitable and effective mode of teaching	200 (65.8%)
Take responsibility more seriously	213 (70.1%)
Better understanding of subject content	206 (67.8%)
Better grasp of T & L approach	195 (64.1%)
Confidence from years of teaching	230 (75.7%)
Increased confidence in interaction	204 (67.1%)
Support from school administration	159 (52.3%)
Better control of student discipline	132 (43.4%)
A school culture that encourages teamwork amongst teachers	185 (60.9%)
A school culture that encourages teamwork amongst students	128 (42.1%)
A school culture that encourages teamwork amongst teachers and students	148 (48.7%)
A school culture that encourages teamwork amongst teachers and administrators	156 (51.3%)
Parents support	119 (39.1%)
Increase in students' achievement	154 (50.7%)
Increase in emotional strength	177 (58.2%)
Increase in physical strength	143 (47.0%)
Increase in mental strength	169 (55.6%)
Others	14 (4.6%)

TABLE 12
Reasons for the Declines in the Levels of Commitment, Motivations, Self Confidence, Efficacy and Competency and Increase in Burnout

The cause/reason for decline (personal, school factor, student factor, etc.)	Frequency (%)
Unreasonable attitude of the school administration	76 (25.0%)
Lesser support from school administration	85 (28.0%)
Increased pressure from school	128 (42.1%)
Heavy workload	183 (60.2%)
Pressure from administrators	89 (29.3%)
Despondency due to numerous out of school assignments	64 (21.1%)

TABLE 12 (*continued*)

Physical environment of the school	71 (23.4%)
The state of urban schools	53 (17.4%)
The state of rural schools	36 (11.8%)
Unsatisfied with the unfair distribution of workload between teachers	124 (40.8%)
Tedious clerical work	194 (63.8%)
Lack of facilities at school and etc	55 (18.1%)
Unfair terms of salary advancement	84 (27.6%)
Salary does not meet with qualifications	76 (25.0%)
Changes in teaching in a new school (location, types of students, school culture and etc.	64 (21.1%)
A school culture that excessively prioritizes academics	73 (24.0%)
A school administration steeped in bureaucracy	76 (25.0%)
Teaching a non-optional subject	61 (20.1%)
Decrease in emotional strength	65 (21.4%)
Decrease in physical strength	76 (25.0%)
Decrease in mental strength	56 (18.4%)
Personal factor	25 (8.2%)
Interference by parents, outside influence	49 (16.1%)
Lack of parental support (eg. parents' unreasonable backing up of students undermine teachers)	85 (28.0%)
Student factor	93(30.6%)
Other causes/reasons	20 (6.6%)

TABLE 13
Differences between Teachers' Present Psychosocial Profile between At-Risk and Normal Schools

Attributes	Normal schools		At-risk schools	
	Mean	SD	Mean	SD
Commitment	3.8275	.6810	3.7860	.4996
Social skills	3.9220	.5949	3.8684	.4136
Burnout	1.9285	.4833	1.9832	.5983

PERTANIKA JOURNALS

Determinants of Successful Technology Adoption among Malaysian Cocoa Farmers

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ABSTRACT

The contribution of group dynamics is considered crucial in group development. This paper looks at the role of group dynamic factors in predicting the successful adoption of technology by Malaysian cocoa farmer clusters. A systematic collection of data and information on cocoa farmer clusters in Malaysia with parameters investigated were group process, extension agents' coordination ability and cocoa farmer clusters and extension agents' demographic data. Discriminant analysis of the data on cocoa farmer clusters and extension agents were undertaken to verify the differences in the group dynamic factors between successful and less successful cocoa farmer clusters. The findings reveal that the roles of participation in cocoa farmer clusters, membership attraction to cocoa farmer clusters and cohesiveness in cocoa farmer clusters are likely to have higher possibility to cocoa farmer clusters' success. In contrast, leadership and communication in cocoa farmer clusters were more likely to have low possibility to be successful.

Keywords: Group dynamics, cocoa farmers clusters, technology adoption, cocoa technology

INTRODUCTION

The current situation of the cocoa industry in Malaysia reflects the challenges it may face in the future. The gap between supply and demand is evident from time to time.

This phenomenon is caused by the lack of involvement of major plantation companies in cocoa production in the country. Many of the plantation companies have replaced cocoa plantation with other commodities particularly oil palm. This inadvertently makes the cocoa smallholders or cocoa farmers the most important contributor to Malaysia cocoa beans supply. Therefore, in order to meet the supply and demand of cocoa production in Malaysia, participation

and involvement of farmers are vital in line with the nation's mission to stabilize the economy.

As an effort to address the cocoa bean production declining issue, MCB has taken steps to develop the industry in a large scale through farmers' cluster approach. One of the goals is to enhance technology adoption (TA) among farmers' cluster as improvement in TA is positively link to improve cocoa bean production. As such, MCB needs to establish and strengthen the Cocoa Farmer clusters (CFC) as the driver to enhance TA among CFC under its programme. The CFC is to assist MCB in performing its function as a centre for technology diffusion and adoption (Asgari & Wong, 2007; Choudrie & Dwivedi, 2005; Wejnert, 2002; Besley & Case, 1993) among the farmers.

The CFC is administered all over Malaysia in a collective manner and monitored periodically. The guidelines in administering and treating CFC are similar in all the regions where MCB has its physical capacities in terms of extension agents who carry out the operational duties of monitoring the CFC. Nevertheless, despite adopting similar guidelines and providing similar treatment to each of the CFC in Malaysia, MCB found that the performance of CFC in terms of technology adoption (TA) actually differs. Some CFCs adopt technology successfully, while others are less successful. This has caused concerns to MCB and therefore, the factors differentiating the performance of TA among CFC's in Malaysia need to be identified.

An advantage of farming in groups or clusters is that farmers will be able to share and help each other in adopting (Geroski, 2000; Hategekimana & Trant, 2002; Rogers, 2003) any new technological know-how. At the same time, the extension agents will be able to understand the needs and problems faced by the farmers better. In addition, the agents will also be able to provide encouragement in terms of innovation and be deeply involved in helping farmers plant their cocoa seedlings. The farming groups were formed through community development initiatives through government programmes or projects so that they are capable to meet the production target.

As CFCs is MCB's main instrument in enhancing farmers' rate of technology adoption (TA). It is therefore crucial to identify group dynamic factors that discriminate the successful TA among CFC members. The factors that discriminate to the success of TA among CFCs and group dynamic factors (GDFs) that have a significant contribution to TA are looked into in this paper.

METHOD

The objective of this study is to identify the discriminating factors on the group dynamics between successful and less successful TA among CFC. In order to attain the objective, discriminant analysis (DA) was used to verify the differences in Group Dynamic Factors (GDF) between successful and less successful CFC. Discriminant analysis is a statistical technique that is used when the dependent variables

categorical (nominal or non-metric) and the independent variables are metric (Hair, Anderson, Tatham & Black, 1995). In this study, comparisons of the groups were made using multiple discriminant analysis (contingency tables and cross-tabulations), and tested for significance with tests such as chi-square. In this study, discriminant analysis was also used to derive a linear combination of two or more predictors that will discriminate best between the defined groups.

For the purpose of this analysis, the level of TA was included as Independent Variables (IV) apart from the GDF. The Dependent Variables (DV) in the DA is the status of CFC, as classified by EAs that is successful and less successful. Hypothesis 1 is drawn to prove the existence of the differences in the CFC Group Dynamic Factors that discriminate the CFC level of performance (successful or less successful) in TA, as follows:

> **Hypothesis 1:** *There are significant differences in the CFC Group Dynamic Factors that discriminate the CFC level of performance in TA.*

The main purpose of using DA in this research was to determine the predictors that accounted the most for the differences in the mean score of less successful and successful TA among CFC. Discriminant analysis is the appropriate statistical technique when the dependent variable is categorical and independent variables are metric (Hair, 1995). Using linear discriminant function, as shown in the following equation, the

discriminant scores are the values resulting from assigning values to $X_1, X_2 ... X_i$ in the equation.

$$Z = W_1 X_1 + W_2 X_2 + ... W_n X_n$$

Key;

Z = Discriminant CFC score Levels of success (Less success or success)

Wi = Discriminant weight for independent variable i

Xi = Independent variable i

The relationship between the DV and the IVs is described as an equation in the following. Here, the equation was constructed based on the regression analysis. In this analysis, Enter method of DA was used.

$$Z = b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 \\ + b_6 X_6 + b_7 X_7 + b_8 X_8 + b_9 X_9 + b_{10} X_{10} \\ + b_{11} X_{11} + b_{12} X_{12} + b_{13} X_{13}$$

Key of IVs:

Group Inputs: X_1 Role of participation; X_2 Cohesiveness; X_3 CFC Goal; X_4 Membership attraction; X_5 Communication; X_6 Leadership; X_{11} CFC Age; X_{13} Level of TA;

EA Coordination Ability: X_7 EA cultural competency; X_8 EA CFC coverage; X_9 EA professional skill;

Individual Inputs: X_{10} Cocoa Farming Experience; X_{12} EA Working Experience

Study Area

The study was conducted on Malaysian cocoa farmer clusters and Extension Agents of MCB. MCB defines cocoa smallholders

as farmers whose land holdings with cocoa plantings is not more than 40 ha. Under the MCB Cocoa Smallholders Development Program in the year of 2009, MCB has developed more than 7,984 cocoa farmers with the total area planted of more than 8,000 hectares (MCB Annual Report (2009).

Farmers who are involved in the programme have been listed and monitored by the EAs concern through the MCB's regional office. At present, MCB has 56 fronts line EAs in different categories. The EAs are placed in various regional offices so as to enable them to serve the cocoa farmers in their respective regions.

Data Collection

Stratified sampling method, according to Thomas and Lewis (1995), is commonly used in surveys. In this study, the sampling frames were the list of farmers in the CFC programme and the list of EAs that executed the MCB extension program and activities. In the stratified sampling method, the population is first divided into a homogeneous strata or sub-samples (grouping of individuals farmers or entities based on characteristics they share), and then simple random sampling or systematic sampling is used to select cases within each stratum.

CFCs were then compared among the eight regional offices (strata) and random sample of the CFCs from within each region. This is to ensure cases from each stratum are adequately represented in the full sample. Finally, out of 388 CFCs in Malaysia, 136 (36%) CFCs were sampled out (using Krejcie & Morgan, 1970) by using the stratified random sampling where each CFC is represented by 5 members (farmers). The sample comprised of a Chairman (compulsory), 2 or 3 committee members and 1 or 2 ordinary member(s). The total number of the CFCs' members involved in this study was 681 farmers. For the EAs, the sampling of all 56 EAs was undertaken. The farmers (respondents) were asked about their socio-economic characteristics, group leadership, participation, membership, cohesiveness, CFCs' goal and technology adoption. The questions asked on EAs relate to demographic, cultural competency, EA professional skill and intensity of CFC coordinated by EA.

Data Analysis

Discriminant analysis is a main statistical tool used in data analysis to verify the differences in Group Dynamic Factors (GDF) between successful and less successful CFCs. Besides that, basic statistical tools, i.e. frequency, means, and standard deviation, t-test, ANOVA and Pearson's correlation were also employed.

RESULTS AND DISCUSSION

Table 1 shows a summary of interpretive measure of DA. The summary of the univariate analysis indicates the influential variables to the low/high intention to share. Based on the canonical correlation result of 0.45, it is concluded that 20.3% (square of the canonical correlation) of the variance in the dependent variable is accounted for by this model.

The result of the discriminant analysis stepwise procedure, as shown in Table 1, reveals that out of the thirteen factors tested, six have significant value (p<0.05). Out of the six significant factors, four significant factors carry positive sign, which are the level of TA in CFC, role of participation in CFC, membership attraction to CFC and cohesiveness in CFC. Meanwhile, two significant factors carry negative sign which are leadership and communication in CFC. The variables with positive sign indicate that it helps to discriminate the CFC with high level of success, whereas the ones that carry negative sign help to predict the

low level of success by CFCs. Thus, CFCs with more positive sign are more likely to have higher possibility to success. On the other hand, CFCs with more negative sign are more likely to have low possibility to be successful. The group centroids are -0.51 for the less successful and 0.44 for successful group (Table 1). High scores on the discriminant function are associated with the CFC success.

Based on the results as presented in Table 1, it can be observed that none of the variables from the external factor contribute significantly in the DA. These findings reveal that the success of TA in

TABLE 1
A summary of Interpretive Measure of CFC Discriminant Analysis

Variables		Unstd	Std	Discriminant Loading (Rank)	F Ratio	Sig.
X_{13}	Level of TA	1.04	.59	0.76 (1)	17.58***	.000
X_1	Role of participation	1.57	.71	0.74 (2)	16.60***	.000
X_4	Membership attraction	.90	.38	0.63 (3)	12.10**	.001
X_2	Cohesiveness	.33	.10	0.49 (4)	7.20**	.008
X_6	Leadership	-.84	-.32	0.40 (5)	24*	.028
X_5	Communication	-.22	-.10	0.37 (6)	4.18*	.043
X_3	CFC Goal	-.71	-.28	0.33 (7)	3.33	.070
X_{10}	Cocoa Farming Experience	.01	.11	0.17 (8)	.88	.350
X_{11}	CFC Age	-.09	-.28	0.16 (9)	.76	.386
X_8	EA CFC coverage	.00	.02	-0.15 (10)	.72	.396
X_{12}	EA Working Experience	.03	.16	0.12 (11)	.44	.506
X_7	EA cultural competency	-.05	-.02	0.12 (12)	.41	.521
X_9	EA professional skill	-.53	-.27	-0.02 (13)	.01	.916
	(Constant)	-6.09				.000
Group centroid at Less Success		-.51				
Group centroid at Success		.44				
Wilks Lambda		.82				
(Canonical correlation)^2		.20				

Note: Significant: *p<.05; **p<.01; ***p <.001
Note: Unstd= Unstandardized; Std= Standardized

a cluster largely depends on the internal strength of the CFC. They also reveal that EA coordination ability did not contribute significantly to categorising CFC. This could be because MCB adopt participatory approach in developing its CFC. As such, decision making in the cluster was left to the members of CFC rather than made by the EA in charge. In relations to TA, the EA function is to disseminate the technology to the best possible, but whether or not the CFC members adopt the technology successfully is dependent on how CFC members perceive the usefulness of the technology to their cocoa farms. As such, CFC may not adopt a technology disseminate by the EA even if it is effective, if the majority of their members refuse to accept it.

The results presented in Table 2 reveal that from the DA carried out, several GDF variables are significant at 0.05 level, indicating substantial differences in variables between the groups. As such, the findings support Hypothesis 1 that there are significant differences in the CFC's GDF that discriminate level of CFC performance in TA. The results of the DA clearly indicate the existence of discriminating capability in terms of GDF between the less successful and successful CFC. The six most significant GDF identified from the DA are the level of TA, role of participation, membership attraction to CFC and cohesiveness in CFC as well as leadership and communication in CFC. The first four show positive sign while the last two show negative sign.

One of the benefits of discriminant analysis is that it produces a classification table that shows where the data are categorized and in which groups they are

TABLE 2
Mean Comparison of Success levels of CFC

Variables		Levels of Success		F Value	Sig.
		Less Successful	Successful		
X_{13}	Level of TA	3.61	4.02	17.58***	.000
X_1	Role of participation	3.82	4.14	16.60***	.000
X_4	Membership attraction	3.57	3.82	12.10**	.001
X_2	Cohesiveness	4.49	4.63	7.20**	.008
X_6	Leadership	3.45	3.60	24*	.028
X_5	Communication	3.17	3.33	4.18*	.043
X_3	CFC Goal	3	4.23	3.33	.070
X_{10}	Cocoa Farming Experience	7.84	9.02	0.88	.350
X_{11}	CFC Age	4.39	16	0.76	.386
X_8	EA CFC coverage	13.90	12.73	0.72	.396
X_{12}	EA Working Experience	6.70	7.40	0.44	.506
X_7	EA cultural competency	4.52	4.56	0.41	.521
X_9	EA professional skill	3.86	3.85	0.01	.916

Note: Significant *p< .05; **p<.01; ***p <.001

predicted to be (Hair, 1995). Meanwhile, Table 3 explains the hit ratio for less successful and successful CFCs that were selected in the analysis. From the early evaluation made by EA, it was determined that there were 63 less successful CFCs and 73 successes CFCs, as shown in Table 3.

The original classification results showed that out of the 63 less successful CFCs (in terms of the rate of adoption), about 62% predicted to be members in the less successful group, while 38% predicted to have successful CFC members' characteristics. From 73 successful CFC, 22% were predicted to have the characteristics of members of less successful CFC, while 78% predicted to be members of the successful group.

As shown in Table 3, the overall predictive accuracy of the model for the analysis sample was 70.6% from the original classification. Predictions on the CFC membership showed that success was classified with slightly better accuracy (78.1%) than less success (61.9%). Based on the result presented in Table 3, discriminant function using discriminant weights value can therefore be translated into a DA Equation 1, as follows:

$$Z = .59X_{13} - .32X_6 + .71X_1 + .10X_2 + .38X_4 - .10X_5 \quad \text{Equation 1}$$

Equation 1 is used to calculate the discriminant CFC score levels of success. This finding provides MCB with a model to predict or keep track of CFC's performance in TA and also helps identify CFC categories (successful or less successful) based on their GDF. The ability to ascertain GDF that discriminates successful and less successful CFC provides MCB with early warning signal to take corrective action to support successful TA among CFC. The equation may not specifically tell MCB what is wrong with the CFC, but it encourages them to predict or to identify problems and take immediate and effective actions to minimize incidence of TA failure among the CFC.

The DA performed in this study revealed that the performance of CFC could be predicted using GDF. By using GDF as the determinant, the CFC can be categorised as successful or less successful. This finding is consistent with that of Forsyth (2006), Wheelan (2005) and Burn (2004) who stated that group performance could be differentiated through GDF. The GDF is the group communications, group structure or membership, goals and tasks, status and

TABLE 3
The Hit Ratio for Original Classification

CFC TA Levels	Predicted CFC	Membership	No of Cases
	Less Success (%)	*Success (%)*	
Less Successful	39 *(61.9)*	24 *(38.1)*	63 *(100)*
Successful	16 *(21.9)*	57 *(78.1)*	73 *(100)*

The percentage of "grouped (CFC)" cases correctly classified: 70.6%. Numbers in italics indicate the row percentages.

role, leadership, and cohesion. In this study, the GDF with significant contributions to CFC performance level in TA includes the roles of participation, membership attraction to CFC and cohesiveness in CFC as well as leadership and communication in CFC. The first four of the GDF show positive sign while the last two show negative sign. The positive sign indicates a positive contribution to the CFC successful performance in TA, while the negative sign shows otherwise. Therefore, MCB could use the DA as predictors to CFC potential for success in TA. Hence, in order to ensure successful TA, MCB should give specific emphasis on the four positive GDF in the CFC early development process.

The results from the DA carried out on EA coordination ability variables indicated that they did not contribute significantly into categorising CFC as successful or less successful. This finding is interesting as EA spent most of their time disseminating information to farmers yet DA carried out revealed that this did not contribute significantly to categorise CFC as successful or less successful. A further observation confirmed that the approach in CFC development process adopted by MCB might influence this outcome. EA is given the responsibility to ensure development process goes well in CFC. However, MCB does not encourage the EA to make decisions on behalf of the CFC. In other words, MCB adopts the participatory approach of the farmers first (Chamber *et al*., 1989). As such, the final decision to adopt technology or otherwise was made by

the members of CFC themselves, while EA could only advice. Despite this finding, it is important to note that without the EA, cocoa technology may not reach the farmers at all. Therefore, the role played by the EA is somehow indirectly significant to CFC TA.

As cited by Napier and Gershenfeld (1999), individuals are more attracted to join a cluster or to continue as a member in a cluster that is successful. This supports the findings of the regression analysis in this study which indicates that membership attraction to CFC is the most significant factor that influences TA among CFC. As stated by Bell *et al*. (1998), participation in a cluster helps enhance members' personal knowledge, beliefs or skills. This was elaborated further in the study by Rouse (1996) who stated that being part of a group contributed to enhancement in knowledge, empowerment, confidence and ability to make decisions among members. This contributes to the success of TA among members of CFCs. As this study opens up a new direction on ways to form successful CFC in TA, it is crucial that the approach is followed to ensure more farmers register themselves willingly as members of CFC, particularly farmers who are influential in terms of knowledge and experience in cocoa farming. This will motivate other farmers to be in the group so as to enjoy the benefits of being part of a potentially successful CFC.

CONCLUSION

The level of TA among CFCs depends largely on the assimilation of the GDF during group process. This study has highlighted that of

the six significant factors, four significant factors carry positive sign, which are level of TA in CFC, role of participation in CFC, membership attraction to CFC and cohesiveness in CFC. Meanwhile, two significant factors carry negative sign which are leadership and communication in CFC. The variables with positive sign indicate that it helps to discriminate the CFC with high level of success, whereas the variables that carry negative sign help to predict the low level of success by CFCs. Thus, CFCs with more positive sign are more likely to have higher possibility to success. On the other hand, CFCs with more negative sign are more likely to have low possibility to be successful.

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Developing an Argumentative Writing Scale

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ABSTRACT

Today, with more emphasis on the student writers' awareness of the genres of writing, there is a need for writing scales that are sensitive to the variation in the text types. Numerous writing scales have been developed over the past decades, but new scales are required to be developed as the testing situations vary. As a part of a project that aimed at developing a genre-specific writing scale to evaluate tertiary level argumentative writing, a focus group study was conducted. For this purpose, a pre-existing group of experienced English as a Second Language (ESL) lecturers (n=4) discussed what traits of the argumentative writing skill should be included in a writing scale. They also discussed how much weight should be assigned to each trait. As a result of the study, the subscales of 'task fulfilment', 'content', 'organization', 'vocabulary', 'style', 'grammar' and 'mechanics' (in the order of their importance) were proposed by these experts. The study has implications for teaching-testing of ESL writing skill.

Keywords: Assessing writing, scale development, evaluative criteria, argumentative writing

INTRODUCTION

It is interesting to know that over 30 percent of a typical language instructor's professional life is spent on assessment or assessment-related activities (Cheng, 2001). It is sad, however, that only a few

instructors are aware of the rules of efficient evaluation (Stiggins, 2007). With a growing emphasis on accountability, the significance of systematic and well-informed assessment is accentuated even more than before. Educational systems and their Stake-holders increasingly demand objective results of learners' improvement (Coombe, Al-Hamly & Troudi, 2009).

Likewise, in the area of English as a Second Language (ESL) writing, teachers as well as test developers have always needed

assessment tools to measure students' performance accurately and consistently. Teachers require instruments that explicitly describe the sub-traits of the writing construct that need to be emphasized to improve their learners' writing performance. Research indicates that any mysterious evaluation of students' written samples increases students' test anxiety and can demotivate them (Brennan, Kim, Wenz-Gross & Siperstein, 2001).

Teaching is not separable from assessment. In Huot's words, "being able to assess writing is an important part of being able to write well" (Huot, 2002, p. 62). The reason is that students will find it hard to revise and edit well if they cannot differentiate between basic and competent writing. Despite its importance, assessment is not a well-liked part of most language instructors' professional career. Most writing teachers and lecturers despise assessment. The idea of 'teaching to the exam', in effect, irritates the most. However, tests can help in assessing learning if they are learner/individual/progress-focused (Hamp-Lyons, 2003). On the significance of writing assessment, Huot (2002) assumes, "in literate activity, assessment is everywhere" (p. 61). A lack of relevant scales, on the one hand, keeps writing lecturers away from professional testing of their learners' writing ability in English. A lack of professional handling of writing tests, on the other hand, discourages testing experts from developing writing scales that most probably will not be used by the writing lecturers. This has created a vicious cycle, which has resulted

in a gap between teaching and testing of writing. The problem can be solved by developing teacher-friendly writing scales and training teachers to use them effectively. ESL writing teachers need to be professional testers so they can teach more efficiently.

When the writing instructors do not have access to evaluative criteria checklists or writing scales, they commonly evaluate their learners' written works impressionistically. This method can be highly subjective and brings about the challenge of evaluators' idiosyncratic judgment (Cooper & Odell, 1999). In other words, two different raters may assign quite discrepant scores to the same piece. Scale-based assessment of writing can aid evaluators to score more reliably (Crusan & Cornett, 2002; Cooper & Odell, 1977).

