SELF-EFFICACY, LEARNING STRATEGIES, AND ACADEMIC ACHIEVEMENT AMONG MALAYSIAN FUTURE EDUCATORS

Lam Mei Yu & *Norlizah Che Hassan
*norlizah@upm.edu.my

ABSTRACT

This study is to identify the level of learning strategies among Malaysian future educators, examine the relationship between self-efficacy, learning strategies, and academic achievement, determine whether gender have significant difference in self-efficacy and learning strategies. There are 310 respondents and the sample is undergraduates from the Faculty of Educational Studies, UPM. The instrument employed is Motivated Strategies for Learning Questionnaires (MSLQ). Finding revealed that future educators adopted help seeking strategy the most (mean=5.40) and effort regulation strategy the least (mean=4.70), there is a significant positive relationship between self-efficacy and learning strategies (r=.652, DF=308, p<.01), self-efficacy and academic achievement (r=.125, DF=308, p<.05), learning strategies and academic achievement (r=.276, DF=308, p<.01), and as a whole gender does not have any significant differences in self-efficacy, t (308) = -0.180, p>.05 and learning strategies, t (308) = -1.294, p>.05.

Keywords: Academic achievement, gender, self-efficacy, learning strategies, undergraduates.

INTRODUCTION

Self-efficacy is one of the most essential factors that motivated students in maintaining their effort throughout the learning process. Self-efficacy is the beliefs that individual has regarding own capability to perform an action and accomplish the task magnificently (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003). Also, self-efficacy plays a significant role in enhancing learning motivation, facilitates self-regulation, forming ambitious learning goals and exhibits self-monitoring behavior (Valle, Nunez, Cabanach, Gonzalez-Pienda, Rodriguez, Rosario, Cerezo, & Munoz-Cadavid, 2008). Self-efficacy affects the academic performances of students in making decision, courses enrollment and how much effort being put on learning tasks (Pajares, 2002).

Students with high self-efficacy tend to actively utilize various cognitive and metacognitive learning strategies and also sensitive in control their motivational beliefs (Pintrich, 1999). Schunk and Zimmerman (2003) revealed that there is a reciprocal relationship between self-regulation ability and self-efficacy beliefs whereby the students tend to increase their self-regulation ability as they increase their self-efficacy beliefs and vice versa. Meanwhile, self-regulation means the ability to generate own thoughts, feelings and actions with proper planning and cyclically adapted to the environment that finally leads to the accomplishment of personal goals (Zimmerman, 2000). Pintrich (1999) viewed self-regulation activities as mediators between the learners, environment and academic achievement of the learners. According to social cognitive point of view, effective self-regulated hugely depends on students' self-efficacy to perform the learning tasks (Bandura, 1997).

Self-regulated learning is the strategies that utilized by students in regulating own cognition and managing the resources throughout the learning process. It is a multi-dimensional activity that takes into consideration of cognition, emotion, action and surroundings of the learners (Cheng, 2011). Self-regulated learning is a basic element of any major academic or human endeavor and is essential as when student progress to higher level in academic, the external support tends to decrease and at that moment, whether the student excel or not is dependent on the self-regulatory processes (Zimmerman, 2002). Self-regulated learning is important in the learning processes as the students have great control over own schedule and learning methods. In the self-regulated learning process, student is given the autonomy to manage, observe, guide and regulate own actions in order to achieve the goals of gaining knowledge, widen the expertise and improve oneself (Paris & Paris, 2001). The development and application of self-regulated learning skills among the students is largely affected by the beliefs of self-efficacy, the viewpoint regarding the subject and self-motivation (Darr & Fisher, 2004). Self-regulated learning strategies is self-initiated action that comprise set of learning goal and adjust the efforts to achieve the goal, self-monitoring which is widely known as meta-cognition, time management and also physical and social environment regulation (Zimmerman & Risemberg,

1997). In fact, both self-efficacy and learning strategies are essential in self-regulated learning (Zimmerman, Bonner, & Kovach, 1996).