Employing checklists and scales to evaluate written samples can help the reader guard against rater bias, or the rater's idiosyncratic beliefs about successful writing (Tedick, 2002). Research has indicated that when raters are untrained, they show a tendency to emphasize sentence level accuracy and language skills over other sub-traits of the writing skill, like content and organization (Sweedler-Brown, 1993). This suggests that scales and checklists can increase the validity of the evaluator's judgment by controlling the problem of rater bias.

Writing scales have been developed for decades to provide support for teachers. Writing instruments help instructors to evaluate their students' writing based on a set of descriptors and different levels of

performance (also known as bands). Each band descriptor examines papers focusing on a number of evaluative criteria (like grammar, vocabulary and content). With an eye on the descriptors, the evaluator examines and scores each paper. Although a vast number of writing scales are available in the literature, the researchers found no suitable writing scale to evaluate their students' argumentative pieces in their present context (Nimehchisalem & Mukundan, 2011). Therefore, with the objective of developing a writing scale they started a multi-phased project. In the first phase of this project, one of their main objectives was to determine the evaluative criteria of the scale. This paper presents a focus group study whose results helped the researchers gain an in-depth insight of the writing lecturers' views on the evaluative criteria. However, before the study and its findings are presented, a brief review of the literature will follow.

CONSTRUCT OF ARGUMENTATIVE WRITING SKILL

Before conducting the focus group study, the researchers went through the related literature to identify the evaluative criteria that had to be considered by the scale. A huge body of related literature is available. Different scholars regard varying components of the writing skill as important depending on the testing situations. While in some scales, content, organization, vocabulary, language and mechanics (e.g., Jacobs, Zingraf, Wormuth, Hartfiel and Hughey,

1981) are emphasized, in others, components like relevance and adequacy of content, compositional organization, cohesion, adequacy of vocabulary for purpose, grammar, punctuation and spelling (Weir, 1983) are distinguished.

Sometimes scholars seem to have different views. However, if we look closely at these views, it is evident that there is some sort of general agreement, despite the varying terms used to refer to the same components. To offer an example, content, purpose and audience, rhetorical matters (organization, cohesion, unity), and mechanics (sentence structure, grammar, vocabulary) are recognized as the major components of the ESL writing skill by Reid (1993), whereas Cohen (1994) considers content, organization, register (appropriateness of level of formality), style (sense of control and grace), economy, accuracy (correct selection and use of vocabulary), appropriateness of language conventions (correct grammar, spelling and punctuation), reader's acceptance (soliciting reader's agreement), and reader's understanding (intelligibility of the text) as the essential sub-traits.

Recent research in the area of determining the evaluative criteria for automated writing scales identifies grammar, usage, mechanics, style, organization, development, vocabulary and word length (Attali & Burstein, 2006). More recently and radically, organization and development have been replaced by essay length, a readily measureable dimension of writing by computers (Attali & Powers, 2008).

In the literature, other interesting dimensions of the writing skill can also be observed. However, there has been very little research on these dimensions. One of these dimensions is the writer's intellectual maturity (Odell, 1977). As Lee Odell proposes, it is possible to differentiate more from less mature writing through an investigation of the intellectual processes and their corresponding linguistic cues. The processes include focus, contrast, classification, change, physical context and sequence each of which is defined and provided with examples in Table 1.

Basic writers tend to shift the focus, use contrast, and classify less frequently than more mature writers. They also find it hard to describe changes using accurate language. Describing the physical context or highlighting sequences throughout the passage would also be challenging for them. A scale can focus on these elements to differentiate between less and more competent student writers. In addition to the learners' ability to write well, their skill in inventing ideas to write their papers should also be considered in the development of a scale for argumentative writing. In this respect, the available models on argumentation can prove helpful. As one of the most practical and accurate models of argument, Toulmin's (1958/2003) Model of Argument, which comprises of six elements, is summarized in Table 2.

As the table shows, Toulmin's model makes it easy to analyze elements of a

TABLE 1
Intellectual maturity (Odell, 1977)

Intellectual process: definition	Linguistic cue	Example (cues underlined)
Focus: focus of attention in a sentence	Grammatical subject	Sue opened the window.
Contrast: discussing what something is not, or how it is different from other items	Although, but, not, despite, yet, etc.	Research does not mean reinventing the wheel.
Classification: showing similarities between two entities, feelings, etc. compared with others	Like, such as, for example, compare, as, etc.	Love is like a banana.
Change: indicating the transformations experienced by individuals	Become, change, turn, grow, etc.	She could see the truth as she grew older.
Physical context: the writer's precise description of a given setting	Nouns referring to geographical locations (cities, countries); objects in physical settings (tree, yard); sensory properties of physical settings (sound of wind in the trees)	The old house was filled with unforgettable memories.
Sequence: highlighting time sequences and logical sequences	Subsequently, consequently, etc.	Consequently, the change made a significant contribution to the development of the country.

TABLE 2
Elements of effective argumentation (Toulmin, 1958)

Element of argument	Description	Example (element underlined)
Claim [C]	statement of the thesis	Smoking is dangerous.
Data [D]	evidence providing proof for C	The reason is that it is cancerous.
Warrant [W]	the principle that bridges D to C implicitly/explicitly, proving the legitimacy of D	Anything cancerous is dangerous.
Qualifiers [Q]	the linguistic cues that show the strength of the C, D or W	Smoking is very dangerous.
Backing [B]	further support for W	Cancer kills millions of people.
Rebuttal [R]	response to the anticipated objections against the arguments	Some may argue, however, that smoking gives them a good feeling.

good argument. This facilitates evaluating argumentative papers as it can explicitly highlight the specific part of the argument that is problematic and needs revision.

In addition to mature and skilful development of arguments, another dimension of argumentative writing that is also considered in the literature is the writer's awareness of the audience to whom the paper is addressed (Ryder, Lei & Roen, 1999). The audience can determine the style. A change in the audience may result in an entirely different paper. The writer's awareness of the audience will account for grounding, i.e., her written piece will cognitively, linguistically and socially be appreciated by her reader (Mäkitalo, 2006). It sounds particularly essential to consider audience awareness in the evaluation of argumentative pieces since it deals with the socio-cultural aspects of the pieces that may finally influence the reader's acceptance or rejection of the argument (Clark & Brennan, 1991). Ryder *et al*. (1999) mention four ways to account for the audience:

i. Naming moves: addressing the reader using pronouns like 'you' or 'we' or placing them in certain groups like democrats

ii. Context moves: sharing the background information based on the audience's prior knowledge.

iii. Strategy moves: connecting to the audience by appealing to their interests, circumstances, emotions to ensure they will keep reading.

iv. Response moves: anticipating the reader's probable responses and objections.

Because of the importance of audience awareness in argumentative writing, it seems necessary to include these moves in the evaluative criteria, in addition to the preceding dimensions of the writing construct.

Based on these theoretical foundations, the researchers developed a list of criteria (see Appendix 1) that would have to be evaluated by the focus group experts, the

process and outcome of which are discussed in this paper.

With the objective of developing a writing scale for assessing argumentative writing the following research questions were put forward:

1. Which evaluative criteria should the scale include?

2. How important is each evaluative criterion viewed by ESL writing experts?

In order to answer the research questions, the qualitative method was employed, which will be discussed in the next section.

METHOD

The qualitative method involved a focus group study in the form of a semi-structured interview. A feasible way to ensure validity is to have the scale and its criteria moderated before its administration. As Weir (1993, p. 19) points out, a "discussion of tasks and criteria of assessment is in fact a key contribution to achieving valid and reliable testing procedures." Therefore, it is advisable to consult with the experts in the area to gain an understanding of certain important points that had probably been neglected. One systematic way to do this is through a focus group study. Such a group includes a number of individuals who are native to the research context. A trained researcher, who is also the group leader, elicits the group members' interactive responses (Ary, Jacobs, & Razavieh, 2002).

Instrument

The evaluative criteria checklist for argumentative writing (Appendix 1) was developed based on a review of the related literature. Three experts were consulted to determine the adequacy of the checklist. As a result of this consultation, a section on personal information was added to the instrument. In addition, the researchers were advised to leave the end of each domain open to explicitly show the participants that they could add as many components as they wished to in any part of the checklist.

The final instrument was a six-point scale Likert style instrument including a brief part on the experts' personal information and two major sections on 'lexico-grammatical elements of language' and 'content'. The part on personal information elicited information on the experts' name, rating experience, phone number and email address. The first section was composed of the following components: syntax, usage, mechanics, style, essay length, intellectual maturity. The second section consisted of coherence, cohesion, effective argumentation, and audience. These components were divided into further subcategories. In front of each component, there were numbers that would be marked by the experts to indicate the level of significance of each criterion by assigning it a score from zero to five. Zero signified 'unimportant' while five meant 'very important'. The end of the checklist was also left open where any further evaluative criteria that the experts thought had been neglected could be added.

The first five items, including syntax, usage, mechanics, style and essay length as well as their sub-categories were taken from other similar studies like Attali and Powers (2008). While these items focused on the form, the criteria in items 6 to 11 emphasized the meaning domain of the writing ability. The item on intellectual maturity came from Odell (1977). A review of Harmer (2004) and similar literature resulted in the next two criteria, cohesion and coherence. The next item, i.e. effective argumentation, represented Toulmin's (1958/2003) model. The last two items were concerned with audience awareness and invocation (Ryder *et al.*, 1999).

Focus Group

According to the literature, the size of the focus group relies on the scope of the study and the available resources (Ary *et al.*, 2002). Bloor, Frankland, Thomas and Robson (2002, p. 26) recommend focus groups of between "six and eight participants as the optimum size." Nevertheless, they also mentioned that some studies consisted of 3 to 14 participants. Morgan (1995) asserts focus group discussions with a small number of participants are suitable when the research is of a complex nature and when the participants are experts, who may be offended if they are not granted the freedom to talk as long as they wish. In this study, since the topic is complex and the researchers dealt with experts, only four experts participated in the focus group discussions.

The participants in the focus group knew one another. For a number of reasons a pre-existing group of colleagues was selected for the focus group. According to Bloor *et al.* (2002, p. 22), "Research participants who belong to pre-existing social groups may bring to the interaction comments about shared experiences and events and may challenge any discrepancies between expressed beliefs and actual behaviour and generally promote discussion and debate." They give an example of an excerpt from Kitzinger (1994) where one of the participants reminds the other participant of an experience that is related to the discussion. They argued if these participants were strangers similar interactions would be overlooked. Pre-existing groups can also have practical advantages. For instance, it is relatively easier to bring the group together (Bloor *et al.*, 2002).

The members of the focus group were initially selected from among lecturers of a reputable Malaysian public research university. However, since they were too occupied to agree on a time to participate in the meeting, the researchers were urged to look for ESL writing experts elsewhere. Finally, the participants were chosen from among the writing lecturers a branch campus of a large teaching university located in the state of Melaka, Malaysia. They volunteered to participate in the focus group meetings. They were all females of around 40 years of age, and were all senior lecturers.

Procedure

The focus group was briefed on the project and asked for advice on the criteria. Each participant was given a copy of the checklist (Appendix 1) which was presented to them by a table leader, the first author. Then, they discussed their views on the appropriateness of the criteria and the level of importance of each criterion. The discussion lasted around two hours and was recorded using a high quality voice recorder. Next, the discussion was transcribed. Berk (2006) argues that transcripts be reviewed by the participants and verified as a necessary part of the validation process. Therefore, after it had been transcribed, the focus group discussion was sent to each participant. They read the transcripts, made the necessary revisions and, reverted them to the researchers. These transcripts were read closely and indexed for ease of interpretation. According to Bloor *et al.* (2001, p. 63), analysis makes data "manageable for interpretation … [by merging] all extracts of data that are pertinent to a particular theme, topic or hypothesis." The indexed data were interpreted and used by the researchers to further refine the checklist, resulting in a new checklist (Appendix 2).

RESULTS AND DISCUSSION

This section presents the results of the focus group discussion, that are divided into two major parts, each part discussing the findings of one of the two research questions.

Changes to the Evaluative Criteria

As expected, the list of criteria was heavily modified and went through several changes. Some of the criteria were modified; others were discarded while others were added to the list. Each of these changes is discussed respectively in this part.

Some of the terms used in the checklist were modified; for example, the term 'lexico-grammatical elements' was changed to 'grammar'. One of the participants argued the term was too technical. It was likely that novice raters would have problem understanding it. Furthermore, 'audience' and its two sub-categories were regarded as appropriate for public speech evaluation rather than argumentative writing rubrics. Therefore, its components went under 'style'. The first sub-category of audience, 'demonstrating an awareness of the audience by basing the argument on their…', was reworded as 'creating interest in audience', and together with all its three sub-categories was moved under style.

The component of 'style' and its sub-categories also underwent changes. It was defined more broadly as 'skilful weaving of language' and was modified to an independent category. It was further divided into 'creating interest in audience' and 'appropriate register'. Further, 'avoiding repetitious words' was modified to 'variety of simple and complex words' and together with 'appropriate word/phrase use' was classified under vocabulary. 'Avoiding unnaturally long/short sentences' was also considered irrelevant under style. It

was changed to 'variety of structures' and moved under 'grammar'. Similarly, the subcategories of 'using complex structures' under 'syntax' were simply reworded as 'variety of structures'. In fact, these subcategories, including 'modifying nouns', 'nominalization', 'reduced clauses' and 'inverted sentences', came from James Moffett's (1992) concept on syntactic growth. These components were all condensed into 'variety of structures' since the word 'complex' could have a negative connotation for the rater. The experts also agreed that 'essay length' was irrelevant under 'grammar' and that it had to be moved under another category that was added to the list, called 'task fulfilment'. The term 'essay length' was modified to 'writing over word limit'.

Some of the items were modified to contribute to the flexibility of the checklist. The item 'using complex structures' and its four sub-categories could give the impression to particularly the novice raters that in order to be excellent writers students have to use only complex structures. The item was, therefore, modified to 'variety of structures' and all its subcategories were eliminated.

Because of its importance, 'vocabulary' was categorized as an independent category and its sub-categories were all modified into the more relevant items of 'appropriate word/phrase use,' 'collocations, idioms, figures of speech' and 'variety of simple and complex words'. An independent category was also added for 'mechanics', but its subcategories did not undergo any change.

The first two criteria under 'content', 'coherence' and 'cohesion' were moved to be under a new independent category 'organization'. Meanwhile, the third sub-category of 'content', that is, 'effective argumentation', was reworded as 'development of ideas'. It was also suggested that all the criteria under 'effective argumentation' be dropped because the participants commented the terms in the list were highly technical and would confuse the raters more than helping them. This led the researchers to reduce the six types of appeals. However, the elements of argumentation (claim, data, etc.) were not removed as the researchers regarded them as important elements of the checklist.

Finally, Lee Odell's (1977) 'intellectual maturity' was assumed as more appropriate for text analysis purposes rather than descriptors of a rating scale. In fact, one of the participants considered it more appropriate for narrative and not argumentative mode of writing. Therefore, even though the model has a strong theoretical basis, its subcategories were dropped. They would make the scale complicated, undermining its economy and rater-friendliness. 'Intellectual maturity' was modified to 'maturity of ideas'.

Some of the criteria were eliminated since they either overlapped with others or seemed too technical. 'Avoiding run-on sentences' was discarded because it was the same as 'punctuation'. The component of 'usage' was deleted as it would make the rubrics unnecessarily complicated, but its sub-categories were added to those of

'grammar'. 'Invoking the audience' and its sub-categories were also removed because they sounded more like the criteria used for oral speech evaluation.

Two of the subcategories of 'vocabulary', namely 'word length' and 'correct use of confusable words', were also dropped. Word length was considered an irrelevant element for evaluative purposes of the present scale. This criterion seemed more relevant for automated machine scoring of essays. Confusables were also removed because 'appropriate word/phrase use' already included 'correct use of confusable words'.

There were a few new criteria that were added to the checklist. A criterion that the group considered an integral part of any writing scale was 'task fulfilment'. As it was suggested, test takers would not succeed in a writing test if they fail to take the task into consideration. Besides 'writing over the word limit' another sub-category, 'covering all the task' was added under 'task fulfilment'. In addition, four new categories were added under 'content', which included 'relevance',

'development of ideas', 'maturity of ideas', and 'consistency of stance', as important features of successful writing.

To sum up, as a result of the focus group discussion, the checklist went through a good deal of change. The new version included seven main categories of task fulfilment, content, organization, vocabulary, style, grammar, and mechanics according to their levels of significance, each of which was further divided into its own subcategories. Appendix 2 presents the second version of the list of the evaluative criteria after the first round of focus group meetings.

The Importance of the Criteria

The focus group also indicated the level of importance for each of the evaluative criteria while they were discussing the necessary changes to the checklist. Table 3 presents the list of criteria as determined by the focus group as well as the means and percentages of their importance levels.

According to the focus group participants, among the seven aspects of writing skill 'task fulfilment', 'content' and 'organization' were all checked as highly

TABLE 3
Focus group results on importance of each criterion

Criteria	Participant				Mean	%
	1	2	3	4		
Task fulfilment	5	5	5	5	5	17
Content	5	5	5	5	5	17
Organization	5	5	5	5	5	17
Vocabulary	4	3	4	5	4	13
Style	4	4	5	3	4	13
Grammar	4	3	3	4	3.5	12
Mechanics	4	3	3	3	3.25	11

important. In other words, it was believed that 17 percent of the total score should go to each of the three criteria. On the other hand, 'vocabulary' and 'style' were considered important, and each would cover 13 percent of the total mark. Finally, 'grammar' and 'mechanics' were regarded as fairly important. This suggests that focus group participants would dedicate 12 and 11 percent of the total score to 'grammar' and 'mechanics', respectively.

An interesting point that should be noted is that the checklist that was given to the focus group (Appendix 1) started with a focus on 'form' and lexico-grammatical elements of language. However, as a result of the focus group discussion, 'content' moved before 'form' (Appendix 2). It can therefore be concluded that, at least for these participants, content and meaning out-weighs form in argumentative writing. This was also observed in the results of the survey where the respondents rated factors like content and task fulfillment as more important than language skills.

CONCLUSION

The paper began with a review of the evaluative criteria to be considered in developing an argumentative writing scale. Based on this review, a checklist was developed. A group of ESL lecturers' views on the appropriateness and importance of the criteria was investigated. The results made the criteria less ambiguous, more relevant and more economical. Neglecting these important data could reduce the validity of the scale that was to be developed based on the criteria.

The findings of this study can be useful for test and scale developers. They can follow the same procedure to find what counts in the evaluation of a particular area of language ability from the viewpoint of the practitioners in their testing situation. Similarly, writing instructors may apply the list of the criteria to develop checklists to assess their learners' argumentative writing. By doing so, they can systematically diagnose the particular problem areas of their student writers. They may also introduce the criteria to their learners and help them use the checklist as a guide for a peer feedback activities or self-assessment purposes. Research shows that most Malaysian students are unaware of the criteria according to which their written pieces are scored (Ahour & Mukundan, 2009). There is empirical evidence that an implicit method of evaluation can increase learners' test anxiety and lower their motivation (Brennan *et al*., 2001). Checklists of this type can, therefore, improve the quality of teaching-testing ESL writing (Campbell, 1998).

There is an emphasis on language teachers' professionalization in testing (Bachman, 2000). It is expected that the present study could turn the focus on language teachers' professional development in assessment literacy. Such an improvement can enhance learners' academic achievements (Coombe *et al.*, 2009).

Further research following the same method, but with a different focus group, could shed light on the findings of this research. The focus group participants in this study came from a pre-existing group. A similar study with a purpose-constructed group of participants may lead to different findings. In this regard, Wilkinson (1998) argues that focus group studies with participants that do not know one another may sometimes yield richer results since strangers often speak out more freely about issues that may sound embarrassing for friends. Therefore, it would be interesting to compare the findings of this study with another focus group study with a purpose-constructed group. The findings of this study can also be useful for further investigation in the area of ESL writing instruction. The checklist can be adapted slightly considering the level of students. Then, the effects of using such a checklist on the quality of their writing can be studied.

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APPENDIX 1

Evaluative Criteria Checklist for ESL Argumentative Writing

Personal information		
Name:	*Rating experience:*	*(years)*
Tel:	*Email:*	

- *Kindly check ✓ the detailed criteria below according to their importance (0-5) in scoring university students' argumentative essays. You may add any other descriptors/ sub-descriptors you find necessary to the list.*

    0: Unimportant

    1: Not very important

    2: Almost important

    3: Fairly important

    4: Important

    5. Very important

Argumentative writing evaluative criteria	Level of importance					
	0	1	2	3	4	5
1 Lexico-grammatical elements of language						
a. syntax						
i. correct use of pronouns						
ii. correct use of verb forms						
iii. avoiding fragments						
iv. correct use of possessives						
v. avoiding plural/singular noun problems						
vi. avoiding run-on sentences (two or more sentences connected together only with commas)						
vii. avoiding garbled sentences (sentences with confusing meanings due to their disorganized forms)						
viii. subject-verb agreement						
ix. using complex structures						
(1) modifying nouns by adjective/relative clauses (e.g. Travelling is a hobby that can teach great lessons.)						
(2) nominalization by using noun clause for subject (e.g. What really hurts is his ignorance.)						
(3) reduced sentences (e.g. 'Having entered the room, she turned on the light.' OR 'The lamp, one of Edison's best known inventions, changed the face of the world.')						