Self-regulated learners are those who actively involved in time management, construct learning goals, utilize learning strategies, and monitor own cognition, motivation and behaviour aspects (Pintrich, 2004). The skillful self-regulated learners tend to generate extraordinary motivational beliefs in order to achieve the learning goals that being set. These students learn to concentrate on accomplishing the learning tasks despite of immediate impulses to surrender to attractive temptations (Bembenutty, 2008). The less skillful self-regulated learners are either not capable or not willing to generate appropriate self-efficacy beliefs, interest and task value which could enhance them to achieve the learning goals successfully. The accelerated pace of social, informational and technological change required individual to be self-regulate in learning for lifetime (Caprara, Fida, Vecchione, Bove, Vecchio, & Barbaranelli, 2008). Hence, current education aims to transform students to become an individual who are not merely gaining knowledge during school time but are capable to be lifelong learners (Organisation for Economic Co-operation and Development, 2003). Students can be train to become self-regulated learners and hence, enhance the academic achievement (Catnahalan, 2006). Empowering students with learning strategies is reflection of lifelong education which educates students the willpower to learn and the learning skills (Pintrich & de Groot, 1990).

Problem Statements

Many studies have been done on learning strategies of the students and showed that self-regulated learning is essential, as failure to self-regulate tends to be the core factor that leads to academic underachievement among the students from various academic levels (Schloemer & Brenan, 2006). A lot of students failed to fulfill university requirement due to lack of self-regulated learning skills **(**Rosario, Mourao, Nunez, Gonzalez-Pienda, Solano, & Valle, 2007). It is sad to know that a lot of students failed to see the value of learning in what they were supposed to learn (Pintrich, 1999). Besides that, some of the students did not feel competent enough to master the topic taught by teachers. In addition, there are also students who feel bored to engage in learning processes (Pekrun, Goetz, Titz, & Perry, 2002). Moreover, some students failed to utilize the learning strategies which are effective and get used of becoming passive learners since young age as majority of the activities in classroom do not provide opportunities for students to direct their own learning (Catnahalan, 2006). The learning process that merely involves transmission and recall of facts are not conducive for the development of self-regulation among the students. In Malaysia, it is a challenging process to educate students to become self-regulated learner as local education system seems to be teacher centred. Due to spoon-feeding by teachers since young age, majority of Malaysian students

tend to become passive learner (Malaysian Strategic Research Center, 1994). The students seem to depend on teachers instead of exploring the knowledge themselves. This phenomenon is not encouraging, the situation raised concern among the educators as numerous researches abroad showed that there is significant positive relationship between self-regulated learning and academic achievement. Also, researches showed that self-efficacy is positively correlated with academic achievement.

However, such research still limited in Malaysia as compared to overseas. There is also no previous research that focuses specifically on the relationship between self-efficacy, learning strategies and academic achievement among the future educators in Malaysia. This study aims to identify the level of learning strategies, determine the relationship between self-efficacy, learning strategies and academic achievement, and investigate the gender difference in self-efficacy and learning strategies among the future educators in Malaysia.

LITERATURE REVIEW

Valle et al. (2008) indicated that undergraduates in public university of Northern Spain tend to utilize organization strategy the most (mean score=3.74). The mean score for meta-cognitive self-regulation, time and study environment management, effort regulation and elaboration is 3.45, 3.45, 3.41 and 3.37 respectively. Besides that, Ahmed (2008) found that undergraduates at Al-Hussein Bin Talal University in Jordan seem to make use of meta-cognitive self-regulation strategy the most (mean score=4.21). The mean score for time and study environment management, peer learning, effort regulation and help seeking is 3.96, 3.60, 2.50 and 2.36 respectively.

Pintrich and De Groot (1990) indicated that self-efficacy seems to be positively related to the utilization of self-regulatory strategies and also strongly related to the academic achievement of students. Bembenutty (2010) found that there is significant positive correlation between self-efficacy and self-regulation (r=.40, p<.05) among the college students who enrolled in an introductory Mathematic course at a public technical college in New York City. DiBenedetto and Bembenutty (2011) revealed that self-efficacy is correlated with self-regulation (r =.63) among the college students who enrolled in Biology course at an urban college in New York. Furthermore, there is significant positive relationship between self-efficacy of distance education and self-regulation (r=.470, p<.01) among the undergraduate students of distance learning programme in Anadolu University (Ergul, 2004). Also, there is significant correlation between self-efficacy and self-regulation learning strategies among the undergraduate students at Al-Hussein Bin Talal University in Jordan (Ahmed, 2008). The previous study clearly showed that there is significant positive relationship between self-efficacy and learning strategies. The college and undergraduate students who have high level of self-efficacy seem to widely utilize the self-regulation learning strategies in the learning process.