(4) inverted sentences (e.g. 'Little is known about mysteries of the outer space.' OR 'Were one interested, one could try it.')					
(5) ………………………………………………………………… ………………………………………………………………… …………………………………………………………………					
x. …………………………………					
b. usage					
i. avoiding wrong/missing articles					
ii. correct preposition					
iii. avoiding wrong word forms (e.g. 'Her father is a <u>cook</u>.')					
iv. correct use of confusable words (e.g. 'advise' and 'advice')					
v. avoiding faulty comparisons					
vi. word length					
iv. ………………………………					
c. mechanics					
i. spelling					
ii. capitalization					
iii. punctuation					
iv. …………………					
d. style					
i. avoiding repetitious words					
ii. avoiding unnaturally long/short sentences					
iii. appropriate word/phrase use					
iv. wrong use of passive voice					
v. ………………………………					
e. essay length					
f. intellectual maturity					
i. focus: frequent shifting of the focus, i.e., the grammatical subject					
ii. contrast: focusing on what something is not or how different it is from other things					
iii. classification: labeling people, actions, feelings or ideas compared with other entities					
iv. change: showing how the course of action changes					
v. physical context: describing the setting					
vi. sequence: describing the order in which events occur					
g. ………………………………					
i. ………………………					

2. content						
a. coherence (internal logic helping readers follow the writer's purpose and line of thought)						
i. transition						
ii. organization (the overall conceptual structure of a text and is related to the *effect* of the text on the language user. Some organizational conventions include topic sentence, first primary support sentence, secondary support sentences, conclusion or transition sentences)						
iii. ……………						
b. cohesion (linguistic techniques to make sure our prose 'sticks together' and help to bind elements of a text together.; comprises ways of marking semantic relationships such as reference, substitution, ellipsis, conjunction, and lexical cohesion as well as conventions such as those governing the ordering of old and new information in discourse)						
i. repetition of words						
ii. lexical set chains (words in the same topic area)						
iii. grammatical cohesion (pronoun and possessive reference, article reference, tense agreement, linkers, substitution and ellipsis)						
c. effective argumentation						
i. making a claim (or thesis, perhaps with accompanying qualifiers limiting the scope of the argument; e.g., 'Morphine can be dangerous.')						
ii. taking a position (e.g. 'People should be warned against dangers of addiction to Morphine.)						
iii. providing data to support the argument through appeal to						
(1) conventional wisdom; i.e., facts (e.g., 'Morphine is addictive.')						
(2) personal experience (e.g., 'My friend's wife left him because of his addiction to morphine.')						
(3) authority (e.g., 'According to researchers, neonates of mothers addicted to morphine will suffer from cardiac problems.')						
(4) analogy/figurative language (e.g., 'Addiction is like cancer that comes painlessly but kills in the long run.')						
(5) history (e.g., 'Abundant historical evidence indicates addiction is common in societies where disorder prevails.')						
(6) legal rights (e.g., 'Addiction is banned in most of the countries all over the world.')						
(7) ……………						
iv. providing warrants; i.e., bridging claim to data to show the connection between them (e.g., 'Morphine is dangerous because it is addictive.')						
backing to show the logic used in the warrants is good in term of realism as well as theory (e.g., 'There is empirical proof that morphine is strongly addictive.')						
v. providing rebuttal by accounting for counter-arguments (e.g., Morphine is dangerous unless it is used for medical purposes.)						

vi. ………………………………………						
d. audience						
i. demonstrating an awareness of the audience by basing the argument on their						
(1) values and perceptions						
(2) attitudes						
(3) background knowledge						
(4) …………………………						
ii. invoking the audience through						
(1) naming moves (addressing the reader using pronouns like 'you' or 'we' or placing them in certain groups e.g., democrats)						
(2) context moves (limiting the given background information based on the audience's prior knowledge)						
(3) strategy moves (connecting to the audience by appealing to their interests, circumstances, emotions to ensure they will keep reading since they will find the text engaging)						
(4) response moves (anticipating and accounting for the reader's probable responses and objections)						
(5) …………………………………………						
e. ……………						

APPENDIX 2

Evaluative Criteria Checklist for ESL Argumentative Writing after Focus Group Discussion

Criteria after the focus group meeting (version 2)	Level of importance					
	0	**1**	**2**	**3**	**4**	**5**
1. task fulfilment						5.0
a. covering all the task						✓
b. writing over the word limit						✓
2. content						5.0
a. relevance						✓
b. development of ideas						✓
i. making a claim (or thesis, perhaps with accompanying qualifiers limiting the scope of the argument; e.g., 'Morphine can be dangerous.')						✓
ii. taking a position (e.g. 'People should be warned against dangers of addiction to Morphine.)						✓
iii. providing data to support the argument						✓
iv. providing warrants; i.e., bridging claim to data to show the connection between them (e.g., 'Morphine is dangerous because it is addictive.')						✓
v. providing rebuttal by accounting for counter-arguments (e.g., Morphine is dangerous unless it is used for medical purposes.)						✓
c. maturity of ideas						✓
d. consistency of stance						✓
3. organization						5.0
a. coherence						✓
i. transition						✓
ii. rhetorical organization						✓
b. cohesion						✓
i. lexical set chains						✓
ii. grammatical chains						✓
(1) pronoun and possessive reference						✓
(2) article reference						✓
(3) tense agreement						✓
(4) linkers						✓
(5) substitution						✓
(6) ellipsis						✓
4. vocabulary						4.0	
a. appropriate word/phrase use						✓
b. use of collocations, idioms, figures of speech				✓		
c. variety of simple and complex words					✓	

5. style (skilful weaving of language)					4.0	
a. creating interest in the audience					✓	
i. values and perceptions						
ii. attitudes						
iii. background knowledge						
b. appropriate register					✓	
6. grammar				3.45		
a. pronouns				✓		
b. verb forms (tenses, passive voice)						✓
c avoiding fragments					✓	
d. Possessives				✓		
e. plural/singular forms (qualifiers and determiners)				✓		
f. avoiding garbled sentences (sentences with confusing meanings due to their disorganized forms)					✓	
g. subject-verb agreement						✓
h. variety of structures				✓		
i. articles			✓			
j. prepositions				✓		
k. adjectives (comparatives and superlatives)				✓		
7. mechanics				3.33		
a. spelling (errors resulting in readers' confusion and hinder communication)					✓	
b. capitalization			✓			
c. punctuation					✓	

SOCIAL SCIENCES & HUMANITIES

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Teaching of English as a Performing Art: Reflecting On Its Role in the Curriculum

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ABSTRACT

This paper is a reflection on how conceptualising the teaching of English as a performing art within the English Language school curriculum in Malaysia can play a meaningful and practical role in developing an adequate moral stance of students towards other members of its plural society. It is argued that, in addition to being an interesting and creative way of teaching language, the different forms of performing art also present a realistic experience of others. It offers an opportunity for pupils through the use of aesthetics to better inform pupils' perception of others centred in a realism brought to life by the arts. This argument is considered within the context of Malaysia, as a plural society and the roles of the teaching and learning of language in developing a much more adequate moral sensibility about others through imagination and perception. The argument draws on Murdoch' ideas about the relationship between ethics and art and the authentic representation of the reality of life in plural society it offers. Based on the argument forwarded, it is suggested that a conceptualisation of English Language Teaching as a performing art can play a deeply meaningful role in developing the moral sensibilities of pupils towards other members of the society in raising their awareness and understanding about others as people. The paper concludes by recommending that this idea of the teaching of English is adopted depending on the aim of the curriculum.

Keywords: Teaching, English, performing arts, role, Malaysia, curriculum

INTRODUCTION

This paper reflects on one way that English Language teaching can contribute towards laying a better foundation for improving moral relationships between members of Malaysia's plural society. It does so by

considering, in the context of teaching and learning of English in Malaysian schools where students come from diverse moral backgrounds, how and why a conceptualisation of the teaching of English as a performing art can help increase the awareness of students towards the nature of people's relationships with others in the society and the implication for their own relationships with other members of the society.

It should be pointed out that the view on the problem of plural societies and the idea of others represented in this paper adopt a substantive understanding of the problem of the differences in people's beliefs, values and practices in the plural society. In more specific, it views the problem as embedded in an issue about the nature of certain individuals or groups' beliefs, values and practices and the importance of these differences compared to others, as well as the conflicts that arise as a result of disagreements about their importance (Nur, 2007). The view adopted is based on the synthesis and evaluation of perspectives in political philosophy about pluralism, multiculturalism, and the problem of diverse societies (Harris, 1982; Kelly, 2002; Taylor, 1994; Lukes; 1997), specifically on the issue of superficial relationships in the plural societies, in particular among members of Malaysia's plural society raised amongst others by Verma (2003). It considers the perspectives of Callan (2004), Baumeister (1998), Enslin (2001) and Young (1997) in describing what can be done to address the issue through education.

Henceforth, in considering the role of the teaching of English in promoting an adequate ethical view of others, it is important to appreciate that education, particularly schooling, has an important role in improving the relationships between different members of society (Heyneman, Tudoric-Bebic, 2000; Heyneman, 2011). One of them is providing an adequate moral stance towards other members of society among pupils. In this context, it is necessary to briefly explain the problem of plural society with respect to differences in the beliefs, values and practices and relationships with others. Others here refer to other members of the society who hold different moral values.

Within this perspective on the role of education, one fundamental assumption about the nature of education for social cohesion in Malaysia underpins this paper. It is held that the current evaluative response to others, that is, toleration, adopted in Malaysia specifically in its educational policies is inadequate in terms of the kind of bonds it promotes with other members of society (Nur, 2007; Verma, 2003; Williams & Waldron, 2008; Taylor, 1994). Although the current political rhetoric on the idea of 1MALAYSIA (a political programme introduced by the ruling political party in September 2008) (Mohamed, 2011) suggests a shift in the policy on socio moral relationships in the society towards the acceptance of others, the uncertainty about the policy and the ongoing debates about it suggests that toleration still remains as the normative of human relationships

adopted within the public policy and practice until such time as there can be clarity on the policy and practice of the new ideal. Toleration, as a normative value in relationships with others, offers minimal respect for other members of the society (their beliefs, values and practices that contribute to their status as persons) (Lukes, 1997; Appiah, 2006; Walzer, 1997). One reason for this is that tolerating others only offers a limited idea of who they are as persons (Nur, 2007). Therefore, the bonds formed between members of society tend to be superficial. There is a lack of sincerity in the relationships between members of the society. Considering the existence of moral disagreements, such as which acts are moral/immoral and why, between different members of society, there is a need to develop in students a substantive view of others that allows them to have more open and meaningful dialogues on the moral and ethical differences that underpin these disagreements (as opposed to conformity or toleration as a response in many cases that lead to nowhere in terms of strengthening the relationships between different members of society) (Nur, 2007).

The problem of the plural society is conceptualised as a dichotomy about the value of differences in a notion of dignity of people[1]. On the one hand, there is an understanding that the dignity of people

rests in tolerating the differences in values. In this understanding, differences have no real worth in defining the identity of a person because the other is forced to accept it (e.g. I don't like you because your beliefs/ values/practices are different/objectionable to me but I will not stop/prevent you from them). On the other hand, the dignity of the people is said to be situated in sharing similar values. In this sense, differences also have no real worth in defining the identity of persons because it is rejected/ ignored in favour of what is similar between the people (I like you as we share certain values/beliefs/practices). Understanding the reality of the dichotomy that characterises the relationships between different members of the society, particularly in plural societies such as Malaysia (for example, appreciating the struggles, the conflicts and disagreements, including the violence due to the differentiated perspectives of others) allow pupils to better understand the importance and the relevance of their moral stance towards others (such as the place of differences in defining a person's identity). Here, education can play a role in offering a clearer picture of the reality of the problem of the plural societies such as the struggles, conflicts, disagreements and violence including death that comes with it. This philosophical framework underpins the idea considered in this paper about the role of the teaching of English as a performing art in developing an authentic idea of others.

There are two points that guide this paper. First, education and morality are synonymous in so far as educating for morality is one of the main aims of education.

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[1] This is a synthesised description that is drawn from a perspective of conceptualising pluralism for moral and citizenship education in the societies where differences in beliefs, values and practices result in moral conflicts and disagreements in Nur's (2007) and related writings.

Teaching and learning involve either overtly or covertly, the development of particular moral attitudes and dispositions about others either through the content, material approaches or person involved. Second, in the plural societies such as Malaysia, where students come from a plurality of backgrounds that are not only based on ethnicity, religion and culture, but also other factors such as gender, social and economic status, the teaching and learning of English can play an important role in informing pupils about other members of society. In playing this role, it is presupposed that a particular conceptualisation of teaching and learning of a subject can contribute either positively or negatively in legitimising other members of the society in the eyes of pupils. From this perspective, the teaching of English as a performing art through such things as drama, mime, music and dance can be a window to the reality of others in society (their struggles to be who they are or how they want to be accepted in society).

In reflecting on the role of the teaching of English as a performing art, the discussion in this paper begins by considering two things. First, it takes into account the nature of the plural society in Malaysia that requires a particular kind of morality to deal with the issues and problems in the moral relationships between members of society. Second, the discussion deliberates on how art provides a moral realism that allows it to bring to life the issues and problems of plural society drawing on Murdoch's ideas about art and moral realism. The discussion goes on to consider how the teaching of English as a performing art can contribute to this. Here, reference is made to Murdoch's ideas about the role of art in fostering a moral sensibility. The discussion proceeds to relate this idea to the teaching of English as a performing art in promoting an adequate and appropriate view of other members of the society. The discussion concludes by recommending that the parties concerned give serious consideration to the adoption of the idea of the teaching of English as a performing art within the English Language curriculum as it can contribute towards the well-being of Malaysia's plural society.

Briefly, the paper begins with an outline of the nature of the plural society in Malaysia, and the problem of weak perception of others among pupils. Drawing on this problem, it is postulated how a conceptualisation of the teaching of English as a performing art can offer a more adequate understanding of others. An argument is made based on the idea of a strong relationship between art and ethics, including performing arts in developing moral sensibilities about others. The paper concludes by suggesting that an idea of teaching English as a performing art has a valuable role to play and should be adopted within the English Language curriculum.

PROBLEM OF PUPILS' PERCEPTION OF OTHERS

Generally, Malaysia's plural society is described as a multicultural, multiethnic, and multi-religious with three main races being Malays, Chinese and Indians. The nature of its plural society is unique and

complex in that the identity of its people rests mainly on their races and religions. This situation is due to some degree of the socio-political influences that determine and dominate public policy and practice in Malaysia. These influences have created a particular idea of pluralism in the society (Nur, 2007).

Religion and ethnicity have come to define the nature of pluralism in Malaysia in such a way that being a Malaysian is not enough; a persons' race and religion must be legally declared so that they can be categorised as a particular kind of Malaysian that is Malay/non-Malay, Bumiputra[2]/non-Bumiputra; Muslim/non-Muslim[3]. These categorisations continue to define Malaysians. To a certain extent, these categorisations tend to define the way many members of society view other members of the same society. School children have been found to describe themselves and other members of the society in these terms (Joseph, 2003). The complex issues surrounding the identity of "Malaysians" (such as whether a Malaysian is a Malay/Indian/Chinese/others) and the questions that reside within these issues (such as who is who is a Malaysian) suggest that there is a weak perception of others among members of the society, particularly among the pupils. They view others in particularly narrow

[2] Refers to indigenous persons as defined in the Malaysian Constitution.
[3] It must be pointed out that there are some moves to remove this requirement based on the recent political developments.

manner that defines other members of society mainly by their races and religions. Located within this particular perception of others is a lack of appreciation/ignorance/apathy about the nature of a persons' identity in plural societies.[4] This perception also suggests that there exists an inadequate understanding about the shared vulnerability of people (such as the possibility of living and dying that all peoples share). This problem raises a need to educate for a better understanding of the identity of other members of the society.

One way is through particular conceptualisations of teaching that provide an authentic view of the issue of identity and differences in the plural society. This view should be able to promote in pupils a more holistic perception of other members of the society beyond the narrow conceptualisation presently adopted in the Malaysian society. The teaching of English, as a performing art, is therefore postulated as one way of doing this for two related reasons. First, performing arts is considered as art. Second, art provides a moral realism that allows for perception and imagination. Hence, adopting the idea of the teaching of English as a performing art can provide a realistic idea of the identity of others in the society through the development of pupils' perception and the imagination of the identity of other members of the society.

[4] These arguments draw on Nur's (2007) description and elucidation of the problem of the concept of pluralism in moral and citizenship education in Malaysia.

THE ROLE OF PERFORMING ARTS IN THE DEVELOPMENT OF MORAL SENSIBILITIES ABOUT OTHERS

Performing art, such as dance, drama and mime, can offer students valuable visual insights into the nature of a person's identity in plural societies. This is supported by Murdoch's theory about art, particularly about literature and moral realism that suggest a strong relationship between art and ethics. The theory suggests that art can play an important role in developing moral sensibilities about others that is grounded in the moral realism of life in society. The nature of art offers a very visual idea of others (Murdoch, 1997 as cited in Lita, 2003). According to this view, members of society are portrayed through art can offer a range of ideas about others, including who they are or how they want to be perceived. In this sense, performing arts, if it is used in teaching, can offer authentic portrayals of the people and situations in the society that can allow students to use their imagination and perception (Murdoch, 1997 as cited in Lita, 2003) to visually engage in these portrayals. From this engagement, pupils can respond to and develop their insight into other members of society in a particular their identity as persons. They can form their own opinions and develop their own moral stance (as opposed to predetermined or other informed ideas about others) towards other members of the society. In another sense, the ideas portrayed by art can offer diverse expressions of the reality of the issues of a persons' identity in society. Art has the capacity to allow those exposed to it, to see others in many different ways as they appear in reality. This is important in the context of plural societies, where identities of the persons are socially constructed in the dialogue with others and hence are complex and are determined in different ways informed by different things (Surayyah, 2007; Sen, 2006; Appiah, 2005). This dynamic idea of identity requires strong/maximal /substantive ideas of others to capture the reality of society. Art can help develop this by their powerful or sublime glimpses into reality in their works. The relationship between art and the ethics of others in the context of teaching English is something that has been described by Murdoch in her view about the important role that can be played by art in its different forms in language learning. I would extend this idea to include the role of art in developing an ethics of others through the teaching of language.

This role of performing arts should be considered by those concerned with the policy and practice of English Language teaching not least because of the increasing and continuing prominence given to English as an important global language, and the economically binding force of English that is instrumental in the socio-political context of plural Malaysia (Ridge, 2004). They should fully recognise the relationship between art and ethics and how it can be usefully utilised in not only the teaching of the language but in the moral development of students. For example, in *"The Sublime and the Beautiful Revisited"*, Murdoch suggests how a proper regard for other

comes from being attentive and accepting differences in others (Lita, 2010). This is love understood as a sensibility to others and is manifested in an affirmation of the others by having a morally appropriate perception of them (Lita, 2010). In the context of this paper, a morally suitable way refers to seeing others in a way that affirms who they are as persons. It gives a picture of the actual complexity and tensions of being a particular person. In Murdoch's view, aesthetic perception would offer this possibility, that is, of allowing students to get an authentic understanding of others (Lita, 2010); one that is not encumbered by political and other views that tend to sometimes distort and take away from the humanity of others as well as the common humanity we share with others. Murdoch's theory suggests that the novelist brings the true character of the person to life (Lita, 2010). Hence, utilising the performing arts in the teaching of English by conceptualising the teaching in this sense can contribute to the development of the pupils' moral sensibilities about other members of the society. It allows the use of pupils' perception and imagination to be stimulated and enhanced (Murdoch, 1997 as cited in Lita, 2003).

Performing arts can help students see others both mentally and emotionally in a substantive sense. For instance, drama can bring to life the realism of different people and their lives whilst at the same time teaching how we ought to see people. The good or evil in people is shown irrespective of their backgrounds but comes across in the characterisation of 'good' people and 'bad' people and their actions. Through the use of drama, the presentation of these characterisations allows pupils to appreciate the good or evil in people. It also allows them to use their imagination to see how this kind of behaviour could influence their lives. It helps them develop a more adequate stance towards others because they have a better understanding both cognitively and emotionally. It opens their eyes to others and also the reality of who they are in a way other approaches to the teaching of English may not. Another way that the performing art can cultivate this kind of thinking, and hence a moral regard for others, is through a demonstration or depiction that lends itself to moral imagination and thus, a moral regard for others that borders on the recognition of their preciousness. This perception of others can lead to an affirmation of others as persons. It is the reality that the art can bring to the students that the idea of arts as offering a substantial visual ethics of others is located. Through its various forms, arts show us what is real and help us to appreciate what is important, i.e. we are persons. What is important to be put forward to students, specifically in the context of living in plural societies is that, as persons, everyone is precious (Gaita, 2002; Nur, 2007). The arts allow us to appreciate this. For instance, mime helps us to focus on the nuances of a person's behaviour without being side-tracked by who they are. The audience can appreciate their behaviour without being prejudiced by their races, religions or gender. It also allows the

audience to draw on what is important about a person, such as the focus on the person as a whole rather than the focus on particular differences. Mime teaches to see the person in totality. It is again this seeing which maybe Murdoch was referring to in how great art fosters a moral regard for others. Here, it is added that not only great art but performing art can foster a kind of moral sensibility towards others that allows people to see others more clearly for who they are. The two examples given here suggest how the teaching of English, conceptualised as a performing art, can effectively play a meaningful and practical role in Malaysia, specifically in contributing to the well-being of its plural society.

SOME POSSIBILITIES

The current English Language curriculum in schools conceptualises the teaching of English in a narrow sense. The teaching and learning of English tend to be too structured in terms of approach and focus on a narrow (although language teaching is also used to inculcate values) view of language. The teaching and learning of English is conceived more as a formal endeavour to produce students who can speak English in their everyday conversations. It tends to neglect the socio-cultural and socio-political aspects of language teaching and learning. It focuses less on the idea that "language pervades all areas of education" and "language is education" (Lier, 2004, p. 2). The approach to language education lacks a substantive understanding in particular it does not focus adequately on language

in developing better relations with other members of the society.

In this context, the idea of teaching of English as a performing art could be incorporated into the present understanding of the teaching of English adopted offering a more nuanced understanding of teaching and learning of English. In this way, the teaching of English can be seen as doing more than teaching English but also teaching about human relationship.

CONCLUSION AND SUGGESTIONS

Considering the nature and complexity of Malaysia's plural society, the teaching of English as a performing art has a valuable role to play in addressing the issues and problems. In particular, it can help tackle possible problems in pupils' perception of others highlighted in this paper. It is argued that one of the things that those concerned with English Language curriculum, specifically the idea of English Language teaching can address by adopting this particular conceptualisation is contributing to the development of a better/improved moral sensibility of the identity of other members of the society. This is supported by the relationship between performing art as an art, and the development of a better perception and imagination of others centred in the realism of the issues of identity in society. Developing a better moral sensibility among the pupils about other members of the society can contribute to the well-being of Malaysia's plural society. One reason for this is that it opens up the minds of the pupils as members of the society to an

increased appreciation of the nature and the issues/problems of the identity of person's in society. If this is acceptable as one of the overall aims of the school curriculum, then those concerned should adopt the idea teaching of English as a performing art.

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Testing a Measurement Model of Multidimensional Intrinsic Motivation in Studying for Examination

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ABSTRACT

Intrinsic motivation is seen as a stronger driver for academic success compared to extrinsic motivation. This study proposed a comprehensive framework for intrinsic motivation by incorporating five different theories in a measurement model. The reason is that there is no single theory that can explain the internal drive to study since different motives logically work together to create the intrinsic motivation. The purpose of this study was to test a measurement model that combined five different theories of motivation when students studied for their examination. The five intrinsic forces were future time perspective, achievement need, learning goal orientation, expectation values, and self determination. The items for each construct were constructed based on literature review in order to provide a tool to measure the level of intrinsic motivation for studying examinations in high school students. Using confirmatory factor analysis, the five–dimension model of intrinsic motivation was found to be acceptable. However, due to high correlations among the five constructs, a second-order factor model measuring intrinsic motivation was suggested. Although the items were found to have acceptable reliability and validity, there is a need to further test the models with different and larger samples. Results have practical implications for teachers to utilize the instrument as well as to pay more attention to the importance of cultivating intrinsic motivation in school children.

Keywords: Intrinsic motivation, measurement model, examination

INTRODUCTION

The search for factors that promote success in academic performance has led scholars to study extensively the role of motivation in academic learning. Motivation is the internal state of an individual that arouse,

direct and sustain behaviour (Santrock, 2008). Motivations are the reasons for individuals to decide to engage in a particular behaviour in any given situation that they believe is important (Ames, 1992). When students are motivated to learn, they get involved in learning behaviours that they find meaningful and worthwhile and from which they foresee academic benefits (Brophy, 1988).

Schools would be a heavenly centre of excellence if all students have the motivation to learn and the willingness to engage in academic tasks. Then, teachers will have an easy task to meet the three major goals of teaching; first, to get students to become involve in academic tasks; second, to get students to become interested in learning; and third, to get students to cognitively engage in what they learn in school (Woolfolk, 2004). It is no wonder that educators are continuously looking for strategies to improve students' motivation in learning and achieving.

Motivation to achieve well in academic has been the focus of rigorous examination because good academic performance does contribute to the positive psychological development during middle childhood and adolescence. According to Erik Erikson's theory of psychosocial development, the main task for children aged six years through adolescence is to develop a sense of competency in many productive skills that are considered necessary for survival in a culture (Kail & Cavanaugh, 2004; Huffman, 2007). Achieving the skills to read, write and count contributes to the feelings of industry and competency. Competency is central to children's self esteem, and it can be further categorized into scholastic competence, athletic competence, and likability by peers, physical appearance, and behavioural conduct (Harter, 1999). As children progress through primary schools and become adolescents during secondary school, they develop their scholastic competency. The collections of successes and failures that students gain will help them define their ability in different academic areas such as English, Math and Science (Byrne & Gavin, 1996; Marsh & Yeung, 1997). For instance, a student who believes that she is skilful in English and Arts but not in Science and Mathematics will tend to maintain a positive scholastic competency overall. However, another student who believes that she is not good in any subject area will develop a negative academic competency and thus suffers in her self-esteem and identity formation.

A REVIEW OF THE RELATED LITERATURE

The role of motivation in learning has been extensively studied because scholars are looking for factors that can promote academic achievement. Why is motivation important to academic achievement? Motivated individuals are able to accomplish more since they become their best selves and thus strive to achieve at their highest levels (Haupt, 2006; Elliot, Heimpel, & Wood, 2006). When student motivation is at its highest, achievement can also occur at the highest rate (Hein & Hagger, 2007).

Highly motivated students reported higher satisfaction with their lives, had higher self-esteem, higher intrinsic motivation, and higher grade point averages (Anderman & Gilman, 2006).

Although the ideal vision is to produce a holistic student that excels both in academic and non-academic aspects, education in Malaysia seems to be emphasizing on academic achievement much more than non-academic performance. Schools, teachers and students are often evaluated based on the grades students achieved. Every year, top scorers for each state and at national level will be announced, celebrated and rewarded. The Form Five examination is especially treated as an important indicator for success among school students since obtaining good results will increase students' chance of obtaining scholarships or sponsorship to further studies in higher education or better opportunities to get an entry to university or college.

Despite the concern for emphasizing too much on grades, research has shown that good grades are not totally harmful. In fact, good grades have many benefits and can be productive for the students. Good grades have been established as predictors of school success, future success and individual well-being. Grades in school influence students' future opportunities and shape students' future educational and occupational attainments. Academic grades in school have also been shown to act as a preventive shield for adolescents from involving in misbehaviours because studies have found that good grades are correlated with reduced drug and alcohol use, reduced absenteeism, and reduced delinquency (Eccles & Wigfield, 2002; Marsh & Yeung 1997). Given that academic success may represent the first steps to the development of healthy functioning students (Seligman & Csikszentmihalyi, 2000), it is important to better understand the motivation that drives adolescents to get good grades.

When discussing the role of motivation in improving students' achievement, the main focus has often been on the difference between extrinsic and intrinsic motivation (Ames, 1992). Extrinsic motivation comes from external sources outside of the individual, such as getting reward or avoiding punishment from social agents such as parents, teachers and peers. Intrinsic motivation pushes from within the individuals, such as when students study hard because they enjoy learning or because they are interested in the content of a subject.

In a classroom setting, students who have intrinsic motivation increase their grades whereas students who are given extrinsic motivation show a lower performance (Lepper, Corpus & Lyengar, 2005). Another study found that students have better performance when parents encourage children's enjoyment in the subject as compared to when parents offer external rewards (Gottfried *et al.*, 2001). Although extrinsic motivation is beneficial and necessary, it may not be long lasting. It needs external regulation, thus putting the responsibility for behaviour outside of the individuals. Students will be driven by

rewards and punishment, but not passion for the task. In contrast, intrinsic motivation functions without the aid of external rewards and/or push. It is self-regulatory since students engage in activities out of interest and they enjoy the experience while doing it.

Students with intrinsic motivation will study hard for an examination because they are interested in and excited to master the subjects and know more about the subjects. The classrooms are said to benefit well when students are intrinsically motivated to learn (Ryan & Deci, 2009). Lepper *et al*. (2005) found that students who had intrinsic motivation achieved higher grades and standardized tests scores compared to students who were extrinsically motivated. In fact, students who were motivated extrinsically had lower level of motivation and less persistence when doing academic tasks (Vansteenkiste *et al*., 2005). Students whose parents encouraged their pleasure and engagement in studying had higher intrinsic motivation in Mathematics and Science as compared to students whose parents used rewards and external forces to encourage performance (Gottfried *et al*., 2001).

Many experts are encouraging students to strengthen their intrinsic motivation (Stipek, 2002; Wigfield *et al*., 2006; Ryan & Deci, 2009). Stipek (2002), for example, viewed intrinsic motivation as benefiting students in many ways. One, students will acquire competency motivation whereby they engage in studying because they want to become competent in a particular subject and they will feel more positive about their ability to master the subject. Another benefit of intrinsic motivation is students will be naturally curious about what they learn. The third advantage involves the feeling of autonomy where students will feel that they learn because of their own choice, not being forced by external forces. Finally, students with intrinsic motivation will internalize the need and the excitement for studying and learning without having to be pushed by outside forces any longer. Many studies have shown that students who are intrinsically motivated tend to persist longer, manage more challenges, and achieve more in their academic tasks compared to those who are extrinsically motivated (Ames, 1992; Deci & Ryan, 2000; Dweck & Leggett, 1988; Nicholls, 1984; Pintrich & De Groot, 1990).

Based on the many evidences on the benefits of intrinsic motivation, this study looked further into the roles of several kinds of intrinsic motivation acting on academic achievement. Diverse motivational theories and constructs were often studied and explained individually, making the picture not comprehensive. A more integrated model must be examined to understand the internal drives and pushes that influence students to academic excellence. Researchers have been recommended to focus on model-based research in order to determine the causal and interactive relationships between domains of motivation and academic achievement. Subsequently, this study combined five domains of intrinsic motivation which have been defined and investigated in many previous research.

The first one is future time perspective, which involves the ability to see the connections between what one does in present and what one will gain in future (Simons *et al.*, 2004). In fact, students with this perspective perceive a current task as instrumental in attaining their future goals, and thus, their studying behaviour will be enhanced. The second intrinsic motivation is achievement need, which is defined as the *need* for *achievement* and the capacity to feel pride in accomplishment (Atkinson, 1957; McClelland, 1987). It is argued that the need for achievement is important because it can motivate students unconsciously to perform well or to improve their performance. The third intrinsic motivation is mastery goal. Students with this goal put efforts in learning because they want to acquire new skills, improve their competence, and increase knowledge (Smith, Duda, Allen, & Hall, 2002; McCollum & Kajs, 2007). The fourth motivation included in the framework is students' expectancy values which involve their expectation of reaching a goal, and the value of that goal to them (Eccles & Wigfield, 2002). Students who believe they are capable of mastering their schoolwork typically have positive expectations for success and possess positive values for academic tasks, which contribute to high motivation and achievement. Finally, self-determination theory views students as intrinsically motivated if they believe they are studying because of their own will, not because of external rewards (Ryan & Deci, 2000). Intrinsically motivated students are said to be autonomously regulated because

they have choice to learn what they enjoy. Students with intrinsic motivation will achieve higher grades compared to students with extrinsic motivation.

Although previous studies provided the conceptual clarification of diverse motivational theories and constructs, they were often studied and explained individually. Admittedly, several studies have focused on the interrelations between two or three motivational aspects, yet the picture is still not comprehensive. In order to understand the drives and pushes that influence students to academic excellence, a more comprehensive and integrated picture must be examined. The path of motivation needs to be charted in order to better understand the ups and downs of motivation.

In addition, studying the theories individually will limit in the explanations of why students are motivated to achieve. Future researchers have been recommended to focus on model-based research in order to determine the causal and interactive relationships between domains of motivation and academic achievement by using causal modelling. This would result in a more comprehensive description of the web of factors influencing motivational structures (Middleton & Spanias, 1999). Therefore, the purpose of this study was to test whether a measurement model to measure the five constructs of intrinsic motivation fits the data well.
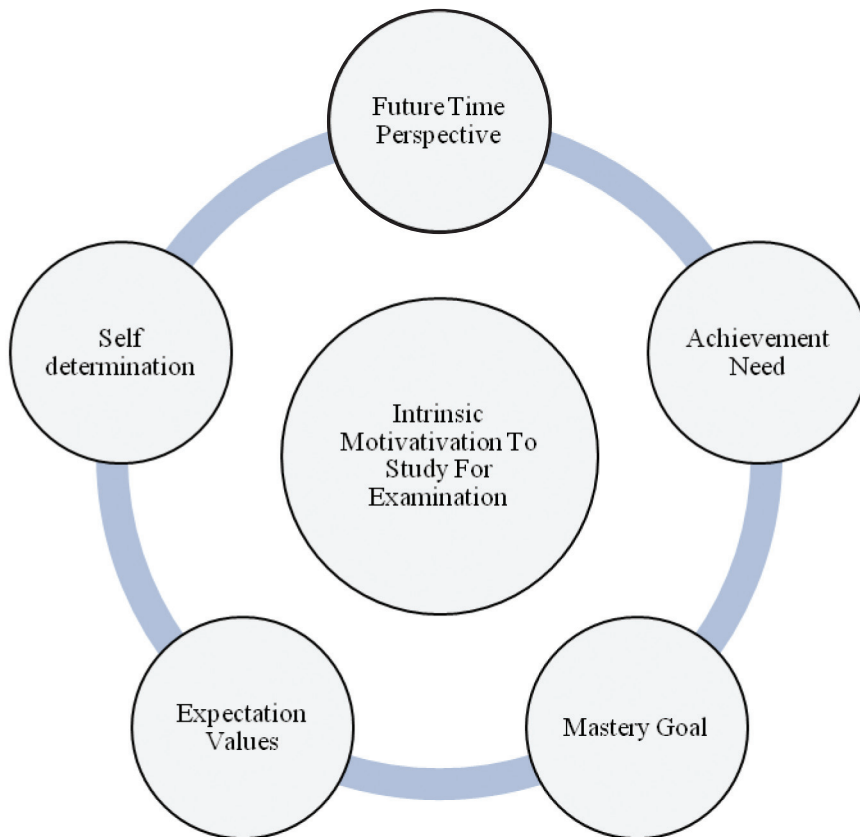
Fig.1: Conceptual Framework

CONCEPTUAL FRAMEWORK OF THE TESTED MODEL

Fig.1 displays the hypothesized model of intrinsic motivation. Five independent latent variables were conceptualized to measure the intrinsic motivation of students who find pleasure and interest when they study for their examination. The five dimensions of intrinsic motivation were hypothesized to be inter-correlated while being unique at the same time. When students have future time perspective, they tend to see the connections between what they do in present and what they will gain in future (Simons *et al.*, 2004). Students having high

achievement need will crave for success and wish to excel in study, school and other academic-related tasks (Kunnanatt, 2008; Kluger & Koslowsky, 1988). Students with mastery goal want to acquire new skills, improve their competence, increase knowledge and understanding through putting efforts (Smith, Duda, Allen, & Hall, 2002). Similarly, students with positive expectancy values highly value good results, enjoy studying, and see the usefulness of good grades to achieve their ambition (Eccles & Wigfield, 2001; Eccles, Wigfield & Schiefele, 1998). Finally, self-determined students are intrinsically motivated if they

believe they are studying because of their own will and not because of external pushes (Vansteenkiste *et al*., 2009).

METHOD

Participants

A total of 431 completed questionnaires were gathered at the end of data collection for the first stage when the students had just finished their final year examination in November of 2010. When the school reopened for the year 2011, the second stage of data collection was carried out and the examination results of the students were recorded. Twenty-three data could not be traced due to incorrect names given by the students. This resulted in the number of usable data amounting to 408. After processes of factor analyses and confirmatory factor analysis for each scale, thirteen other cases were removed because they were considered as outliers. The number of samples with complete record for further analysis was 395. This number met the minimum required sample of 390 for a population of above 60,000.

The respondents were all Form Four students attending daily secondary government schools in the state of Selangor, Malaysia. The schools were initially selected based on the proportionate stratified sampling to represent the ten districts in Selangor. However, several headmasters of randomly selected schools did not grant the permission for data collection. In the end, a total of eight schools were visited by the researcher, totalling to two rural schools and six urban schools. In terms of sampling distribution, the sample number almost met the required sampling proportion, where 359 students (89.6%) studied in urban schools and the other 41 students (10.4%) were from rural schools.

Instrument

This study used a questionnaire as a mean of measuring all the five motivational constructs. Literature on numerous studies and research conducted in the area of motivation were reviewed, critically assessed and evaluated before the researcher generated items for the questionnaire. Various items measuring motivational construct could be found from previous research and established instruments, but they were used for Western population, often university students, and also for high school students studying specific subjects such as sports or music. Although it was tempting to simply adopt the existing instruments, the researcher believed it was necessary to seek for unique items that were tailored for Malaysian adolescents and culture. No specific instrument that asked questions on motivation to study for examination was located. Therefore, items for this study were carefully constructed in order to suit the purpose of this study, i.e. the targeted adolescent students, as well as to fit with the cultural and educational background of the sample. The items were generated based on the definitions of each motivational constructs. The items were also worded to measure general preparation tasks geared for examination that is applied across all the academic subjects.

Each subscale had its own instruction to orient students' thinking and reflection to the examination, such as for Mastery Goal subscale, the instruction reads "Using the scale below, please rate the extent to which each item describes you in terms of your reason when studying/preparing for this examination". Most items were stated in a positive direction so that the respondents would rate the items on a 1 to 5 scale, with 1 being "Very untrue of me" and 5 being "Very true of me". A few items were phrased negatively. Before conducting the statistical analysis, these negative items were reverse-scaled so that a response of 1 was transformed to 5, 2 recoded into 4, 3 remained the same, 4 recoded into 2, and 5 recoded into 1.

Based on the literature review, eight items were constructed to measure future time perspectives (Future), ten questions to measure achievement needs (Achieve), four questions to measure mastery goal (Mastery), six questions to measure expectancy values (Value) and eight questions to measure self-determination (Autonomous). A total of thirty-six items were tested for the measurement model.

Data Preparation and Data Screening

The original number of the sample taken for this study was 431 Form Four secondary students. Descriptive statistics was conducted using SPSS 18.0 to identify any invalid data entry and missing data. The main data comprised each student's final examination results in the form of total score and total percentage. A number of 23 cases had to be dropped from the analysis due to the absent data, either because of no name given, wrong name given and names could not be found in the list provided by the school. This loss was mainly due to the limited time of data collection, i.e. at the end of the year, where teachers had many tasks to attend to and could not entertain too many requests from the researcher. In terms of data responses towards the items in the seven instruments, less than 5% of the data were found to be missing and without any obvious pattern. This small number of missing data was acceptable since Hair *et al.* (2005, 1998) suggested that it should be a concern only if more than 15% of the data were missing. In this study, the mean replacement procedure was used to manage the missing data since the small number of missing data was not a major problem (Tabachnick & Fidell, 2007).

Next, outlier cases were examined using Mahalanobis distance (Kline, 2005). The Mahalanobis distance is known to follow a Chi square distribution, where the chi square value at alpha = 0.001 is taken as the threshold value. Based on the mahalanobis distances generated by SPSS output for all 65 variables used in this study, the cases with D^2 exceeding the critical value were identified as outliers. For these data, with 65 variables, df=65, the chi square value for alpha = 0.001 at a degree of freedom = 65 is 124.8. An examination of the saved MAH_1 values generated by SPSS, 12 cases have D^2 larger than 124.8. Since these cases were said to be outliers and would interfere with the multivariate stability of the results, the

outliers were deleted, leaving a final sample size of 395 sixteen year old adolescents.

Skewness and Kurtosis were first evaluated to test normality of the data (Hair *et al*., 2005, 1998). Data are considered to be normal if skewness is between -3 to +3, while Kurtosis is between -7 to +7. The examination of the skewness and kurtosis values for each variable in this study showed no values larger than 3 for skewness and no values larger than 7 for kurtosis. These results indicate that the multivariate normality assumption is fulfilled for the current data.

Data Analysis

In order to evaluate a model as adequately fit, multiple criteria were taken into consideration. This study followed the rules of thumb criteria for goodness of fit indices. The Chi-Square statistic should be non-significant ($> .05$), so that the null hypothesis can be accepted and the model is said to fit the data. However, due to many shortcomings associated with the chi square test statistic, it is often suggested that not too much emphasis be placed on this particular test (Schermelleh-Engel *et al*., 2003). Other measures should also be looked into. The χ^2/df ratio should be between 2 and 3 as an indicative of an acceptable model. The RMSEA of $< .05$ can be considered as a good fit, the values between .05 - .08 as an adequate fit and the values between .08 - .10 as an average fit. As for TLI and CFI, the guideline is a value of .97 and larger as an indicative of a good fit while the values $>$ .95 is indicative of an acceptable fit (Bentler,

1990; Hu & Bentler, 1999). This study followed the above-mentioned guidelines to evaluate the tested model.

When the model initially did not fit, whereby the goodness-of-fit measures did not meet the cut-off requirement, steps were taken to improve the fit indices. Following the guidelines for model modifications, this study first looked at the standardized residual matrix and next at the modification indices. Standardized residuals greater than 2.58 were indicative of a model misfit. A good model is one that includes a majority of standardized residuals close to zero (Schermelleh-Engel *et al*., 2003). Hair *et al*. (2005) advised that absolute values of standardized residuals greater than 4.0 suggest a potential unacceptable level of error. Whereas absolute values of standardized residuals between 2.5 and 4.0 deserve some attention; however, changes to the model may not be necessary if there are no other problems associated with the associated variables.

The next result to inspect was the modification indices (M.I.), which suggest the estimate change in chi square value and the possible parameter change. A good model should include modification indices close to one, and any modification indices larger than 3.84 is an indicative of recommended change. It is reminded and cautioned in many reviews (see Schermelleh-Engel *et al*., 2003) that any modification made to the model should be based on theoretical justification, not simply based on the number criteria.

RESULTS

Exploratory Factor Analysis of the Items

Exploratory factor analysis (EFA) was recommended for the newly constructed items that had not been used in any setting or with any population before (Wolters & Daugherty, 2007). In particular, EFA was used to identify the underlying factor structures for all the five scales in this study. Each set of items in a scale was assessed for their unidimensionality using principal components analysis (PCA) as a prerequisite to the instrument's reliability and validity (Gerbing & Anderson, 1993; Hair *et al*., 1998). The EFA procedures involved three main steps, namely, assessing the suitability of the data for factor analysis, factor rotation and extraction, and interpretation of factors.

When assessing the suitability of data for running EFA, the adequacy of the sample size was met with a recommended minimum ratio of respondents to item as 5 respondents: 1 item ratio (Nunnally and Bernstein, 1994). In addition, Kaiser-Meyer-Olkin (KMO) was more than 0.60 and the Bartlett's test of sphericity was significant ($p < .05$) for all the five scales (Tabacknick & Fidell, 2006, 2001). Factor extraction and rotation were conducted to finalize the items to be included in the model. In order to identify the number of factors to extract using factor extraction, only the components that have an eigenvalue of 1 or more were chosen for further investigation. After that, the scree plot was examined to confirm the number of factors above the elbow since these factors were said to be contributing the most to the explanation of the variance in the data set.

Next, factor rotation using direct oblimin confirmed the number of factors rotated and each item's loadings were inspected. Interpretation of the factors was the next process, where appropriate names were given to each factor. Only factor loadings > ±.50 were selected because they contributed significantly to the measured constructs, indicating a high convergent validity (Hair *et al*., 1998).

The next step was examining the internal consistency of the items by ensuring that the Cronbach alpha values approached 0.70 and above (Hair *et al*., 1998). Meanwhile, the values of the inter-item correlations must ranged from 0.20 – 0.70 to indicate that the items were adequately associated with those within their construct. The item-total correlations of > 0.30 also supported the assumption that the items were mainly measuring the same underlying construct. A good item should be correlated with its own scale, and this is called convergent validity. In addition, an item should be correlated with its own scale more than with scales assessing different constructs (discriminant validity). Due to space constraint, the results of EFA is not discussed at length here; however, Table 1 summarizes the relevant results mentioned in ensuring that the good items were chosen for the next stage of the analysis. It is adequate to report that after the initial evaluation of items, based on the above criterion, the total items removed from the scales were two for Future, four for Achieve, none from Mastery, one from Value, and three from Autonomous.

TABLE 1
Selected Statistical Outputs for the Items

Items	Factor loading	Item-total correlation	Inter-item correlations					
			fut1	fut2	fut3	fut4	fut6	fut8
fut4	.813	.579	1.000	.497	.515	.432	.364	.470
fut3	.790	.674		1.000	.541	.553	.548	.463
fut2	.787	.679			1.000	.650	.436	.464
fut8	.753	.703				1.000	.526	.534
fut6	.742	.616					1.000	.541
fut1	.704	.635						1.000
Cronbach alpha		.86						
Variance explained		58.6%						
			ach7	ach9	ach2	ach8	ach1	ach6
ach7	.758	.614	1.000	.498	.399	.432	.386	.344
ach9	.755	.604		1.000	.359	.389	.416	.368
ach2	.656	.465			1.000	.314	.341	.223
ach8	.620	.436				1.000	.205	.206
ach1	.616	.452					1.000	.248
ach6	.523	.388						1.000
Cronbach alpha		.75						
Variance explained		50.2%						
			goal2	goal1	goal3	goal4		
goal2	.836	.642	1.000	.521	.519	.412		
goal1	.758	.502		1.000	.339	.337		
goal3	.720	.514			1.000	.363		
goal4	.657	.462				1.000		
Cronbach alpha		.74						
Variance explained		40.2%						
			value1	value2	value3	value4	value5	value6
value1	.769	.603	1.000	.462	.418	.540	.206	.611
value2	.761	.621		1.000	.657	.418	.352	.363
value3	.757	.613			1.000	.449	.332	.375
value4	.748	.588				1.000	.251	.518
value5	.744	.383					1.000	.315
value6	.518	.593						1.000
Cronbach alpha		.86						
Variance explained		52.1%						

TABLE 1 (*continued*)

			det3	det	det5	det4	det1
det3	.823	.691	1.000	.510	.587	.628	.441
det2	.783	.655		1.000	.434	.436	.676
det5	.783	.636			1.000	.619	.389
det4	.778	.628				1.000	.323
det1	.716	.572					1.000
Cronbach alpha		.84					
Variance explained		60.5%					

Confirmatory factor Analysis for Each Construct of Intrinsic Motivation

Each subscale model was first tested using CFA. Due to limited space, instead of showing the five different measurement models separately, Fig. 2 shows the five subscale models combined into an initial correlated first-order model of intrinsic motivation. Using the various guidelines for evaluating the fit of good model, selected items were removed or errors were correlated. Basically, the selected items had factor loadings > 0.50, indicating the convergent validity of the items for each construct. After making sure that all the parameters were significant at p<.001 level and all the loadings were above .50, standardized residual co-variances were examined to identify if any values exceeded 2.58. The items with many large co-variances were deleted one at a time to see if the model fit would be improved. Modification indices were also inspected to search for the largest M.I, after which double-headed arrows were added (one at a time) to see the improvement to the fit indices. The removal of the items and an addition of double-headed arrows were made only after considering that the actions were theoretically justified. In brief, the items removed due to the large standardized residual co-variances were fut5 and fut7 for Future, ach3, ach4, ach5 and ach10 for Achieve, none for Mastery, value5 for Value, and det6, det7 and det8 for Autonomous. In addition, the number of double-headed arrows added for Future was three between fut2 and fut6, fut8 and fut6, as well as between fut1 and fut4, but none for Achieve model, none for Mastery, one for Value between value2 and value3, and one for Autonomous between det1 and det2.

Confirmatory factor Analysis of the Five Factor Model for Intrinsic Motivation

After each model finally achieved a good fit, they were ready to be combined into the full measurement model, as shown in Fig.3. The model shows all the five factors measuring intrinsic motivation which had incorporated the various modifications made earlier. The results of confirmatory factor analysis revealed that the model was only marginally acceptable (Chi-Square, $\chi 2$ = 564.86, df=284, relative Chi-Square, $\chi 2/df$ = 1.99, TLI =.934 and CFI =.942, and

RMSEA =.050). All the regression weights were significant. Inspection of standardized regression weights revealed item ach6 with loading below .50, thus it was removed.