Ergul (2004) signified that there is significant positive relationship between self-efficacy of distance education and academic achievement (r=.249, p<.01) among the undergraduates of distance learning programmes at Anadolu University. Lynch (2010) found that there is a significant relationship between self-efficacy and final grades among the undergraduates who studied Physics at a university in New England. Also, Radovan (2011) revealed that self-efficacy seem to positively affect the grade among the undergraduates at university (β =.147, p<.05). Moreover, Azlina (2007) indicated that lack of self–efficacy is one of the significant predictors for academic achievement (β=-0.17, p<.01) among the Electrical Engineering undergraduates at Malaysia University of Technology. Mousoulides and Philippou (2005) revealed that self-efficacy is a good predictor for Mathematics achievement among the Cypriot sophomore pre-service teachers. In addition, Ahmed (2008) pointed out that there is significant difference in self-efficacy (t=1.987, p=0.01) among the high and low achieving undergraduates at Al-Hussein Bin Talal University in Jordan. The undergraduates who have high academic achievement tend to have greater self-efficacy (mean=4.82, SD=1.31) compared to their counterpart who have low academic achievement (mean=3.34, SD=1.45). The past researches revealed that there is significant positive relationship between self–efficacy and academic achievement among the undergraduates and pre-service teachers.

Valle et al. (2008) implied that there is significant positive relationship between self-regulated learning and academic achievement among the undergraduates in public university in Northern Spain. Lynch (2010) revealed that elaboration, effort, critical thinking, meta-cognitive strategies and also time and study environment tend to have significant correlation with the final grades of undergraduates who studied Physics at a university in New England. Also, Radovan (2011) revealed that effort regulation tends to positively affect the course grade among the undergraduates in university. Azlina (2007) found that self-regulated learning explains 35.2% of the variance in CGPA (cumulative grade point average) among the Electrical Engineering undergraduates at Malaysia University of Technology. The resource management and meta-cognitive learning strategies are the significant predictors on academic achievement (β=0.40; β=0.28, p<.01). Bail, Zhang, and Tachiyama (2008) indicated that undergraduates who enrolled in self-regulated learning course have significantly higher academic achievement in four semesters after the course compared to control group.

However, Goodpasture, Lindner, and Thomas (2007) revealed that self-regulated learning is not significantly correlated with academic achievement among the undergraduates in historically black college or university (HBCU) in allied health majors. Also, Ergul (2004) found that there is no significant relationship between self-regulation and academic achievement among the undergraduates of distance learning programs in Anadolu University. It is important to note that although great amount of past studies indicated that there is significant positive relationship between self-regulated learning strategies

and academic achievement, there is also a minority of studies that found contradict result which is self-regulated learning is not significantly correlated with academic achievement among the undergraduates.

Caprara et al. (2008) revealed that self-regulatory efficacy level of Italian female students is higher than male students who are from two public junior high schools near to Rome. However, Lynch (2010) found that self-efficacy of male undergraduates is significantly higher compared to female undergraduates who enrolled in Physics course at a university in New England. In contrast, Ergul (2004) found that there is no significant gender difference in self-efficacy among the undergraduates of distance learning programme in Anadolu University. Yukselturk and Bulut (2009) also showed that there is no significant gender difference in self-efficacy among the students who enrolled in online Computer Programming course that offered by Middle East Technical University. Overall, the previous researches found conflicting results as some of the study showed that there is significant gender difference in self-efficacy while other study revealed that there is no significant gender difference in self-efficacy among the students and undergraduates.

The study on gender by DiBenedetto and Bembenutty (2011) found that female college students possess higher self-regulation (t=2.64, p<.05) compared to male students who enrolled in Biology at an urban college in New York. Ergul (2004) noticed that there is significant gender difference in self-regulation (Z=2.225, p<.05) among the undergraduates of distance learning programs in Anadolu University. The finding seems to favour female than male undergraduates. In contrast, Yukselturk and Bulut (2009) showed that there is no significant gender difference in self-regulated learning components among the students who enrolled in online Computer Programming course that offered by Middle East Technical University. Lynch (2010) also signified that there is no significant gender difference in elaboration, meta-cognitive, time-study environment and effort among the undergraduates who studied Physics course at a university in New England. In short, the previous studies gained inconsistent findings as some of the researchers indicated that there is significant gender difference in learning strategies while other researchers pointed out that there is no significant gender difference in learning strategies among the college students and undergraduates.