Items fut1 and goal4 were removed due to the large standardized residual covariance with other items. Three error co-variances were added between items fut3 and fut4,
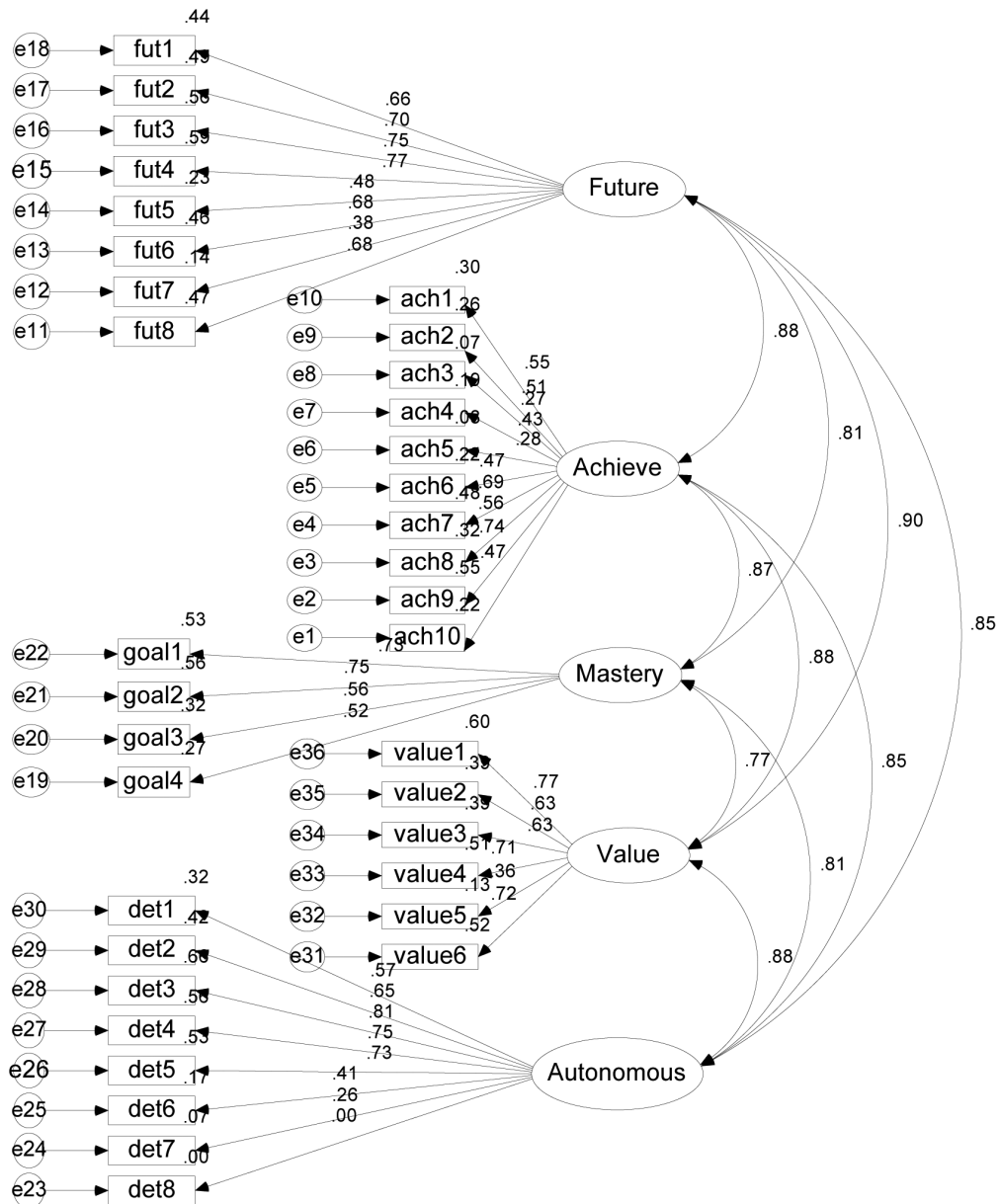

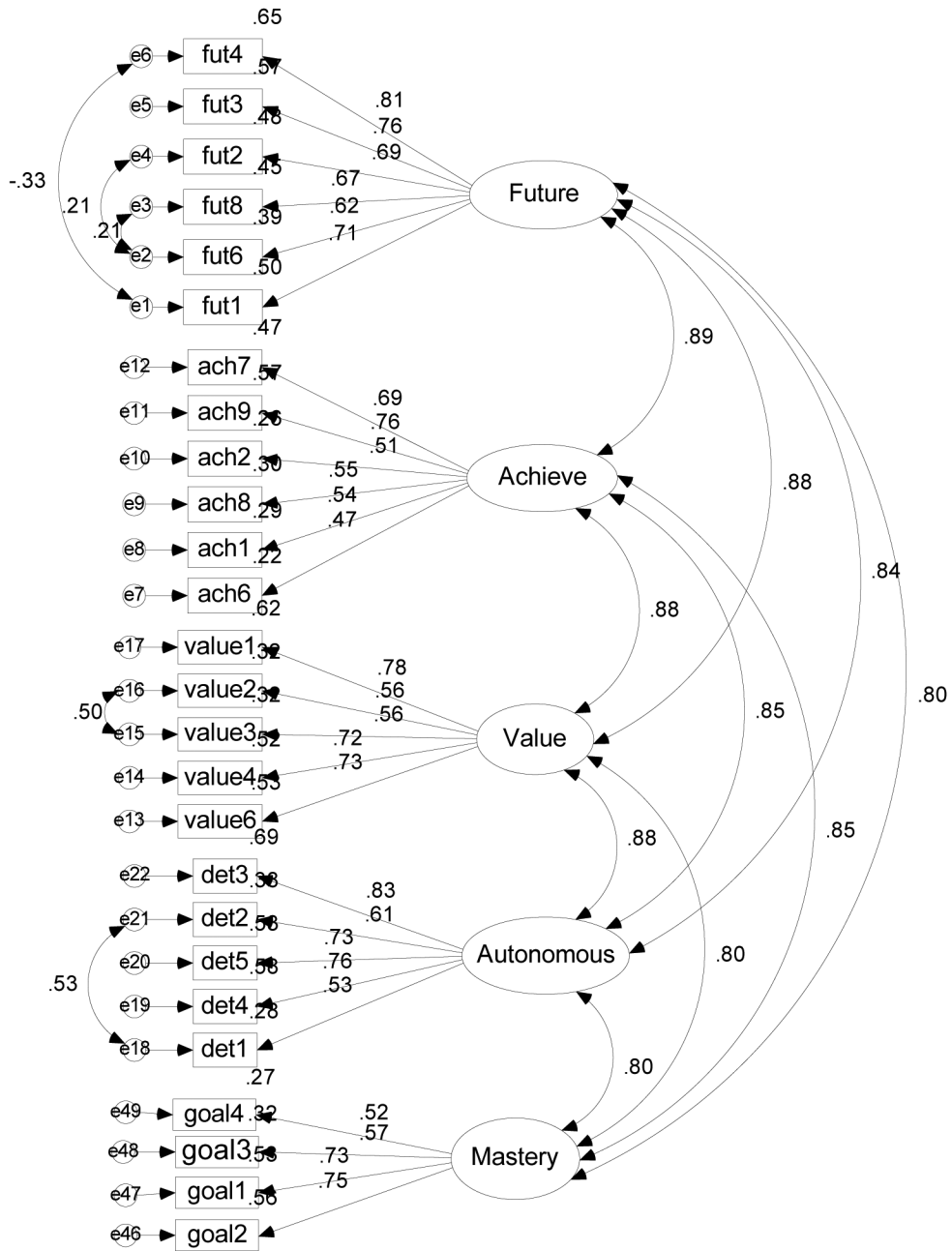Fig.2 Initial Correlated First-order Model of Intrinsic Motivation

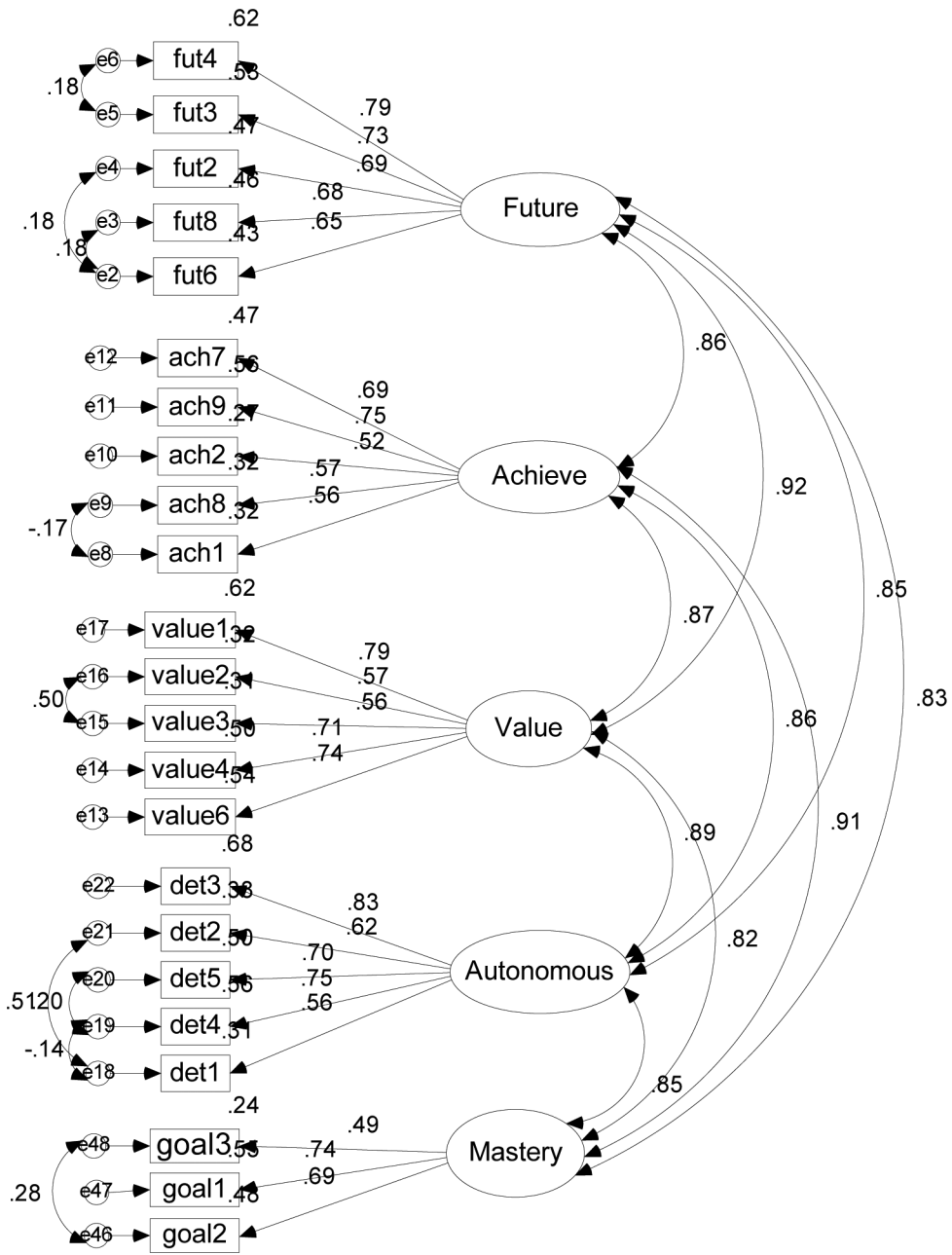Fig.3 Tested Correlated First-order Model of Intrinsic Motivation

Fig.4 Improved Correlated First-order Model of Intrinsic Motivation

det1 and det4, as well as det5 and det4. Each modification was done one by one and the inspection of the model improvement was carefully monitored every time. The model had better fit indices with Chi-Square, $\chi2 = 356.8$, df=211, relative Chi-Square, $\chi2/df = 1.69$, TLI =.960 and CFI =.967, and RMSEA =.042. Fig.4 shows the improved correlated first-order model of intrinsic motivation.

The Re-Specified Model of Intrinsic Motivation

Even though the measurement model was acceptable, the high correlations among several constructs indicated the possibility of second-order factor for intrinsic motivation. Future, Value, Achieve, Mastery, and Autonomous were highly correlated with each other, with r ranging from .819 to .951. This indicated that the items from the different dimensions were actually measuring the same thing. The correlations between the constructs of > 0.85 indicates multicollinearity and need to be adjusted either by deleting one of the constructs, combining two constructs together or creating a second-order factor (Hair *et al.*, 1998, 2005). Re-specification of the model was also carried out. The five highly correlated constructs were suited to measure intrinsic motivation since future time preferences, achievement need, expectancy value, autonomous self regulation and mastery goal were all referring to internal motives for wanting to excel in the present task (i.e. doing well in the examination) in order to gain some rewards in future. Thus, the model was restructured to include a second-order factor named Intrinsic which was measured by the five indicators; Future, Value, Achieve, Autonomous and Mastery.

The re-specified model shown in Fig.5 was tested and the data showed an acceptable fit. All the regression weights were significant and indicators loadings were larger than .50. The model was an acceptable fit with Chi-Square, $\chi2 = 370.69$, df=216, relative Chi-Square, $\chi2/df = 1.72$, TLI =.959 and CFI =.965, and RMSEA =.043. The model in Fig.5 replaced the original proposed model of intrinsic motivation, which was initially drawn in Fig.2.

CONCLUSION

The re-specified model of intrinsic motivation, from five different first-order factors model to a second-order factor, supports the notion that intrinsic motivation is indeed multidimensional. Intrinsic motivation is an integrated force of future time perspective, achievement need, mastery goal, expectancy value and autonomous self-determinism. The constructed instrument consisted of a final 23 good items that can be used in schools to measure students' motivational level when studying for their examination. With a slight modification to the sentences, the items can be used to measure students' level of intrinsic motivation in any school-related or learning-related task. Of course, further replications and validations of the items are still required to ensure the reliability of the items.
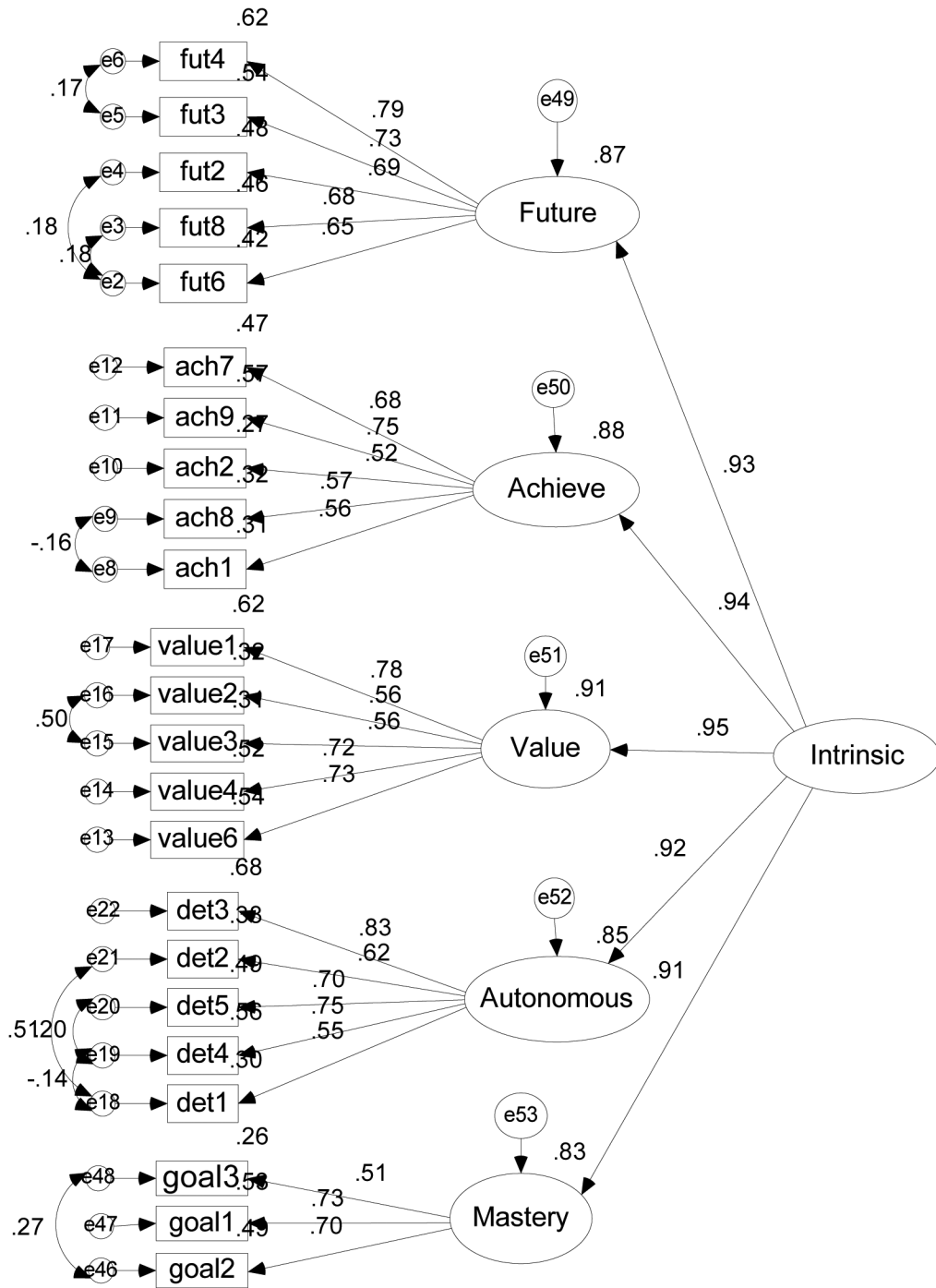
Fig.5: Re-specified Second-Order Factor Model of Intrinsic Motivation

The validation of this instrument will be beneficial to teachers in order to get a glimpse on their students' level of motivation in learning. Subsequently, teachers, parents and even students themselves can evaluate the existence and strength of each dimension of motivation within individuals so as to ensure that the students have adequate push from within themselves to excel academically. In this way, students need not depend too much on extrinsic motivation, such as advice, support and reminder from teachers and parents. They can initiate learning behaviours on their own since they are intrinsically motivated.

Empirically, five different motivational constructs have been found to be highly correlated with each other, thus, supporting a more defined construct of intrinsic motivation. The model tested in this study has provided a contribution to the literature on the significance of students' motivational drives that come from within to make them achieve focus and concentration in studying, and thus obtaining better results in performance tasks. The significant intercorrelations of the motivational forces studied in one comprehensive measurement model is a good response to the urge that numerous motivation theories need to be studied together, not individually (Middleton & Spanias, 1999). This further adds to the understanding of the drives and pushes that influence students to academic excellence by obtaining a more comprehensive and integrated picture of intrinsic motivation.

The current results add to the extensive knowledge that many of the motivational forces are indeed related to each other. For instance, studies have established the relationships between future time perspective and expectancy values. For instance, Eccles and Wigfield (2002) suggested that schooling is by definition future-oriented as it contains utility value to attain future goals but not all students anticipate the future goals their current schooling may serve. Indeed, some students have a clear view of their future and also understand how doing one's best at school is important to achieve highly valued educational or professional goals in the future. Other students, in contrast, lack such an extended future time perspective, and as a result, attach less value to their current school work. The findings of this study also support past research that found mastery-oriented students tended to place high intrinsic value on learning and were inclined to use deep information processing strategies (an aspect of self-determination theory (Church *et al.*, 2001; Elliot & McGregor, 2001).

LIMITATIONS OF THE STUDY

One limitation of the study was the construction of items, which were based on the literature and theories instead of the adoption of well-validated instruments from previous research. However, the need to construct new items to suit the purpose of this study was justified earlier in this report. Admittedly more investigation and replication with different samples are needed to ensure the validity and reliability of the instrument.

Another limitation is the minimal sample size that centred only on one state in the country. Due to the limited time for data collection, whereby students were around for only two weeks after their final examination, the researcher managed to survey only the available number of students from selected schools. Hence, future study should have more samples on wider area coverage to increase the generalizability of the results.

More items can be generated to improve the scale. For this particular study, 36 initial items were selected after the pilot study, and these did not include the other items measured for several other constructs that were not reported in this report. The length of the questionnaire had to be limited to ensure that high school students could respond to the items at ease. Thus, more potential items could not be listed, limiting the possibility of good items or factors not being identified nor measured.

SUGGESTIONS FOR FUTURE RESEARCH

Further validation of the instrument can improve the definition of intrinsic motivation and identify the different dimensions of this internal drive. This study only included five different theories to measure intrinsic motivation, whereas numerous other theories have been debated to explain motivation. The more dimensions of what push students from within can be identified, the easier it will be for parents and teachers to take actions on cultivating this particular type of motivation in students.

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A Multiperspective Learning Approach among Malaysian University Students in the Context of Epistemological Beliefs

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ABSTRACT

Students in higher education institutions, particularly in public and private universities in Malaysia share certain common epistemological beliefs among them, while other aspects of the beliefs are significantly different. The characteristics of students based on epistemological beliefs enlighten those who are responsible in academic and soft skill development of higher education on how to appreciate and utilize the talents and strength in each student. Their characteristics could be identified by observing the way they put on their perspective on the list of given scenarios in a survey questionnaire used in this research. These characteristics are identified from their responses to various constructs of epistemological beliefs and learning approaches used in this research. This move is in line with the intention of educationists and policy makers of higher education in Malaysia to dig up the potential among the country's future leaders as much as possible. This is one of the efforts taken by the educationists and policy makers of higher education in Malaysia to uncover the potential of students at the higher education level for future leaders of the country, beginning with their beliefs in knowledge and their learning approaches. Generally, these students are very prospective human capital in this country who need be groomed continuously. Hence, as one of the sources of prospective human capital in this country which needs continuous grooming, there is a need to examine their learning approaches and their concepts of knowledge as conducted in this study. In answering the research questions, the following significant differences were established between the variables used in this study: significant relationship between students' epistemological beliefs and their surface learning approaches; significant difference between male and female students' epistemological beliefs and learning approaches; significant difference

in terms of epistemological belief and learning approaches between students from physical and social sciences; a significant difference in term of epistemological belief based on the years of study amongst the students; a significant difference in term of learning approaches used amongst students of different ethnic groups. Hence, a survey questionnaire was administered to a total of 1,422 Malaysian students from higher education institutions in Malaysia, both private and public universities, as respondents. Based on the findings of the study, it can be concluded that there is a relationship between the epistemological beliefs and learning approaches among Malaysian university students based on their gender, field of studies, years of study, ethnic background, as well as the types of institutions they are studying in.

INTRODUCTION

As there is evidence that epistemological beliefs influence academic achievement (Schomer, 1993; Schoenfeld, 1988; Dweck & Leggett, 1988), there is a need to research on the relationship between epistemological belief and academic performance. In general, it has often been assumed that academic performance is significantly related to learning approaches. Hence, it is viable to conduct a research based on the three components, namely, epistemological beliefs, learning approaches and academic performance, by studying the relationships between them in the context of the dynamic educational system in Malaysia. In the context of higher education, Malaysia has institutions that are public or government aided, apart from the ones that are private in nature. The educational system that is publicly acknowledged is the education system that exists in higher education institution, be it private or government aid institutions. The focus of this paper is on the relationship between the epistemological beliefs and the learning approaches of the students of these higher institutions. This writing focuses only on the relationship between the first two, namely, the epistemological beliefs and learning approaches. The relationship was then studied in the context of higher education institutions in Malaysia, which acts as a catalyst and an initiator to pave ways for more similar studies in other contexts of different educational levels in this country. The findings of this study can pave a way for future studies within the context of epistemological belief and study approaches at other levels of education in the country adopting various research approach and variables.

In relation to this and the three component variables, various research approaches are expected to be implemented in different settings and research grounds. Most importantly, we are able to generally get a clear picture of the relationships between these three components in any education sector in this country. The specific pattern of these relationships could

also be identified by considering other variables as well. To a certain extent, a process of introducing modelling could also be conducted in adapting the concept of regression. The purpose is to forecast the result that is going to be produced for any identified dependent variable for a list of common independent variables, which were mostly used in this research.

Epistemological belief is a construct with different dimensions of metacognition. It focuses on the concept of knowledge in nature, which includes its type, category, source and form in various ways (Rodriguez & Cano, 2007). For this study, a questionnaire on the philosophical aspect of education was developed for the purpose of measuring the epistemological beliefs. It is an adaptation of Schommer's instrument consisting of four sub-constructs that reflect beliefs, innate ability, quick learning, simple knowledge and certain knowledge (Schommer 1993).

Epistemological Beliefs

"Research has suggested that the epistemological beliefs of learners may influence the learning processes that students choose to engage in" (Hofer, 2001).

Adapting the five-construct instrument developed by Schommer (1993), this research used an instrument developed after taking into consideration the current educational scenario in Malaysia, with reference to the higher education context.

In considering these epistemological beliefs, various items were included to measure them. In adapting the constructs of the items developed by Schommer (1993), this research has its own approach in deciding the five constructs, based on the current scenario of the education context and higher education in Malaysia.

The first construct, which relates to the level of knowledge development, includes the following items: uncertainty in knowledge, conformity to science as being the true source of knowledge, the meaning of wisdom as means and ways to seek for an answer rather than focusing on the answer itself, the consistency of knowledge truth; the impossibility of ascertaining one clear method used in problem-solving that can lead to time waste; today's truth may not necessarily hold in the future, originality of ideas is an important aspect of knowledge and generally, all problems only have one true answer. What can be seen from all these items that are forming up this construct is, there is a clear pattern of strategies in measuring the level of knowledge development, and thus, the individuals' different level in this construct can be identified.

In the second construct of the instrument used in this study, the following items were measured: how information from one chapter is connected to the other chapters, understanding the meaning of learning as a means to decipher salient facts; the best approach used to understand a text is to restructure information to one's conceptual understanding; the difficulty in

understanding a text or material without prior knowledge of writer's intention; an idea is not meaningful unless one understands the situation and context of how the idea was created; the necessity of memorization and rote-learning to pass an examination; the belief that a concept can be better understood in a new topic if new information and ideas are associated with prior knowledge and, the belief that scientists will always get to the truth of knowledge through perseverance.

The third construct of the knowledge belief instrument used in the study consists of the following items: conforming to the needs and expectations of the knowledge perspective of the lecturers in order to succeed in university education; the belief among students of the need to always conform to the lecturers instruction in order to succeed in a university education; the usefulness of knowledge acquired at the university level depends on the quality of its lecturers; the belief that practically, the content of a text book has truth pertaining to knowledge; the students' curiosity with respect to the depth of an individual lecturer's knowledge on a particular content area; the uneasiness on the part of students if a lecturer displays lack of confidence in the knowledge delivery and, the issue of students contesting and challenging a lecturer's knowledge belief and perspective.

Perhaps, as the data suggest, the fourth construct can be considered a significant one since it emphasizes on the concept of students' speed in processing various types of knowledge acquisition. In particular, an item of the construct solicits the students' views on their tendency to unquestionably accept the lecturers' explanation of particular knowledge content without really understanding it. This item also suggests that if a particular content of knowledge can be easily grasped and understood the first time it is being conveyed, it then indicates that the knowledge is indeed easily understood. This is in line with the view of Conley (2008), who believes that students who are able to cope with knowledge understanding at the initial phase and master it faster will usually excel in the academic aspect. This item also touches on the concept of learning, which suggests that a holistic perspective or idea of a text read is more constructive and field independent compared to the detail approach in learning or the field dependent. The conceptual and holistic approach is more favourable since reading the difficult content of the text another time will enhance one's comprehension of it, apart from the fact that the best approach to understand a difficult concept is to familiarize it the first time. Hence, as has often been espoused, memorization, which does not create critical thinking in knowledge taught, is perceived otherwise by Scribner and Beach (1993) who contended that memorizing facts is the primary way of learning for academically excellent students.

A wise person is one who can still give new idea based on reading, even though they forget many relevant facts. Also, if someone does not understand something within a short period, he or she should keep on trying. There is also an argument which states that

trying hard to solve a difficult problem in a long run will only benefits truly clever students. Supporting the notion of the fast acquisition of knowledge content on the first reading is Zimmerman and Schunk (2001) who believe that an attempt to understand a difficult concept at the initial or beginning stage will lead to more confusion. This is due to the fact that students should only be made to glean for information from the reading materials on the first reading. Conceptual and higher order knowledge can be constructed with focus and concentration without any form of external interference. This coheres with Klatter *et al*. (2001) whose view claims that learning is a process of acquiring knowledge gradually.

The fifth construct is the ability to master knowledge which claims that learning a skill course is useful in order to succeed in a university education. There is an argument that learning skill course is useful to succeed in university. Although the ability to learn is natural, the most successful people realize the way to enhance their learning ability. Besides that, the students themselves will decide on how far they could understand a text they read. Claims on the naturally endowed learning ability among individuals can be seen in the view of Boaler *et al*. (2000) who believe that some individuals are born smarter than others who have limited abilities. In other words, genuinely clever students do not need to study hard to succeed. An average student in school will become an average student throughout his or her life. In addition, an expert has natural talent in specific field. Last but not the least,

there is also an argument that self-learning book does not help.

In brief, this study sought to address various aspects of epistemological beliefs which are discussed from the following aspects: various knowledge structures, knowledge sources, speed of knowledge acquisition, and students' mastery of knowledge. The views pertaining to these aspects of knowledge beliefs or epistemology were studied by the students of the higher institutions of learning in the country in the context of the current educational scenario, as stated earlier.

Students' Learning Approaches

On the other hand, students' learning approaches have also been investigated in relation to academic achievement. Learning approaches are explained and measured in this study by looking at the four constructs of items. Firstly, the construct on deep motive, which works based on the attractiveness of the subject matter. How to make a new topic to be interesting and to attract (motivate) people to spend extra time to study more about it? Another aspect in relation to this is rote-learning, which relies on pure memorization without understanding of the knowledge. Yet, some can pass easily in exam using this approach. Another argument is focusing on key points, i.e. some lecturers believe that students should not spend too much time on learning materials which will unlikely be questioned in examination. Besides, a topic will become more interesting when it is appreciated.

Secondly, the construct on deep strategy, in which students will only be satisfied once they can summarize a topic they have learned. An uninteresting course will not be studied seriously. Besides, one will limit the study to certain topic merely to avoid extra work. Another way is coming to class with preparation for any possible questions. Then, self testing with a topic until full comprehension is attained.

Thirdly, the construct of surface motive, i.e. learning approaches are set on the aim of passing examinations with minimum effort. Thus, there is an inclination to practice repeatedly (drilling) without comprehension. Besides, some may study hard due to interesting study materials, and thus, they will usually refer to reading materials suggested during lectures.

Fourthly, the surface strategy. In this aspect, one will only study hard for items delivered in lectures or stated in course outlines. Besides, there is an argument which states that studying academic materials is as interesting as reading novels or watching interesting movies. Hence, one can spend a lot of time searching for more information on interesting topics that have been discussed in the lectures. Most people find that the items which will not be evaluated are unimportant and therefore not worth studying. There is another argument which supports this learning approach by claiming that it is unnecessary to study a topic deeply, as it will be confusing and time consuming (Nolen, 1996). Meanwhile, the important thing is merely the passing of grade. Hence, the best way to pass examination is to memorize answers of all expected questions.

In brief, learning approaches amongst students are discussed here in term of the motive and strategy used for conducting learning process, as well as the motive and strategy used in the quest of any study initiatives conducted at different mode of time and situations.

Based on the perspective of university students in their different contexts, investigation was done to determine whether there is any relationship between epistemological beliefs and learning approaches. Next, these two aspects were further studied to find their associations with the students' academic performance.

Malaysian Higher Education Institutions

Since independence, educational and national leaders in Malaysia have been continuously trying to develop the country by developing the country's human capital, particularly the undergraduates who form a large population of the youth. Higher education is one of the areas in which the development of human capital begins. School leavers in Malaysia are selected through a system to fill in the places available in higher education. They are then systematically trained to acquire the knowledge and skills they need in any critical and useful discipline. This process is currently ongoing to maintain the development of the nation.

The students have become an important group in higher learning. They have

to be trained to provide skilled human resources in the future. Higher education has become a pool of expertise (as it might be termed). This is because it is a base or a centre in which academics and senior administrators, who are experts in their own fields, can practice their expertise. Besides that, potential experts are also produced every year in an encouraging number of graduates at several levels, namely diplomas, bachelors, masters or doctoral degrees. Hence, they can work in the private, public and business sectors. This group of people will, of course, be dependent on to generate productive outcomes in whatever sectors they are involved in.

University leavers, due to their exposure to various specialized academics and subjects, will generally do better as compared to non-graduates. Their cumulative role is expected to make healthy contributions to the development of the country. A supporting fact to this argument/ opinion can be seen in increasing jobs and opportunities being open only to those with qualifications.

The academics, primarily teachers, play an important role in moulding the students' minds in ways that are expected by the people of a dynamic society (Day, 2001). Teaching is not just simply standing in front of a lecture room and discussing a topic. The academics must be very innovative, creative, up-to-date and even inspiring when giving lectures. They should always look for other effective teaching methods so that the students can be trained successfully in the university. All in all, students in higher

education institutions should have enough exposure in the process of developing a pool of excellent contributing nation, and in the process of realizing Vision 2020 towards a developed Malaysia.

Higher education institutions are primarily a place to build up the awareness of epistemological beliefs. This awareness is important as it demands the comprehension of epistemology beliefs, in term of what, how, why and where the knowledge is formed and developed. Furthermore, any kind of problem-solving and decision-making will therefore be analysed deeply and philosophically by using this approach. The purpose is to ensure the right action and decision are made at the right time and place to produce positive impacts. This is because they know every move prescriptively, comprehensively, logically, reflectively and speculatively. This also implies that one has to utilize, apply, transform and manipulate knowledge in any particular context and situation with strong faith and belief. In other words, they must believe in the form of knowledge they use. Higher education institutions are indeed a perfect platform filled with such situation, as any level of individuals involved deal directly with knowledge, ranging from students and administrators to professors. Knowledge need not be accepted and understood only, but it needs to be believed as we know its usage to human nation, unless the knowledge is useless.

In addition, the awareness of learning approaches in HEI is also important. This approach is undoubtedly a great

argument among the students, as well as the academicians and the administrator. The benefits of the students are greatly discussed in the argument of both parties because they are the major clients in HEI. The pattern of academic achievement in HEI in the end will be identified, analyzed and evaluated, as it clearly shows the achievement of a university.

Briefly, we could indirectly evaluate and analyse on the lecturers, administrators and students' perspectives, regarding the aspects of epistemological beliefs and learning approaches. They are the main groups that form up the HEI in any setting in any country. Thus, their philosophical views on this are greatly beneficial and important.

This study was carried out to assess the perspectives of the individuals in higher education regarding their epistemological belief and learning approaches while pursuing their studies. The relationship between these two was identified. In addition, the relationship between each variable and academic achievement was also be analyzed.

METHODS

The researcher selected a sample of 1422 students from five established higher education institutions in Malaysia. The sample population unit was formed by using stratified random sampling with three strata to represent as closely as possible the students' population as in the sampling frame. This then represented the population of higher education institution students in Malaysia (because the sampling frame included almost all the students in the five institutions, and the institutions had first been selected among all higher education institutions in the country). The first criterion would be the five institutions. The second criterion would be the disciplines of study, whether the students belong to physical or social sciences. The third criterion was the gender. Cells representing the combination of different categories among the three strata were formed with the number of sample in the proportion. The students were selected from each cell as the sample by using random sampling technique according to a Table of Random Numbers. For the purpose of this research, the table used is as suggested by Borg (1983).

In addition, information on ethnicity, age, religious, year of study, semester of study and sponsor type was also included as demographic variables. The survey questionnaire, which had previously undergone a pilot survey to get results for validation and reliability test, was structured as follows: 49 questions from 5 different constructs were designed to assess the respondents' perspectives on epistemological beliefs (i.e. nine questions from Construct 1, eight questions from Construct 2, six questions from Construct 3, fourteen questions from Construct 4 and twelve questions from Construct 5). The constructs of the epistemology beliefs included the level of development of knowledge, structure of knowledge, source of knowledge, the speed of gaining knowledge, and the ability of conquering knowledge. In addition, in order to understand the

participants' learning approaches, nineteen more questions were formed with the aim to assess four constructs of learning approaches, namely, five questions from Construct 1, five questions from Construct 2, three questions from Construct 3 and six questions from Construct 4. The constructs of the learning approach were in-depth motive, in-depth strategy, surface motive and surface strategy. The sample population of students in this study did not come from all (more than thirty) public and private higher learning institutions which currently exist in Malaysia. Of all the higher learning institutions, only two public universities (Universiti Putra Malaysia and Universiti Kebangsaan Malaysia), and two private universities (Universiti Tenaga Nasional and Multimedia University of Malaysia), as well as International Islamic University (which is considered a public university established under the corporate act, and therefore, representing both public and private universities) were selected. The five institutions were carefully chosen to

represent the number of public and private higher learning institutions in Malaysia. All the data were then stored and analysed by using SPSS version 19.

RESULTS

Out of almost 2000 expected respondents, 1422 from five higher learning institution (consisting of four public universities and one private university) agreed to fill in the questionnaire. Evaluation on the epistemological belief of the respondents is descriptively shown in Table 1. Looking at the data score, the mean and standard deviation of each construct in this variable (epistemological beliefs) were differentiated by the respondents' year of study (years 1, 2 3 or 4).

A further analysis of this outcome showed significant results of mean difference of epistemological beliefs based on the students' year of study by using the Analysis of Variance (ANOVA). These results are presented in Table 2.

TABLE 1
Descriptive Statistic on the Constructs of Epistemological Beliefs according to the Year of Study of the Respondents

Constructs of Epistemological Beliefs	Year of Study							
	Year 1		Year 2		Year 3		Year 4	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Epistemological Beliefs (Overall)	2.74	.27	2.76	.26	2.80	.30	2.88	.25
Level of knowledge development	2.94	.39	2.99	.40	2.92	.41	3.00	.45
Structure of knowledge	2.91	.32	2.89	.35	2.95	.34	3.02	.34
Source of knowledge	2.88	.42	2.84	.49	2.81	.40	2.80	.39
Speed in grasping knowledge	2.74	.37	2.78	.36	2.84	.40	3.00	.35
Ability to mastery knowledge	2.40	.46	2.44	.50	2.54	.47	2.60	.40

TABLE 2
ANOVA of the Mean Difference on Epistemological Belief based on Students' Year of Study

Constructs of Epistemological Beliefs	Significant/not	ANOVA	p
Epistemological Beliefs (Overall)	Significant	F (3,843.54) = 9.79	.000
Level of knowledge development	Not significant	F (3,1316) = 1.60	.187
Structure of knowledge	Significant	F (3,1357) = 5.72	.001
Source of knowledge	Not Significant	F(3,952.42) = 2.61	.050
Speed in grasping knowledge	Significant	F(3,1359) = 13.25	.000
Ability to mastery knowledge	Significant	F(3,986.88) = 9.83	.000

TABLE 3
Descriptive Statistic on Constructs of Learning Approach In Regard to Year of Study of the Respondents

Constructs of Learning Approach	Year of Study							
	Year 1		Year 2		Year 3		Year 4	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Learning Approach (Overall)	2.15	.33	2.18	.38	2.21	.33	2.33	.28
In-depth Motive	2.02	.46	2.08	.52	2.08	.46	2.21	.40
In-depth strategy	2.26	.41	2.24	.49	2.30	.41	2.40	.40
Surface Motive	2.09	.44	2.11	.53	2.12	.44	2.22	.40
Surface Strategy	2.21	.43	2.25	.45	2.32	.45	2.44	.44

Based on the students' year of study, the findings show that there are significant results on the Epistemological beliefs mean different as a whole on the structure of knowledge, speed in grasping knowledge and ability to mastery knowledge. However, a significant F-value above tells us only that the means are all equal (accept the null hypothesis) or not equal statistically (reject the null hypothesis). In order to know exactly which means are significantly different from others, *post hoc* tests were conducted and showed that in all the significant results, the means of epistemological belief are different between year 4 and year 1 students. These findings indicated the maturity and vast experience the students had after being studied a few years in the university that had helped them in grasping more meaning on the epistemological belief and its components.

A deeper understanding of the learning approaches of university students is also obtained in this study. The evaluation on this particular aspect or variable is shown in Table 3. Looking at the score data, the mean and standard deviation of each construct in this variable (learning approach) were also differentiated by the respondents' year of study (Year 1, 2, 3, or 4).

This outcome could be analyzed further, as shown in Table 4 below. It shows the

significant results by using Analysis of Variance (ANOVA), on the mean difference of Learning Approach based on the students' year of study.

Based on the students' year of study, the findings shown above indicate that the means of Learning Approach are significantly different in all situations. However, a significant F-value above merely tells us that all the means are not equal statistically (does not accept the null hypothesis). In order to determine exactly which means are significantly different from which other mean, *post hoc* tests were then conducted, and they showed that in all these significant results, the means of Learning Approach are statistically different between Year 4 and Year 1 students. This findings indicate that the maturity, experience, learning process and exposure of the students had after studying a few years in the university helped them in grasping more suitable and effective ways in conducting their learning process. We can also see a pattern from the results in Table 3, i.e., in any construct of Learning Approach variable, the mean is getting larger as the students' year of study getting higher from Year 1 to Year 4.

Reliability

The reliability coefficient, Cronbach alpha for reliability scale of Epistemological Beliefs is 0.76, and this is 0.33 for the first construct, 0.13 for the second construct, 0.21 for the third construct, 0.57 for the fourth construct, and 0.68 for the fifth construct. As for the scale of Learning Approach, the whole reliability coefficient obtained was 0.73, and 0.48, 0.27, 0.18 and 0.41 for the first, second, third and the fourth constructs, respectively.

Relationship Studies

In answering the most important research question of this study, i.e. the relationship between the students' epistemological belief and their learning approaches, the research findings showed that there is a positive moderate significant relationship (r = .44, n = 1191, p < .0005). The significant level is at $p < 0.001$, indicating that the more the students hold on the naive epistemological beliefs, the higher their tendency to choose the learning approaches that are rather 'surface' in terms of characteristic.

TABLE 4
ANOVA of the Mean Difference on Learning Approach based on Students' Year of Study

Constructs of Learning Approach	Significant/not	ANOVA	p
Learning Approach (Overall)	Significant	F (3,1034.57) = 10.99	.000
In-depth Motive	Significant	F (3,1034.76) = 6.25	.000
In-depth strategy	Significant	F (3,1025.87) = 4.76	.003
Surface Motive	Significant	F(3,995.10) = 2.99	.030
Surface Strategy	Significant	F(3,1387) =12.71	.000

CONCLUSION

Epistemological beliefs in this study examined the origin of knowledge from the perspective of students in higher education institutions. In this context, their views were investigated in terms of how they perceive knowledge in different sources, types and values. These students also have their own opinions in interpreting what knowledge is, and have their ways of learning a particular knowledge. Briefly, the nature of knowledge has been explored in this study. Apart from that, the students' learning approaches were also investigated as they have a lot of impacts not only on the students' academic performances, but also the way students believe in knowledge. Therefore, the relationship between epistemological belief and learning approach was studied in a deeper manner for a better understanding on the aspect of appreciating the knowledge among them. This study suggests that epistemology belief is something that is embedded naturally in the students' minds and is actually helpful in moulding effective learning approaches. However, they should first be able to recognize and define the belief in this context clearly, so that they will know which action is right. This is important so as to contribute back to the society with individuals who undergone well-balanced and holistic personal growth, in the aspects of emotion, physical, spiritual and intellectual. Subsequently, the objective of the National Education Philosophy in Malaysia can be achieved with the fulfilment of all these elements that are stressed in it. This study seems to reveal the beneficial results from the context of higher education, which serves as a reference for the Ministry of Education, as well as relevant authorities and policy makers. Therefore, although this study is very timely, it is worth conducting.

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Conditions Facilitating Faculty Members' Implementation of Online Learning Technology in Iranian Universities

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ABSTRACT

The aim of the study was to determine the conditions that facilitate the implementation of online learning technology among faculty members at e-learning centres in Iranian universities. Research sample comprised of 220 faculty members who were randomly selected from nine public universities in Iran. Using the survey methodology, data were gathered through the use of a questionnaire. The questionnaire included the following: (a) 10 items pertaining to demographic information; and (b) 40 items related to Ely's conditions facilitating technology implementation. The reliability of the scale was .91. The data were descriptively analyzed in the forms of mean and standard deviation using the Statistical Package for the Social Science (SPSS) version 16. Findings of the study showed that five conditions, which facilitate implementation of online learning technology, perceived to be present by the faculty members were: (a) dissatisfaction with the status quo, (b) existence of knowledge and skills, (c) availability of time, (d) existence of rewards or incentives, and (e) expected and encouraged participation. From these five conditions, `dissatisfaction with status quo' was perceived to be the most present condition. On the other hand, three other conditions were perceived to be less present, namely, `commitment by those who are involved', `leadership', and `availability of resources'. From these three conditions, `availability of resources' was perceived to be the most lacking at e-learning centres in Iranian universities.

Keywords: Online learning, ICT, Ely's conditions

INTRODUCTION

The positive impact of Information and Communication Technology (ICT) on students' learning is undeniable. ICT, when used effectively, can affect students'

achievement, assist in developing their higher order thinking and problem solving skills, enhance their incentive and attention in learning, help to make them ready for workforce, and also address the needs of low performing and learning impaired students (Centre for Applied Research in Educational Technologies, 2005). Hence, due to these benefits, ICT has been increasingly adopted as an intrinsic part of the learning processes. The new wave of the information age is represented by the Internet, the World Wide Web, and personal computers. This new wave eventually leads to the advent of teaching and learning methods in online learning environment (Alnujaidi, 2008).

Online learning is delivery of learning through the use of ICT via the Internet, where learners and instructors are physically separated (Chongwony, 2008). Online technology allows students to participate, regardless of their geographical locations and independent of time and place. Students do not need to meet face-to-face in the entire sessions to complete a course (Tsai & Machado, 2002). In fact, an online learning environment provides different ways of learning and a richer learning environment through various communication tools. It also provides fresh approaches and different styles in learning, as well as allowing for a greater diversification in learning and access to learning. It can include any or all of a number of aspects, ranging from administration details relevant to the class to learning experiences that are mediated through interactive tools to a total course delivered via the Internet

(Palloff & Pratt, 2005).

There are many barriers to online technology implementation by faculty members. These include the lack of time and training, inadequate resources and equipment, limited technological and pedagogical knowledge, lack of technical, administrative and policy supports, and also faculty members' low motivation (Beggs, 2000; Cummings, 1998; Ertmer, 1999; Rogers, 2000; Schoepp, 2004; Shafiei, 2005).

In an attempt to address conditions facilitating technology implementation Ely (1976, 1990 & 1999) proposed a series of conditions in a variety of education-related contexts, especially in higher education. The conditions identified by Ely are: (a) dissatisfaction with the status quo; (b) existence of knowledge and skills; (c) availability of resources; (d) availability of time; (e) existence of rewards or incentives; (f) participation; (g) commitment; and (h) leadership.

In the context of Iran, the Ministry of Higher Education has made attempts to capitalize on the strengths of using online technology for teaching and learning. The past eight years have seen monumental efforts put by the authorities to train and familiarise faculty members or instructors with the development of electronic contents and online courses. There are ten e-learning centres at ten Iranian public universities in Iran which deliver online courses to learners through the Internet. An e-learning centre is an initiative which aims to empower universities on the adoption and use of

e-learning. This is in line with the national development objectives as postulated in Iran's 'Vision 2025'.

PROBLEM STATEMENT

In Iran, distance learning has developed in the last two decades. However, it suffers from deficiency, barriers and challenges with regard to its infrastructure and technology. Shadmehr (2007) points out several issues in this respect, including the lack of appropriate framework, mismanagement, legal obstacles, lack of suitable teacher-student interaction, ineffective curriculum, and limited class time allotted only to solving problems. Moreover, not much attention is given to distance learning, particularly specific differences between educational leadership, textbooks, and curriculum planning in the distance and traditional learning (Kochakzadeh, 2007). The Internet access and skills needed to use it are not adequate, whereas the speed of the Internet is too low (Gharehbakool, 2006). Furthermore, Ahmadi (2004) asserts that distance learning technology is still very new and unknown to the Iranian learners and instructors.

The factors listed above, as well as others identified by various researchers, have been shown to hinder the use or incorporation of the technology into the instruction by faculty members. Although a few studies have been conducted on the existing barriers in ICT implementation in Iran (Kochakzadeh, 2007; Mostafapur, 2004; Nasiri, 2003; Sadeghzadeh, 2008; Shadmehr, 2007; Shirvani, 2002), none has investigated the conditions facilitating the implementation process of ICT. According to Nawawi (2005), another way to look at the implementation of technology in higher education is to ask what conditions will facilitate faculty members' implementation of technology in instruction.

OBJECTIVE

The objective of this study was to determine which Ely's conditions facilitate the implementation of online learning technology among the faculty members at e-learning centres in Iranian universities.

METHODOLOGY

The research design employed for this study was in the form of a survey. The population of the study comprised of faculty members from e-learning centres in Iranian public universities (N=445). Based on Krejcie and Morgan' formula (1970), the minimum sample size was 206. The research sample was selected based on the simple random sampling technique as the information of all the faculty members were available. An online questionnaire adapted from Nawawi (2005) and Ely's framework (1999) served as the research instrument for obtaining data. The questionnaire was divided into two parts. The first part had 10 items pertaining to demographic information, while the second part contained 40 items related to eight of Ely's conditions. A total of 360 online questionnaires were distributed to the faculty members, and out of which, 220 were found to be valid for analysis. The questionnaire used a five-point Likert scale

(ranging from 1 for "Strongly Disagree", 2 for "Disagree", 3 for "Slightly Agree", 4 for "Agree" to 5 for "Strongly Agree"). Interpretation of the mean scores for each of the eight conditions is presented in Table 1. The questionnaire was validated and subjected to back translation by a panel of content and language experts. Based on a pilot study, the overall reliability of the scale was .91. The data were analysed descriptively using SPSS version 16.