METHODS

This study employed cross-sectional quantitative survey design to investigate the relationship between self-efficacy, learning strategies and academic achievement among the future educators. The study was conducted at Faculty of Educational Studies, UPM. The data was collected during the academic year of second semester 2011/2012. The population was undergraduates of Faculty of Educational Studies, UPM. Out of 1279 people, 310 subjects were chosen to participate in the study.

Stratified sampling is adopted to reduce sampling error and to increase the precision without increasing the number of sample. Stratified sampling ensures that all strata which are undergraduates from Year 1 to Year 4 are represented equally. Stratified sampling is carried out to determine the ratio between the strata, ascertain the sample size, divide the amount of sample according to the initial ratio within the population and choose the sample using simple random sampling. Table 1 lists the number of students in each years of study and appropriate number of sample from each Years of Study.

Table 1: Number of students and appropriate number of sample from each Years of Study

Years of Study	Number of students	Sample
Year 1	323	78
Year 2	310	75
Year 3	362	88
Year 4	284	69

Cluster sampling is utilized to select sample from population. The clusters in the study are courses that offered based on years of study. The researcher randomly selected the clusters within a year of study and conducted the study on all samples in the chosen clusters. Table 2 lists the selected random clusters.

Table 2: Clusters that randomly selected

Years of Study	Clusters that being randomly chosen
Year 1	Physical Education Teaching English as a Second Language (TESL) Teaching Malay as a First Language (PBMP)
Year 2	Agriculture Science Guidance and Counselling
Year 3	Information Technology Physical Education
Year 4	Guidance and Counselling Teaching Malay as a First Language (PBMP)

Overall, the study consists of 88 (28.40%) male respondents and 222 (71.60%) female respondents. Out of 310 respondents, 78 respondents are in Year 1, 75 respondents are in Year 2, 88 respondents are in Year 3 and 69 of the respondents are in Year 4. Besides that, out of 310 respondents, 275 (88.70%) of the respondents are Malay, 18 **(**5.80%) of the respondents are Chinese, six (1.90%) of the respondents are Indian and 11 (3.50%) of the respondents rated own ethnicity as other.

The instrument used have been translated into Malay language and verified by two language experts. Informed consent is included in questionnaire. The academic achievement is measured based on the cumulative grade point average (CGPA). The instrument that utilized is Motivated Strategies for Learning Questionnaire (MSLQ). MSLQ is a self-report instrument developed by Pintrich, Smith, Garcia and Mc Keachie (1991). It aims to assess the motivational orientations and utilization of learning strategies among the college students.

The instrument comprised of Motivation Scale and Learning Strategies Scale. Learning Strategies Scale is utilized to assess self-regulated learning strategies of future educators. Learning Strategies Scale assesses the utilization of cognitive and meta-cognitive strategies, and concern about self-management of different resources. Table 3 lists the nine subscales of Learning Strategies.

Table 3: Learning Strategies Scale in MSLQ

Scale	Subscale
Learning Strategies	1. Cognitive and meta-cognitive Strategies
	a. Rehearsal
	b. Elaboration
	c. Organization
	d. Critical Thinking
	e. Meta cognitive Self-Regulation
	2. Resource Management Strategies
	a. Time and Study Environment
	b. Effort Regulation
	c. Peer Learning
	d. Help Seeking

MSLQ is a valid, reliable, efficient and convenient instrument for different types of research (Duncan & McKeachie, 2005). In the study, the instrument that translated into bilingual is validated by two language experts to confirm the validity of instrument. In the original validation study, Pintrich, Smith, Garcia, and McKeachie (1993) utilized the scores of 356 Midwestern college students to assess MSLQ survey. A pilot study was carried out to confirm that modified version of MSLQ is still considered as a reliable instrument. 30 undergraduate students participated in the pilot study. The results of pilot study showed that the instrument is reliable as all the alpha values are within the range of acceptable. The alpha coefficient for Self-Efficacy is .82, while the alpha coefficient for Learning Strategies is .83.