TABLE 1
Mean Scores and Interpretation for each of Ely's Conditions

Mean scores	Interpretation
5 - 15	Perceived as less presence at e-learning centre. Condition does not facilitate online technology implementation.
16 - 25	Perceived as more presence at e-learning centre. Condition facilitates online technology implementation.

RESULTS AND DISCUSSION

Demographic Profiles of the Respondents

A total of 220 faculty members at e-learning centres in nine Iranian universities were included in this study. Majority of the faculty members (n=158, 72%) were males, and were in the 26 to 45 years old age group (n=157, 71%). In terms of faculty rank, majority of the faculty members (n=119, 54%) were assistant professors. Similarly, majority of the faculty members (n=118, 53%) have had between three to four years of teaching experience at e-learning centres in Iranian universities. In terms of the number of online courses developed by the faculty

members at e-learning centres, the majority of them (n=121, 55%) have developed between one to six online courses. As for the number of online courses taught by the faculty members in the second semester academic year 209-2010 at e-learning centres, most of them (n=178, 81%) have taught two to three online courses.

Table 2 presents the mean scores and standard deviations of each of Ely's conditions. In general, the conditions that were perceived by the faculty members to have more presence were: a) dissatisfaction with the status quo (M=17.87, SD=2.37), b) existence of knowledge and skills (M=17.13, SD=2.88), c) availability of time (M=16.99, SD=2.45), d) existence of rewards or incentives (M=16.78, SD=3.14), and e) participation (M=16.12, SD=2.41). Dissatisfaction with the status quo was perceived to be the most present as compared to the other four conditions. Three other conditions which were perceived to be less present in the university were: a) commitment by those who are involved (M=14.21, SD=3.71), b) leadership (M=13.89, SD=2.65), and c) the availability of resources (M=13.31, SD=3.56). Out of these three conditions, the availability of resources was perceived to be most lacking in the universities.

TABLE 2
Mean scores of Ely's conditions

Ely's Conditions	M	SD
1. Dissatisfaction with the status quo	17.87	2.37
2. Existence of knowledge and skills	17.13	2.88
3. Availability of resources	13.31	3.56

TABLE 2 (*continued*)

4. Availability of time	16.99	2.45
5. Existence of rewards or incentives	16.78	3.14
6. Participation	16.12	2.41
7. Commitment	14.21	3.71
8. Leadership	13.89	2.65

Generally, the results of the study support Ely's (1990, 1999) list of conditions. All the eight conditions were perceived to be present, although their presence was in varying degrees. The mean scores for five of these conditions (namely, dissatisfaction with the status quo, existence of knowledge and skills, availability of time, existence of rewards or incentives, and participation) were found to be higher than 15, and could be interpreted as having more presence at the e-learning centres. These conditions were also perceived as supporting and facilitating online technology implementation among the faculty members.

The results from this study also showed dissatisfaction with the status quo as the most present condition at the e-learning centres in Iranian universities. This finding supports the results by Stein (1997) and Kajuna (2009) who believe that the presence of dissatisfaction with the status quo is vital as without it, innovations would probably not be attempted. This finding is also consistent with Nawawi (2005) who states that in order to be willing to use the innovation, faculty members should have faith that using technology is more useful than what is currently used.

In addition, the existence of knowledge

and skills among faculty members was also found to have higher presence at Iranian universities. This finding is similar with those of Jeffrey (1993), Marovitz (1994), Riley (1995), and Owen and Demb (2004) who indicate that the presence of knowledge and skills is vital for a successful implementation of technology. In particular, the studies by Ely (1990, 1999) have shown that knowledge and skills have consistently been ranked as one of the most significant factors leading to implementation. As reported by Nawawi (2005), faculty members with improper knowledge and skills may be unwilling or discontinue to using a particular technology.

Meanwhile, the availability of time was also another condition perceived to have higher presence at the e-learning centres. This finding is not surprising because Choudrie and Dwivedi (2005) have also stated that planning for an online course obviously requires more preparation time than that of a traditionally taught class. The findings from this study are similar with the studies by Spotts (1999) and Ellsworth (1994), as cited in Nawawi (2005), who pointed that the time is needed by faculty members to learn about new technologies, experiment with and implement them, and also adapt and implement fresh capability to support the use of new instructional technology.

The findings also showed that rewards or incentives were the fourth most present at the e-learning centres. There exist both intrinsic and extrinsic types of motivations for the faculty members to use online

learning technology. The e-learning centres in Iranian universities provide financial incentives and professional opportunities for the faculty members to participate in the project involving the use of online learning technology. Thus, the findings of the study support Thompson (1986) and Lewis and Wall (1990), as cited in Nawawi (2005), that a pervasive obstacle to technology use may be the lack of faculty members' rewards or incentives.

The results from this study support the presence of participation at e-learning centres in Iranian universities. In this study, participation is defined as a shared decision-making process with communication between all parties involved. The finding showed that the majority of the faculty members (N=117, 53%) communicated their experiences in using online learning technology with other faculty members. The finding of this study is similar with that of Ely (1999) who has suggested that each person should feel that he or she has an input in decisions that directly affect his or her work in order to improve the chance for a more successful implementation.

The results of this study revealed that the condition related to availability of resources was perceived to have the lowest presence. This finding is similar to that of Marovitz (1994) and Kajuna (2009) who highlighted the importance of the availability of resources for successful implementation. According to Ellsworth (1994), this condition should be evenly reachable to faculty members and students to acquire the learning objectives. Two

other conditions found to have low presence were commitment and leadership. Faculty members perceived that universities' leadership lacked commitment to the success of online learning technology at their universities. The lack of support given by the leaders includes not providing encouragement and serving as role models. This scenario may be due to other contributing factors among the universities' high-level leaderships towards the use of online learning technology in Iran (Masoumi, 2007).

CONCLUSION

Literature has demonstrated that online technology is beneficial to both learners and faculty members. However, the lack of conducive conditions may impede successful integration and implementation of technology, regardless how much has been invested in purchasing high-end and state-of-the-art technology. Thus, in order to ensure a more successful implementation of online technology, Iranian universities have to determine that leadership exists, garner commitment from every personnel and identify ways to make resources available and accessible.

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Comparing Teachers' Aspiration towards Change in Teaching and Learning and their Actual Classroom Practices

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ABSTRACT

This paper reports the findings of a study on teachers' aspiration towards change in their teaching and learning and their actual practices in the classroom in the Malaysian Secondary Schools. An instrument consisting of 24 items was used to measure the perception of the teachers on the aspiration and the actual implementation towards teaching and learning in the classrooms of these schools. Findings of the study indicate that the mean score of their actual teaching practices is 3.88 and a standard deviation of 0.52, which is higher as compared to the score on the teachers' aspiration towards change in teaching and learning, which obtained a mean of 3.13 and a standard deviation of 0.85. This study also reported that there are significant differences between the teachers' aspiration towards change and their actual classroom practices based on gender, age, ethnic, professional qualification and types of school. Despite these differences, the general attitude of the teachers in this study was found to be rather positive towards their teaching and learning practices in the classrooms.

Keywords: Teachers' aspiration, teaching and learning, teaching practice

INTRODUCTION

Teacher is an agent of change in education (Jeremy & Linda, 2005). Even though most

teachers have some kind of goals which they aspire to achieve in their teaching career, the aspiration of one teacher may not be the same as the aspiration of another. Aspiration, which is a strong desire and hope in accomplishing a certain aim, can be personally motivated. Larwood *et al.* (1995) supports this notion when he cites that the lack of adequate funding and resources in schools or classrooms can

be detrimental to teachers' aspirations (Totterdell, *et al.,* 2002). Meanwhile, Howe (2006) supports this view by pointing out that school cultures, which do not promote teamwork, sharing and mutual support and collaborative needs, may not enhance teachers' aspiration towards their teaching and learning.

Teachers' aspirations towards change in teaching and learning in this study are based on Tytler (2005). There are six elements supporting teachers' aspirations and their teaching and learning, namely: 1) A supportive and productive learning environment, 2) A learning environment which promotes independence, interdependence and self motivation, 3) A learning programme which reflects students' needs, backgrounds, perspectives and interests, 4) An environment which poses challenges to students, as well as supports and develops deep levels of thinking and application, 5) Assessment practices which are an integral part of teaching and learning, and 6) Learning which connects strongly with communities and practices beyond the classroom.

Changes in teaching and learning can also be defined as an internal process which involves several factors, namely, the school, outside communities, teachers' belief towards their actual teaching and learning and curriculum handed down by policy makers, teachers' awareness and experience of change processes that they anticipate and hope to implement. On this note, Goodson (2001) believes that positive changes in teaching and learning, which reflect that

change they aspire, can be materialized if all of the above factors are integrated and harmonized. This will create a social balance between the school culture and the community.

Teachers' demographic factor is an important aspect to be studied in order to identify their needs and desire towards change in their teaching and learning practices. Good and Weinstein (1986) support this view when they agree that teachers' aspirations and their expectations may be influenced by their ethnicity factor. However, Hoban (2000) believes that teaching and learning are also a dynamic relationship that changes with different students and contexts. This implies that changing one element in teaching and learning may result in changes in other aspects of the classroom, such as teaching strategies and assessments.

Goodson (2001) defines that the change process is attributed to internal and external factors. The internal factor that contributes to this process can be caused by teachers' personal background, teachers' belief and experiences, while the external factors can be attributed to outside forces such as changes in policies and curriculum. Good and Weinstein (1986) supports this view by asserting that an individual teacher's aspiration towards change in his/her teaching and learning is influenced by his/her own teaching experiences. The initial years of their new working experience can, to an extent, determine whether the teachers will remain in their profession and the kind of teachers they will eventually be. Fullan's

theory of educational change highlights the elements that are needed and the importance of a working relationship among teachers in implementing change. These elements are collegiality, open communications and trust and support which are closely interrelated (Fullan, 2001)

The implementation of the practices of teaching is also an important part of this paper, and the results of which will be subsequently discussed. Research on the practice of teaching has recently shifted from a focus on effective behaviours towards how teachers make sense of teaching and learning. Studies conducted by researchers on teaching have looked into the nature of teachers' knowledge, beliefs (Habsah *et al.,* 2006), perceptions and other such constructs in relation to learning to teach, teachers' classroom actions, and changes in practice (Richardson, 1994). Meanwhile, teachers' belief towards the salient aspects of the teaching and learning may or may not be congruent to their practices (Habsah *et al.,* 2006). However, Richardson (1994) contends that belief is an important contributing factor towards a teacher's action, which is based on reflective thinking, even though there are other contrasting views. This is due to the fact that teaching practice is governed by tradition and rules rather than by self-reflection on the teachers' actions (Martin, 2002).

According to Good and Weinstein (1986), the development and enhancement of educators' knowledge and the realization of educational innovations can be achieved if the gap between belief and practice is given serious consideration. A study by Habsah *et al.* (2006) has pointed out that teachers' belief, which is congruent with their practices, must be based on the teachers' professed belief or philosophy which underlies their pedagogical practices, belief of students' potential, inculcation of noble values and their belief towards their roles and contributions to school and society.

Teachers' practices are also influenced by manipulating the elements of instructional policy in educational reform (Cohen & Hill, 2000) and also by teachers' individual differences such as age, gender, teaching experience and subject areas. In his research, Howe (2006) found that teachers' age and gender had been measured as to how closely teachers supported and related interpersonally with students. The teaching experience is also a factor which influences classroom practice and has been linked to teachers' flexibility and confidence (Bransford *et al.,* 1999). On the same note, Cheung *et al.* (1996) state that years of teaching experiences by teachers should influence their teaching careers throughout the years. This implies that the longer the teachers are in the teaching profession, the better are their teaching practices compared to novice teachers. School location may also have an influence on teachers' aspiration. Teachers from urban schools are provided with better facilities compared to their rural counterparts. For instance, urban areas offer easier access to further education (Hedges, 2000). Given better facilities, teachers can be more motivated and aspired to improve their teaching.

Teachers' actual teaching and learning are also influenced by the school's culture. One of the ways to look into the influence of experience on teachers' knowledge is by comparing experienced teachers and novice teachers' teaching and learning (Beijaard *et al.*, 2000). However, there is always uncertainty and ambiguity in changing the teaching practices because teaching involves a complex and a dynamic relationship with students, other teachers, other schools, classroom, curriculum and context in general. Teachers' practices, in spite of their philosophical stance, are influenced by external demands, such as high stakes testing or district's academic standards policy (Edwards, D. and Mercer, 1987). Supporting this view is Fullan (1991), who concludes that teaching practice, which is dominated or mandated by those who are external to the setting such as administrators, policymakers and school district officers, can lead to a change that is not desired. In Malaysia, the policies of the school curriculum in this study are mandated by the policy makers from the Ministry of Education (MOE) and the Curriculum Development Centre (CDC).

Moore and Shaw (2000) believes in the importance of providing infrastructure to support teachers in coping with new ideas in the process of realizing educational change. In view of this point, Munby and Russell (1992) feel that the teachers must ascertain the needs, concerns and abilities of students and select teaching approaches and strategies accordingly, thus making teachers' learning a meaningful life-long and continuous

process. This point is further supported by Milner (2006), when he contends that qualified and experienced teachers tend to have more effective classroom management skills and are better able to handle the complexities of their teaching.

Teachers' classroom practices in this study are based on a study by Tytler (2005) which incorporated the elements earlier highlighted. In his study, Tytler (2005) highlights the fact that it is a matter of great concern for teachers to connect strongly students' learning with the community and practice beyond the classroom. Apart from this, he also agrees that the processes of teaching and learning should involve challenging strategies that encourage deep questioning, self-assessment and reflection among students (Hmelo & Ferrari, 1997).

STATEMENT OF THE PROBLEM

There has not been any research conducted on teacher aspiration towards change in teaching and learning in schools in Malaysia thus far. However, a related research on teachers' aspiration towards change had been conducted by Baharudin (2002) and the focus of his research is on teachers' aspiration towards the implementations of curriculum innovations in teacher training colleges. Hence, the significance and importance of this study is that the findings on teachers' aspiration, in particular, can be used to identify teachers' needs in order to bring about the desired change in education in the country. Besides this, it is hoped that this study can be used for teachers to reflect upon their current teaching and learning

practices in order to ensure that their aspired goals in the teaching and learning processes will be accomplished (Hoban, 2000).

OBJECTIVE OF THE STUDY

The objective of this study was to compare teachers' aspirations towards change in teaching and learning and their actual classroom practices, based on demographic factors, namely: gender, age, ethnic, professional qualification, school category and school location.

METHODOLOGY

This study compared teachers' perceived aspirations towards change and implementation or practices in teaching and learning based on their demographic background, namely, gender, age, ethnic, school location, school categories, academic qualification, professional qualification and teachers' experiences in teaching.

The research design used in this study is quantitative in nature, which involves the use of descriptive and inferential statistics.

In more specific, descriptive statistic was used to measure the distribution of the respondents' demographic background. Meanwhile, inferential statistic (t-test and one-way ANOVA) was employed to measure the comparison of two or more variables used in the study.

A total of 404 samples comprising 254 National Secondary School teachers (107 Cluster Secondary School Teachers and 43 Technical Secondary School teachers in Malaysia) were selected as the samples of study using the clustered sampling method. A set of questionnaire consisting of 24 items was used to measure the teachers' aspirations towards change in teaching and learning.

The six elements of the questionnaire, as stated in Tytler (2005), had been identified in Part 1 of this paper. The reliability of the items measuring teachers' aspiration and practices was determined using Cronbach's Alpha reliability coefficient. The reliability of the 24 items was found to be 0.971 and 0.934, respectively.

TABLE 1
A comparison of Teachers' Aspiration towards Change in Teaching and Learning and Their Teaching Practices Based on Gender

Gender	N	Mean	SD	df	t	Sig
Aspiration						
Male	43	2.86	0.95	402	2.03	0.04
Female	361	3.14	0.84			
Practices						
Male	43	3.92	0.53	402	0.54	0.58
Female	361	3.87	0.51			

**p<0.05

FINDINGS AND DISCUSSION

Based on the data presented in Table 1, teachers' aspiration towards change in teaching and learning based on gender shows that female teachers have a higher mean of 3.14 and an SD of 0.84 as compared to the male teachers with a mean of 2.86 and an SD of 0.95. There is a significant difference with regards to teacher aspirations towards change in teaching and learning between male and female teachers with $t = 1.84$, $P < 0.05$. The mean difference based on the gender is 0.28.

Based on the findings shown in Table 2 above, there is a significant difference in the teaching and learning practices of the teachers at the national secondary schools based on their age, with $t = 2.49$, $P < 0.05$.

As for teachers' aspirations towards change in their teaching and learning based on ethnicity, the findings showed that Chinese teachers have higher aspirations as compared to their other ethnic counterparts with a mean of 3.434 and a SD of 0.99. The results of the study also showed that there is a significant difference between

TABLE 2
A Comparison of Teachers' Aspiration towards Change in Teaching and Learning and Their Teaching Practices Based on Age

Gender	N	Mean	SD	df	t	Sig
Aspiration						
<30 years	87	3.01	0.89	390	1.26	0.21
≥30 years	305	3.14	0.83			
Practices						
<30years	87	3.76	0.56	390	2.14	0.03
≥30 years	305	3.89	0.48			

**p<0.05

TABLE 3
A Comparison of Teachers' Aspiration towards Change in Teaching and Learning and Their Teaching Practices Based on Ethnic

Ethnic	N	Mean	SD	df	t	Sig
Aspiration						
Malay	331	3.10	0.82	396	3.35	0.04
Chinese	40	3.43	1.00			
Indian	28	2.95	0.97			
Practices						
Malay	331	3.87	0.51	396	0.56	0.57
Chinese	40	3.94	0.58			
Indian	28	3.81	0.45			

**p< 0.05

the teachers' aspiration towards change in the teaching and learning based on their ethnicity, with F = 3.352, P < 0.05. In particular, the Chinese teachers were found to have higher aspirations compared to the Indian teachers, with a mean difference of 0.484 and significant at α = 0.05.

The results presented in Table 4 show that the teachers having DPM/DS with Education degrees have higher aspirations as compared to those with other professional qualifications, with a mean of 3.57 and a SD of 0.83, respectively. The results of the study also indicated that the teachers with teaching certificates have lower aspirations towards changes in the teaching and learning with a mean of 2.68 and a SD of 0.83 as compared to those with bachelor and diploma of education degrees.

There is a significant difference in the teachers' aspiration towards change in teaching and learning based on teachers' professional qualification. Teachers with DPM/ DS (with Education) have higher

aspirations compared to teachers who have Teaching Certificates with a mean difference of 0.896 and significant at α = 0.05. There is also a significant difference in the level of aspiration between teachers with Diploma in Education compared to teachers with Teaching Certificates, with a mean difference of 0.58 and significant at α = 0.05. The results also show that teachers with Bachelor in Education/ Bachelor of Education/ KPLI/ PKPG degrees have higher aspirations compared to teachers with Teaching Certification, with a mean difference of 0.452 and significant at α = 0.05.

The findings as in Table 5 show the different aspirations of teachers in the various school categories. Teachers in the Cluster Secondary Schools have higher aspiration compared to teachers in the National Secondary and Technical Secondary Schools. As presented in Table 6, the findings of the study show that there is a significant difference in terms of the

TABLE 4
A Comparison of Teachers' Aspiration towards Change in Teaching and Learning and Their Teaching Practices Based on Professional Qualification

Prof. Qualification	N	Mean	SD	df	F	Sig
Aspiration						
Teaching Cert.	45	2.67	0.83	387	6.39	0.00
DPM/ Dip. of Science with Educ.	16	3.50	0.85			
Dip.of Educ.	112	3.26	0.79			
Bac. of Educ./ KPLI/ PPLD/ KPG	218	3.13	0.85			
Practices						
Teaching Cert.	45	3.80	0.51	387	0.7	0.51
DPM/ Dip. of Science with Educ.	16	3.96	0.42			
Dip.of Educ.	112	3.92	0.51			
Bac. of Educ./ KPLI/ PPLD/ KPG	218	3.86	0.52			

TABLE 5
A Comparison of Teachers' Aspiration towards Change in Teaching and Learning and Their Teaching
Practice Based on School Categories

School Categories	N	Mean	SD	df	F	Sig
Aspiration						
Cluster	107	3.45	0.92	401	11.87	0.00
National	254	3.02	0.79			
Technical	43	2.86	0.89			
Practices						
Cluster	107	4.00	0.49	401	4.15	0.02
National	254	3.83	0.51			
Technical	43	3.81	0.54			

**p<0.05

TABLE 6
A Comparison of Teachers' Aspiration towards Change in Teaching and Learning and Their Teaching
Practice Based on School Location

School Location	N	Mean	SD	df	F	Sig
Aspiration						
Urban	184	3.23	0.94	402	2.32	0.02
Rural	220	3.02	0.77			
Practices						
Urban	184	3.91	0.52	402	1.30	0.72
Rural	220	3.84	0.50			

**p<0.05

teachers' actual teaching and learning practices between the teachers in the Cluster Secondary School and the teachers of the National Secondary Schools ($t = 2.790$, p <0.05).

School location is one of the variables studied in this research. Based on this variable, the results (shown in Table 6) reveal that teachers in the urban areas have a higher mean (mean = 3.23, SD = 0.94) as compared to those teaching in the rural areas (mean = 3.02, SD = 0.77). Meanwhile, teachers in the urban areas have higher aspirations to change their teaching and learning practices. The findings show that there is a significant difference between teachers in urban and rural areas, with $t = 2.316$ and p < 0.05. In particular, the mean difference of the teachers' aspirations towards change in teaching and learning is 0.21.

CONCLUSION

Based on the findings of the study, the results show that teachers' aspirations towards change in teaching and learning are

influenced by demographic factors, namely, school categories, school location, gender, ethnics and professional qualification. The results also reveal that there are no significant differences in the teachers' aspirations towards change in their practice of teaching and learning based on other demographic factors such as age, ethnic, academic qualification and teaching experiences. From this study, it can be concluded that age and teaching experience do not have any significant contribution towards teachers' aspiration. However, age contributes significantly towards teachers' actual classroom practices. This can be due to the fact that senior teachers actual classroom practice is better compared to the novice teachers teaching and learning process due to their long experiences in the profession. These findings are in congruent with Jacobs *et al.* (1998) who stated that age is a determinant factor of teaching and learning practices among teachers.

Based on ethnic factor, the results show that there is a significant difference in teachers' aspiration based on their ethnic. In more specific, the findings reveal that the Chinese teachers' aspiration is the highest compared to the teachers of other ethnic groups. However, when it comes to actual teaching and learning practices, the results indicate that there is no significant difference based on ethnic. This is probably attributed to the fact that teachers, regardless of their ethnic origin, are tied to the syllabus handed top-down in the Malaysian school context.

As for on the location of the schools, the results reveal that teachers from the urban schools have high aspirations towards change as compared to those from the rural schools. Nonetheless, in the same context of adopting and implementing a common syllabus and a centralized educational policy, their actual classroom practices show no significant difference. This also applies to teachers with various academic and professional qualifications.

Gender wise, the findings indicate that female teachers have higher aspirations in their need to change their teaching and learning practices compared to their male counterparts. This finding is congruent to the research by Foster (1993) which shows that the female teachers' needs and desire to change their current practices in the classroom are well-defined compared to the male teachers.

Teachers' age and their years of teaching experience were found to have no significant difference in terms of their aspirations, which can contribute towards their desired change in their actual teaching and learning. However, in terms of their teaching practices, there is a significant difference between them in terms of their age. Teachers who are less than 30 years of age have lower aspirations compared to those who are 30 years and above.

Based on professional qualification, teachers with teaching certificates have lower aspiration towards changes in their actual teaching practice compared to teachers with other qualifications. This can be attributed to the fact that these teachers, who are mostly forty years and above, are not open to changes and innovation.

On a similar note, Beijaard *et al.* (2000) found that novice teachers have greater aspirations towards implementing change in their teaching and learning practices than the senior teachers. This is reflected in the study by Watt and Richardson (2008) who states that beginning teachers based their professional engagement and career development aspirations as they relate to persistence and development in the teaching profession.