RESULTS AND DISCUSSION

The result of descriptive frequency showed that respondents seem to utilize more cognitive and meta-cognitive strategies compared to resource management strategies (Table 4). Sungur and Yerdelen (2011) also found that high school students utilize more cognitive and meta-cognitive strategies compared to resource management strategies. Pintrich (2004) proposed that one of the essential dimensions in self-regulated learning is in term of cognition. Cognition dimension is the mental process that utilized by students in encode, process or learn throughout the learning task. Mostly, students do apply the cognitive strategies in the learning process. The future educators learned about the cognitive strategies and meaningful learning throughout their degree course in education. Thus, they tend to practice the strategies acquired.

The respondents seem to make use of help seeking strategy the most and effort regulation strategy the least. Sungur and Yerdelen (2011) revealed that high school students seem to utilize effort regulation strategy the less (M=3.68). The future educators utilized help seeking strategy the most might be because since they were young, teachers and parents encourage students to seek help from others whenever they face difficulties in understanding certain topic. In addition, the future educators make use of effort regulation strategy the less might be because majority of them are easily distracted by stuff other than learning such as outing and face-booking during study time.

Table 4: Respondent level of learning strategies

Learning Strategies	Mean	Standard deviation
Cognitive and Meta-cognitive Strategies		
Rehearsal	5.154	.892
Elaboration	5.126	.870
Organization	5.180	.847
Critical Thinking	4.937	.750
Meta-cognitive Self-Regulation	5.001	.696
Resource Management Strategies		
Time and Study Environment Management	4.769	.785
Effort Regulation	4.698	.848
Peer Learning	5.053	.944
Help Seeking	5.404	.819

The results of Pearson correlation coefficients showed that there is a significant positive relationship between self-efficacy and learning strategies (r=.652, DF=308, p<.01) (Table 5). The magnitude of the relationship is large (Cohen, 1988). Regarding the subscales of learning strategies, finding revealed

that self-efficacy is positively correlated with all the nine subscales (Table 5). The magnitude of the relationship ranged from medium to large (Cohen, 1988). Bembenutty (2010), DiBenedetto and Bembenutty (2011), Ergul (2004) and Ahmed (2008) also showed that there is significant positive relationship between self-efficacy and learning strategies among the college students and undergraduates. According to Bandura (1986), self-efficacy which is the beliefs that individual has regarding own ability to perform a task is vital in sustains self-regulated learning among the students. Social cognitive theory stated that effective self-regulation mainly rely on self-efficacy of the students (Bandura, 1997). Zimmerman (2000) revealed that self-efficacy is a main component that influences all phases of self-regulation. Pintrich (1999) indicated that students with high self-efficacy seem to actively utilize various cognitive and meta-cognitive learning strategies in learning. The future educators who have high self-efficacy are more confident with their own ability to master certain topic effectively and thus, tend to confidently and actively utilize various learning strategies.

Table 5: Coefficients of relationship between self-efficacy and learning strategies

		Self-efficacy *(r)*
Learning Strategies	Pearson Correlation	.652**
	Sig. (2-tailed)	.000
Rehearsal	Pearson Correlation	.475**
	Sig. (2-tailed)	.000
Elaboration	Pearson Correlation	.588**
	Sig. (2-tailed)	.000
Organization	Pearson Correlation	.483**
	Sig. (2-tailed)	.000
Critical Thinking	Pearson Correlation	.507**
	Sig. (2-tailed)	.000
Meta-cognitive Self-Regulation	Pearson Correlation	.557**
	Sig. (2-tailed)	.000
Time and Study Environment Management	Pearson Correlation	.472**
	Sig. (2-tailed)	.000

		Self-efficacy *(r)*
Effort Regulation	Pearson Correlation	.402**
	Sig. (2-tailed)	.000
Peer Learning	Pearson Correlation	.448**
	Sig. (2-tailed)	.000
Help Seeking	Pearson Correlation	.568**
	Sig. (2-tailed)	.000

**. Correlation is significant at the 0.01 level (2-tailed)

The results of Pearson correlation coefficients showed that there is a significant positive relationship between self-efficacy and academic achievement (r=.125, DF=308, p<.05) (Table 6). The magnitude of the relationship is small (Cohen, 1988). Ergul (2004), Lynch (2010) and Radovan (2011) also showed that there is significant positive relationship between self-efficacy and academic achievement among the undergraduates. Azlina (2007) signified that lack of self–efficacy is one of the significant predictors on academic achievement among Electrical Engineering undergraduates at Malaysia University of Technology. Pintrich and De Groot (1990) signified that self-efficacy of the students tend to strongly related to their academic achievement. The future educators who have high self-efficacy are more confident on own ability to excel in study, tend to exert effort and study confidently, hence, score better in academic achievement.

Table 6: Coefficients of relationship between self-efficacy and academic achievement

Self-efficacy		Academic achievement *(r)*
	Pearson Correlation	.125*
	Sig. (2-tailed)	.028
	n	310

*. Correlation is significant at the 0.05 level (2-tailed)

The results of Pearson correlation showed that there is a significant positive relationship between learning strategies and academic achievement (r=.276, DF=308, p<.01) (Table 7). The magnitude of the relationship is small (Cohen, 1988). Valle and colleagues (2008), Heikkilaa and Lonkab (2006), Lynch (2010) and Azlina (2007) also indicated that there is significant positive relationship between learning strategies and academic achievement among the undergraduates. Bail, Zhang, and Tachiyama (2008) stated that undergraduates who enrolled in self-regulated learning course have significantly higher academic achievement after the course compared to control group. Bandura (1997) stated that self-regulated learning is a basic element of academic

endeavor. The cognitive strategies seem to efficiently enhance the academic achievement of the students (Pintrich & DeGroot, 1990). According to Zimmerman (2002), self-regulated learning is important as when the student progress to higher level, the external support tends to lessen and whether the student succeed or not is dependent on self-regulatory processes. The extensive usage of learning strategies is correlated with high academic achievement might be due to the utilization of various learning strategies that assists future educators to understand better on particular topic, hence, score higher in academic achievement.

Regarding the subscales of learning strategies, the finding revealed that rehearsal, elaboration, organization, critical thinking, meta-cognitive self-regulation, time and study environment management and effort regulation is positively correlated with academic achievement (Table 7). The magnitude of relationship is small (Cohen, 1988). Lynch (2010) showed that elaboration, effort, critical thinking, meta-cognitive strategies and time and study environment management has significant correlation with final grades of undergraduates who enrolled in Physics at a university in New England. Radovan (2011) also found that effort regulation is positively related to course grade among the undergraduates. However, peers learning and help seeking are not significantly correlated with academic achievement. Ahmed (2008) revealed that there is no significant difference in peer learning and help-seeking among the high and low achieving undergraduates at Al-Hussein Bin Talal University in Jordan. Despite of future educators are encouraged to form study group and seek help from external environment, however, individual is unique and for some, they seem to excel and learn better by doing revision on their own and master certain topic through self-understanding and self-exploration.

Table 7: Coefficients of relationship between learning strategies and academic achievement

			Academic achievement *(r)*
Learning Strategies	Pearson Correlation		.276**
	Sig. (2-tailed)	.000	
Rehearsal	Pearson Correlation		.129*
	Sig. (2-tailed)	.023	
Elaboration	Pearson Correlation		.196**
	Sig. (2-tailed)	.000	
Organization	Pearson Correlation		.270**
	Sig. (2-tailed)	.000	

			Academic achievement *(r)*
Critical Thinking	Pearson Correlation		.169**
	Sig. (2-tailed)	.003	
Meta-cognitive Self-Regulation	Pearson Correlation		.292**
	Sig. (2-tailed)	.000	
Time and Study Environment Management	Pearson Correlation		.262**
	Sig. (2-tailed)	.000	
Effort Regulation	Pearson Correlation		.287**
	Sig. (2-tailed)	.000	
Peer Learning	Pearson Correlation	.000	
	Sig. (2-tailed)	.996	
Help Seeking	Pearson Correlation	.083	
	Sig. (2-tailed)	.146	

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

The result of independent samples t-test indicated that there is no significant gender difference in self-efficacy. The mean score for male respondents is 5.45 and the standard deviation is 0.89 while the mean score for female respondents is 5.47 and the standard deviation is 0.86. The two-tail significance which is .857 indicates that p>.05 and, therefore, is not significant. Hence, there is no significant gender difference in self-efficacy, t (308) = -0.180, p>.05. Ergul (2004) and Yukselturk and Bulut (2009) imply that there is no significant gender difference in self-efficacy among the college and undergraduate students. The male and female future educators tend to have similar level of self-efficacy might be because of both gender seem to be treated equally since young, received the same education and mixed around in the school. Hence, they have equal beliefs regarding own ability to accomplish a learning task.