Based on the school categories, the findings of this study have shown that teachers in the Cluster Secondary Schools have higher means compared to those of the National and Technical Secondary Schools. This may due to the fact that the environment and management of these schools are not the same as that of the National and Technical Secondary Schools. In fact, the teaching and learning environments in the Cluster Secondary Schools are also different from those of the National and Technical Secondary Schools. This is evidenced in the *Pelan Induk Pembangunan Pendidikan* (Ministry of Education, 2009) pertaining to the documents on Cluster Schools in Malaysia.

The comparatively lower mean in the aspirations among the rural school teachers can be attributed to the fact that rural schools often have problems recruiting and retaining high-quality teaching staff (Holloway, 2001). Furthermore, many rural schools cannot provide effective professional development (Khattri, 1997) and rural school teachers are also often taxed with being "experts" in several subjects and

grade levels (Holloway, 2001). Hence, it is possible that teachers in the urban schools have higher aspiration compared to the rural school teachers and this is reflected in their teaching practices.

To conclude, the overall findings of this study on the teachers' aspiration towards change and their actual practices of teaching in the classroom have highlighted some important insights. Based on these findings, the teachers from the National Cluster Schools have higher aspirations towards changes and this is reflected in their actual teaching and learning practices as compared to those from other schools. The findings also show that novice teachers are more motivated than their senior counterparts, hence, for senior teachers, motivation and support should be sustained in order to contribute towards further improvement in the teaching profession.

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Guidelines for Authors

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Pertanika policy prohibits an author from submitting the same manuscript for concurrent consideration by two or more publications. It prohibits as well publication of any manuscript that has already been published either in whole or substantial part elsewhere. It also does not permit publication of manuscript that has been published in full in Proceedings. Please refer to Pertanika's **Code of Ethics** for full details.

Editorial process

Authors are notified on receipt of a manuscript and upon the editorial decision regarding publication.

Manuscript review: Manuscripts deemed suitable for publication are sent to the Editorial Board members and/or other reviewers. We encourage authors to suggest the names of possible reviewers. Notification of the editorial decision is usually provided within to eight to ten weeks from the receipt of manuscript. Publication of solicited manuscripts is not guaranteed. In most cases, manuscripts are accepted conditionally, pending an author's revision of the material.

Author approval: Authors are responsible for all statements in articles, including changes made by editors. The liaison author must be available for consultation with an editor of *The Journal* to answer questions during the editorial process and to approve the edited copy. Authors receive edited typescript (not galley proofs) for final approval. Changes **cannot** be made to the copy after the edited version has been approved.

Manuscript preparation

Pertanika accepts submission of mainly four types of manuscripts. Each manuscript is classified as **regular** or **original** articles, **short communications**, **reviews**, and proposals for **special issues**. Articles must be in **English** and they must be competently written and argued in clear and concise grammatical English. Acceptable English usage and syntax are expected. Do not use slang, jargon, or obscure abbreviations or phrasing. Metric measurement is preferred; equivalent English measurement may be included in parentheses. Always provide the complete form of an acronym/abbreviation the first time it is presented in the text. Contributors are strongly recommended to have the manuscript checked by a colleague with ample experience in writing English manuscripts or an English language editor.

Linguistically hopeless manuscripts will be rejected straightaway (e.g., when the language is so poor that one cannot be sure of what the authors really mean). This process, taken by authors before submission, will greatly facilitate reviewing, and thus publication if the content is acceptable.

The instructions for authors must be followed. Manuscripts not adhering to the instructions will be returned for revision without review. Authors should prepare manuscripts according to the guidelines of *Pertanika*.

1. Regular article

Definition: Full-length original empirical investigations, consisting of introduction, materials and methods, results and discussion, conclusions. Original work must provide references and an explanation on research findings that contain new and significant findings.

Size: Should not exceed 5000 words or 8-10 printed pages (excluding the abstract, references, tables and/or figures). One printed page is roughly equivalent to 3 type-written pages.

2. Short communications

Definition: Significant new information to readers of the Journal in a short but complete form. It is suitable for the publication of technical advance, bioinformatics or insightful findings of plant and animal development and function.

Size: Should not exceed 2000 words or 4 printed pages, is intended for rapid publication. They are not intended for publishing preliminary results or to be a reduced version of Regular Papers or Rapid Papers.

3. Review article

Definition: Critical evaluation of materials about current research that had already been published by organizing, integrating, and evaluating previously published materials. Re-analyses as meta-analysis and systemic reviews are encouraged. Review articles should aim to provide systemic overviews, evaluations and interpretations of research in a given field.

Size: Should not exceed 4000 words or 7-8 printed pages.

4. Special issues

Definition: Usually papers from research presented at a conference, seminar, congress or a symposium.

Size: Should not exceed 5000 words or 8-10 printed pages.

5. Others

Definition: Brief reports, case studies, comments, Letters to the Editor, and replies on previously published articles may be considered.

Size: Should not exceed 2000 words or up to 4 printed pages.

With few exceptions, original manuscripts should not exceed the recommended length of 6 printed pages (about 18 typed pages, double-spaced and in 12-point font, tables and figures included). Printing is expensive, and, for the Journal, postage doubles when an issue exceeds 80 pages. You can understand then that there is little room for flexibility.

Long articles reduce the Journal's possibility to accept other high-quality contributions because of its 80-page restriction. We would like to publish as many good studies as possible, not only a few lengthy ones. (And, who reads overly long articles anyway?) Therefore, in our competition, short and concise manuscripts have a definite advantage.

Format

The paper should be formatted in one column format with at least 4cm margins and 1.5 line spacing throughout. Authors are advised to use Times New Roman 12-point font. Be especially careful when you are inserting special characters, as those inserted in different fonts may be replaced by different characters when converted to PDF files. It is well known that 'μ' will be replaced by other characters when fonts such as 'Symbol' or 'Mincho' are used.

A maximum of eight keywords should be indicated below the abstract to describe the contents of the manuscript. Leave a blank line between each paragraph and between each entry in the list of bibliographic references. Tables should preferably be placed in the same electronic file as the text. Authors should consult a recent issue of the Journal for table layout.

Every page of the manuscript, including the title page, references, tables, etc. should be numbered. However, no reference should be made to page numbers in the text; if necessary, one may refer to sections. Underline words that should be in italics, and do not underline any other words.

We recommend that authors prepare the text as a **Microsoft Word** file.

1. Manuscripts in general should be organised in the following order:

   o **Page 1: Running title.** (Not to exceed 60 characters, counting letters and spaces). This page should **only** contain the running title of your paper. The running title is an abbreviated title used as the running head on every page of the manuscript.

     In addition, the **Subject areas m**ost relevant to the study must be indicated on this page. Select the appropriate subject areas from the Scope of the Journals provided in the Manuscript Submission Guide.

   o A **list** of n**umber of black and white / colour figures and tables** should also be indicated on this page. Figures submitted in color will be printed in colour. See "*5. Figures & Photographs"* for details.

   o **Page 2: Author(s) and Corresponding author information**. This page should contain the **full title** of your paper with name(s) of all the authors, institutions and corresponding author's name, institution and full address (Street address, telephone number (including extension), hand phone number, fax number and e-mail address) for editorial correspondence. The names of the authors **must** be abbreviated following the international naming convention. e.g. Salleh, A.B., Tan, S.G., or Sapuan, S.M.

     Authors' addresses. Multiple authors with different addresses must indicate their respective addresses separately by superscript numbers:

     George Swan[1] and Nayan Kanwal[2]
     [1]Department of Biology, Faculty of Science, Duke University, Durham, North Carolina, USA.
     [2]Office of the Deputy Vice Chancellor (R&I), Universiti Putra Malaysia, Serdang, Malaysia.

   o **Page 3**: This page should **repeat** the **full title** of your paper with only the **Abstract** (the abstract should be less than 250 words for a Regular Paper and up to 100 words for a Short Communication). **Keywords** must also be provided on this page (Not more than eight keywords in alphabetical order).

   o **Page 4 and subsequent pages**: This page should begin with the **Introduction** of your article and the rest of your paper should follow from page 5 onwards.

Abbreviations. Define alphabetically, other than abbreviations that can be used without definition. Words or phrases that are abbreviated in the introduction and following text should be written out in full the first time that they appear in the text, with each abbreviated form in parenthesis. Include the common name or scientific name, or both, of animal and plant materials.

Footnotes. Current addresses of authors if different from heading.

2. **Text.** Regular Papers should be prepared with the headings **Introduction**, **Materials and Methods**, **Results and Discussion, Conclusions** in this order. Short Communications should be prepared according to "*8. Short Communications.*" below.

3. **Tables.** All tables should be prepared in a form consistent with recent issues of *Pertanika* and should be numbered consecutively with Arabic numerals. Explanatory material should be given in the table legends and footnotes. Each table should be prepared on a separate page. (Note that when a manuscript is accepted for publication, tables must be submitted as data - .doc, .rtf, Excel or PowerPoint file- because tables submitted as image data cannot be edited for publication.)

4. **Equations and Formulae.** These must be set up clearly and should be typed triple spaced. Numbers identifying equations should be in square brackets and placed on the right margin of the text.

5. **Figures & Photographs.** Submit an original figure or photograph. Line drawings must be clear, with high black and white contrast. Each figure or photograph should be prepared on a separate sheet and numbered consecutively with Arabic numerals. Appropriate sized numbers, letters and symbols should be used, no smaller than 2 mm in size after reduction to single column width (85 mm), 1.5-column width (120 mm) or full 2-column width (175 mm). Failure to comply with these specifications will require new figures and delay in publication. For electronic figures, create your figures using applications that are capable of preparing high resolution TIFF files acceptable for publication. In general, we require **300 dpi or higher resolution for coloured and half-tone artwork** and **1200 dpi or higher for line drawings**.

For review, you may attach low-resolution figures, which are still clear enough for reviewing, to keep the file of the manuscript under 5 MB. Illustrations may be produced at extra cost in colour at the discretion of the Publisher; the author could be charged Malaysian Ringgit 50 for each colour page.

6. **References.** Literature citations in the text should be made by name(s) of author(s) and year. For references with more than two authors, the name of the first author followed by '*et al*.' should be used.

Swan and Kanwal (2007) reported that …
The results have been interpreted (Kanwal et al. 2009).

o   References should be listed in alphabetical order, by the authors' last names. For the same author, or for the same set of authors, references should be arranged chronologically. If there is more than one publication in the same year for the same author(s), the letters 'a', 'b', etc., should be added to the year.

o   When the authors are more than 11, list 5 authors and then et al.

o   Do not use indentations in typing References. Use one line of space to separate each reference. The name of the journal should be written in full. For example:

▪   Mellers, B. A. (2006a). Choice and the relative pleasure of consequences. *Psychological Bulletin, 126,* 910-924.
▪   Mellers, B. A. (2006b). Treatment for sexually abused children and adolescents. *American Psychologist, 55,* 1040-1049.
▪   Hawe, P. (2005). Capturing the meaning of "community" in community intervention evaluation: Some contributions from community psychology. *Health Promotion International, 9,*199-210.
▪   Braconier, H., & Ekholm, K. (2006). Swedish multinationals and competition from high and low wage location*. Review of International Economics, 8,* 448-461.

o   In case of citing an author(s) who has published more than one paper in the same year, the papers should be distinguished by addition of a small letter as shown above, e.g. Jalaludin (1997a); Jalaludin (1997b).

o   Unpublished data and personal communications should not be cited as literature citations, but given in the text in parentheses. 'In press' articles that have been accepted for publication may be cited in References. Include in the citation the journal in which the 'in press' article will appear and the publication date, if a date is available.

7. **Examples of other reference citations**:

Monographs: Kalimapour, Y.R. (2004). *Images of the U.S. Around the World: A Multicultural Perspective*. Albany, NY: State University of New York Press.

Chapter in Book: Bjork, R. A. (2007). Retrieval inhibition as an adaptive mechanism in human memory. In H. L. Roediger III & F. I. M. Craik (Eds.), *Varieties of memory & consciousness* (pp. 309-330). Hull: Hull University Press.

o *Proceedings*: Amir Awang. (2006). Counseling, human resources development and counseling services. In Sulaiman M. Yassin, Yahya Mat Hassan, Kamariah Abu Bakar, Esah Munji and Sabariah Mohd. Rashid (Eds.), *Proceedings of Asia Pacific Conference on Human Development* (p. 243-246). Serdang: Universiti Putra Malaysia.

8. **Short Communications** should include **Introduction, Materials and Methods, Results and Discussion, Conclusions** in this order. Headings should only be inserted for Materials and Methods. The abstract should be up to 100 words, as stated above. Short Communications must be 5 printed pages or less, including all references, figures and tables. References should be less than 30. A 5 page paper is usually approximately 3000 words plus four figures or tables (if each figure or table is less than 1/4 page).

*Authors should state the total number of words (including the Abstract) in the cover letter. Manuscripts that do not fulfill these criteria will be rejected as Short Communications without review.

STYLE OF THE MANUSCRIPT

Manuscripts should follow the style of the latest version of the Publication Manual of the American Psychological Association (APA). The journal uses American or British spelling and authors may follow the latest edition of the Oxford Advanced Learner's Dictionary for British spellings.

SUBMISSION OF MANUSCRIPTS

All articles should be submitted electronically using the ScholarOne web-based system. ScholarOne, a Thomson Reuters product provides comprehensive workflow management systems for scholarly journals. For more information, go to our web page and click "**Online Submission**".

Alternatively, you may submit the electronic files (cover letter, manuscript, and the **Manuscript Submission Kit** comprising *Declaration* and *Referral* form) via email directly to the Executive Editor. If the files are too large to email, mail a CD containing the files. The **Manuscript Submission Guide** and **Submission Kit** are available from the *Pertanika*'s home page at http://www.pertanika.upm.edu.my/home.php or from the Executive Editor's office upon request.

All articles submitted to the journal **must comply** with these instructions. Failure to do so will result in return of the manuscript and possible delay in publication.

Please do **not** submit manuscripts to the editor-in-chief or to any other office directly. All manuscripts must be **submitted through the executive editor's office** to be properly acknowledged and rapidly processed at the address below:

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Office of the Deputy Vice Chancellor (R&I)
IDEA Tower II, UPM-MTDC Technology Centre
Universiti Putra Malaysia
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Malaysia

E-mail: executive_editor.pertanika@upm.my; tel: + 603-8947 1622
or visit our website at http://www.pertanika.upm.edu.my/php. for further information.

Authors should retain copies of submitted manuscripts and correspondence, as materials can not be returned. Authors are required to inform the Executive Editor of any change of address which occurs whilst their papers are in the process of publication.

Cover letter

All submissions must be accompanied by a cover letter detailing what you are submitting. Papers are accepted for publication in the journal on the understanding that the article is original and the content has not been published or submitted for publication elsewhere. This must be stated in the cover letter.

The cover letter must also contain an acknowledgement that all authors have contributed significantly, and that all authors are in agreement with the content of the manuscript.

The cover letter of the paper should contain (i) the title; (ii) the full names of the authors; (iii) the addresses of the institutions at which the work was carried out together with (iv) the full postal and email address, plus facsimile and telephone numbers of the author to whom correspondence about the manuscript should be sent. The present address of any author, if different from that where the work was carried out, should be supplied in a footnote.

As articles are double-blind reviewed, material that might identify authorship of the paper should be placed on a cover sheet.

Peer review

Pertanika follows a **double-blind peer-review** process. Peer reviewers are experts chosen by journal editors to provide written assessment of the **strengths** and **weaknesses** of written research, with the aim of improving the reporting of research and identifying the most appropriate and highest quality material for the journal.

In the peer-review process, three referees independently evaluate the scientific quality of the submitted manuscripts. Authors are encouraged to indicate in the **Referral form** using the **Manuscript Submission Kit** the names of three potential reviewers, but the editors will make the final choice. The editors are not, however, bound by these suggestions..

Manuscripts should be written so that they are intelligible to the professional reader who is not a specialist in the particular field. They should be written in a clear, concise, direct style. Where contributions are judged as acceptable for publication on the basis of content, the Editor reserves the right to modify the typescripts to eliminate ambiguity and repetition, and improve communication between author and reader. If extensive alterations are required, the manuscript will be returned to the author for revision.

The Journal's review process

What happens to a manuscript once it is submitted to *Pertanika*? Typically, there are seven steps to the editorial review process:

1. The executive editor and the editorial board examine the paper to determine whether it is appropriate for the journal and should be reviewed. If not appropriate, the manuscript is rejected outright and the author is informed.

2. The executive editor sends the article-identifying information having been removed, to three reviewers. Typically, one of these is from the Journal's editorial board. Others are specialists in the subject matter represented by the article. The executive editor asks them to complete the review in three weeks and encloses two forms: (a) referral form B and (b) reviewer's comment form along with reviewer's guidelines. Comments to authors are about the appropriateness and adequacy of the theoretical or conceptual framework, literature review, method, results and discussion, and conclusions. Reviewers often include suggestions for strengthening of the manuscript. Comments to the editor are in the nature of the significance of the work and its potential contribution to the literature.

3. The executive editor, in consultation with the editor-in-chief, examines the reviews and decides whether to reject the manuscript, invite the author(s) to revise and resubmit the manuscript, or seek additional reviews. Final acceptance or rejection rests with the Editorial Board, who reserves the right to refuse any material for publication. In rare instances, the manuscript is accepted with almost no revision. Almost without exception, reviewers' comments (to the author) are forwarded to the author. If a revision is indicated, the editor provides guidelines for attending to the reviewers' suggestions and perhaps additional advice about revising the manuscript.

4. The authors decide whether and how to address the reviewers' comments and criticisms and the editor's concerns. The authors submit a revised version of the paper to the executive editor along with specific information describing how they have answered' the concerns of the reviewers and the editor.

5. The executive editor sends the revised paper out for review. Typically, at least one of the original reviewers will be asked to examine the article.

6. When the reviewers have completed their work, the executive editor in consultation with the editorial board and the editor-in-chief examine their comments and decide whether the paper is ready to be published, needs another round of revisions, or should be rejected.

7. If the decision is to accept, the paper is sent to that Press and the article should appear in print in approximately three months. The Publisher ensures that the paper adheres to the correct style (in-text citations, the reference list, and tables are typical areas of concern, clarity, and grammar). The authors are asked to respond to any queries by the Publisher. Following these corrections, page proofs are mailed to the corresponding authors for their final approval. At this point, only essential changes are accepted. Finally, the article appears in the pages of the Journal and is posted on-line.

English language editing

Pertanika **emphasizes** on the linguistic accuracy of every manuscript published. Thus all authors are required to get their manuscripts edited by **professional English language editors**. Author(s) **must provide a certificate** confirming that their manuscripts have been adequately edited. A proof from a recognised editing service should be submitted together with the cover letter at the time of submitting a manuscript to Pertanika. **All costs will be borne by the author(s)**.

This step, taken by authors before submission, will greatly facilitate reviewing, and thus publication if the content is acceptable.

Author material archive policy

Authors who require the return of any submitted material that is rejected for publication in the journal should indicate on the cover letter. If no indication is given, that author's material should be returned, the Editorial Office will dispose of all hardcopy and electronic material.

Copyright

Authors publishing the Journal will be asked to sign a declaration form. In signing the form, it is assumed that authors have obtained permission to use any copyrighted or previously published material. All authors must read and agree to the conditions outlined in the form, and must sign the form or agree that the corresponding author can sign on their behalf. Articles cannot be published until a signed form has been received.

Lag time

A decision on acceptance or rejection of a manuscript is reached in 3 to 4 months (average 14 weeks). The elapsed time from submission to publication for the articles averages 5-6 months.

Hardcopies of the Journals and off prints

Under the Journal's open access initiative, authors can choose to download free material (via PDF link) from any of the journal issues from Pertanika's website. Under "Browse Journals" you will see a link entitled "Current Issues" or "Archives". Here you will get access to all back-issues from 1978 onwards.

The **corresponding author** for all articles will receive one complimentary hardcopy of the journal in which his/her articles is published. In addition, 20 off prints of the full text of their article will also be provided. Additional copies of the journals may be purchased by writing to the executive editor.
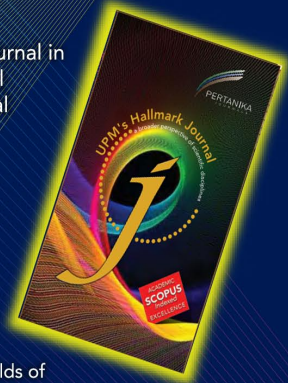
Pertanika

Our goal is to bring high quality research to the widest possible audience

Pertanika is an international peer-reviewed leading journal in Malaysia which began publication in 1978. The journal publishes in three different areas — Journal of Tropical Agricultural Science (JTAS); Journal of Science and Technology (JST); and Journal of Social Sciences and Humanities (JSSH).

JTAS is devoted to the publication of original papers that serves as a forum for practical approaches to improving quality in issues pertaining to tropical agricultural research or related fields of study. It is published four times a year in **February, May, August** and **November**.

JST caters for science and engineering research or related fields of study. It is published twice a year in **January** and **July**.

JSSH deals in research or theories in social sciences and humanities research with a focus on emerging issues pertaining to the social and behavioural sciences as well as the humanities, particularly in the Asia Pacific region. It is published four times a year in **March, June, September** and **December**.

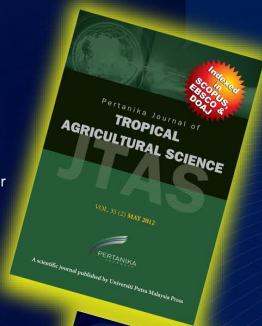## Why should you publish in *Pertanika* Journals?

Benefits to Authors

PROFILE: Our journals are circulated in large numbers all over Malaysia, and beyond in Southeast Asia. Recently, we have widened our circulation to other overseas countries as well. We will ensure that your work reaches the widest possible audience in print and online, through our wide publicity campaigns held frequently, and through our constantly developing electronic initiatives via *Pertanika* online submission system backed by Thomson Reuters.

QUALITY: Our journals' reputation for quality is unsurpassed ensuring that the originality, authority and accuracy of your work will be fully recognised. Each manuscript submitted to Pertanika undergoesa rigid **originality check**. Our double-blind peer refereeing procedures are fair and open, and we aim to help authors develop and improve their work. Pertanika JTAS is now over 33 years old; this accumulated knowledge has resulted in Pertanika being indexed in **SCOPUS** (Elsevier), **Thomson** (Biosis), **EBSCO**, **CABI**, **AGRICOLA**, **Google Scholar**, **MyAIS**, **ISC** and **ERA**.

AUTHOR SERVICES: We provide a rapid response service to all our authors, with dedicated support staff for each journal, and a point of contact throughout the refereeing and production processes. Our aim is to ensure that the production process is as smooth as possible, is borne out by the high number of authors who publish with us again and again.

LAG TIME: Submissions are guaranteed to receive a decision within **14 weeks**. The elapsed time from submission to publication for the articles averages 5-6 months. A decision of acceptance of a manuscript is reached in 3 to 4 months (average 14 weeks).

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Call for Papers

Pertanika invites you to explore frontiers from all fields of science and technology to social sciences and humanities. You may contribute your scientific work for publishing in UPM's hallmark journals either as a regular article, short communication, or a review article in our forthcoming issues. Papers submitted to this journal must contain original results and must not be submitted elsewhere while being evaluated for the *Pertanika* Journals.

Submissions in English should be accompanied by an abstract not exceeding 300 words. Your manuscript should be no more than 6,000 words or 10-12 printed pages, including notes and abstract. Submissions should conform to the *Pertanika* style, which is available at www.pertanika.upm.edu.my or by mail or email upon request.

Papers should be double-spaced 12 point type (Times New Roman fonts preferred). The first page should include the title of the article but no author information. Page 2 should repeat the title of the article together with the names and contact information of the corresponding author as well as all the other authors. Page 3 should contain the title of the paper and abstract only. Page 4 and subsequent pages to have the text - Acknowledgments - References - Tables - Legends to figures – Figures, etc.

Questions regarding submissions should only be directed to the Executive Editor, *Pertanika* Journals.

Remember, *Pertanika* is the resource to support you in strengthening research and research management capacity.

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