The result of independent samples t-test indicated that as a whole, there is no significant gender difference in learning strategies. The mean score for male respondents is 4.92 and the standard deviation is 0.65 while the mean score

for female respondents is 5.03 and the standard deviation is 0.61. The two-tail significance which is .197 indicates that p>.05 and, therefore, is not significant. Hence, as a whole, there is no significant gender difference in learning strategies, t (308) = -1.294, p>.05. Yukselturk and Bulut (2009) also showed that there is no significant gender differences self-regulated learning components among the students who enrolled in online Computer Programming course. The male and female future educators tend to have equal tendency of learning strategies might be because they are exposed to various learning strategies throughout the education course. Thus, they seem to practice the knowledge that they have learned, hence, have similar learning strategies.

There is significant gender difference in time and study environment management (p<.05) and effort regulation strategy (p<.01). For gender difference in time and study environment management, the mean score for male respondents is 4.62 and the standard deviation is 0.80 while the mean score for female respondents is 4.83 and the standard deviation is 0.77. The two-tail significance which is .038 indicates that p<.05 and, therefore, is significant. Hence, there is significant gender difference in time and study environment management, t (308) = -2.085, p<.05. For gender difference in effort regulation, the mean score for male respondents is 4.49 and the standard deviation is 0.85 while the mean score for female respondents is 4.78 and the standard deviation is 0.84. The two-tail significance which is .007 indicates that p<.01 and, therefore, is significant. Hence, there is significant gender difference in effort regulation, t (308) = -2.711, p<.01. The finding seems to favour female than male. This might be because female is trained to do house chores and take care of siblings since young, in which they learned to arrange their time effectively.

In term of theoretical significance, the study contributes to the body of knowledge by further confirming the relationship between self-efficacy, learning strategies and academic achievement among the undergraduates. The study also contributes to the body of knowledge in Malaysia as the researcher conducted the study among the undergraduates in local university. In term of practical significance, the Ministry of Education (MOE) will acknowledge the relationship between self-efficacy, self-regulated learning and academic achievement among the students in Malaysia. The MOE might instil and promote self-regulated learning among the students since young through the school curriculum.

CONCLUSION

The result showed that future educators seem to adopt more cognitive and meta-cognitive strategies compared to resource management strategies. There is significant positive relationship between self-efficacy, learning strategies and academic achievement. Gender does not have any significant differences in self-efficacy and learning strategies. However, gender have a significant difference

in time and study environment management and effort regulation strategy. The finding is based on responses made by future educators at UPM. Further studies shall be done using a wider sample of Malaysian students or future educator population in order to generalize the findings. Also, future research in Malaysia may investigate the impact of self-efficacy and learning strategies on academic achievement rather than merely determining relationship between the variables.

The institution of higher learning shall instil and promote self-regulated learning among the future educators through the courses offer. The learning setting needs to be more student-centred rather than teacher-centred. The role of lecturer is merely as facilitator that guides the future educators. Throughout teacher education training programme, the future educators need to set their own learning goals, involve in group discussions and complete the assignments which require critical analysis instead of merely convergent kinds of coursework. Also, the institution of higher learning may conduct campaigns which promote and enhance both self-efficacy and learning strategies among the future educators.

The future educators may learn to monitor and enhance the self-efficacy of oneself from time to time, set proper learning goals, regularly monitor own progress and wisely utilize the learning strategies throughout the learning process**.** They shall learn to be active learners who always actively participate in the learning process. They may also participate in workshops that enhance their self-efficacy and learning strategies or seek professional guidance from counsellor if they having difficulty to regulate themselves throughout the learning process. It is essential for the future educators to be self-regulated learners in order to be good role model and qualified to educate the young generation when they finish their studies and graduate.

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