

## SELF-REGULATED LEARNING AND MOTIVATION OF ISLAMIC STUDIES AND NON-ISLAMIC STUDIES STREAM STUDENTS

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### **Abstract**

*Self-regulated learning and motivation is important aspects of students' learning and academic performance in a classroom context. This study aims at investigating the differences in self-regulated learning and motivation between the Islamic and non-Islamic stream students; and examining relationships between self-regulated learning, motivation and academic performance. Eight hundred and twenty five universities students were involved in this study. A self-report measure of students metacognitive self-regulation, help seeking, organization, effort regulation, self-efficacy, intrinsic and extrinsic goal orientation, task value and test anxiety was administered, and academic performance data were obtained from students' cumulative grade point average (CGPA). The study uses a questionnaire as the information-gathering instrument. The questionnaire was based on the Motivated Strategies for Learning Questionnaire (MSLQ). T-test results indicated that students from Islamic studies background prefer using more strategies to score extrinsic goal orientation than non-Islamic studies students, and conversely, non-Islamic studies students practice metacognitive self-regulation strategies and organization strategies more than Islamic studies students did. Correlation analysis revealed that self-efficacy, intrinsic and extrinsic goal orientation, task value and test anxiety were positively related to metacognitive self-regulation, help seeking and organization. Regression analyses showed that test anxiety and intrinsic goal orientation appeared as the best predictors of academic performance.*

**Keywords:** *Self-Regulated Learning, Motivation, Islamic Studies, Non-Islamic Studies*

### **1. Introduction**

Approaches to learning are among the factors that may influence students' academic achievement and previous studies have found the variation in the ways in which students approach their learning. This study focuses mainly on self-regulated learning (SRL) and motivation strategy. Self-regulated students participate proactively in the learning process emotionally, motivationally and cognitively. These students have their self-activated intentions and self-directed efforts in order to gain knowledge and skills by using specific strategies (Nota, Soresi, and Zimmerman, 2004).

Pintrich, Smith, Garcia and McKeachie (1991) have come up with a manual on the use of the Motivated Strategies for Learning Questionnaire (MSLQ) which categorised self-regulated learning into two main strategies. The first one is cognitive and metacognitive strategies which include rehearsal, elaboration, organisation, critical thinking and metacognitive self-regulation. The second strategy is resource management strategies which include time and study environment, effort regulation, and peer learning and help seeking.

On the other hand, Zimmerman and Martinez-Pons (1986) identified 14 commonly used academic self-regulated learning strategies. The strategies include: self-evaluation, organising and transforming, goal setting and planning, seeking information, keeping record and monitoring, environmental structuring, self-consequences, rehearsing and memorising, seeking peer assistance, seeking teacher assistance, seeking adult assistance, reviewing tests, reviewing notes and reviewing texts. They used a structured interview called self-regulated learning interview schedule (SRLIS) in order to assess how these strategies are implemented.

Previous studies have shown that students who adopted a positive approach to learning and used effective learning strategies tended to have excellent learning experiences. This outcome suggests that students tend to develop their own potential and learn at their own pace, not to mention their positive lifelong learning skills and knowledge (Artlet, Baumert, Julius-McElvany and Peschar, 2003). According to Stipek (1996) and Brophy (1998), learning becomes more meaningful if students become aware of the learning processes and actions. Therefore, they will be more responsible, more effective, and more independent in performing their tasks.

Learning strategy solely is not enough to improve student achievement. Students should be motivated to use strategies, and organize cognitions and their efforts (Paris, Lipson and Wixson, 1983). Motivation is the internal power that drives individuals to act in order to satisfy their desire (Amstrong, 1995). The internal power can be triggered either by the individual himself or by the environment. In the context of learning and academic achievement, students must have a view about the capabilities, skills, and knowledge needed to complete the task of learning. As such, individuals with high motivation and high self-efficacies will develop high goals (Rohaty Mohd Majzub, 1998).

It is important for educators to facilitate and provide an effective teaching as well as learning environment that will support future learning and eventually a successful career. Previous researches have utilized different research methods to identify variation in students' learning strategies. A study on self-regulated learning by Mohamad Azrien Mohamed Adnan and Shukeri Mohamad (2008) discussed the theoretical framework of self-regulated learning for Arabic language students. Meanwhile, Mohamad Azrien Mohamed Adnan and Mohd Alwee Yusoff (2009) examined the relationship between motivation and self-regulated learning strategies among Islamic studies students. On the contrary, Sharifah Buniamin (2012) analysed non-Islamic students' approaches to learning. Thus, this study aims at filling the gap by comparing the learning strategies and motivation adopted by Islamic studies and non-Islamic studies students. The motivation of this study is to support students and educators in developing a good learning strategy. Hence, the study attempts to answer the following questions:

1. Are there any differences in SRL practices between Islamic and non-Islamic stream students?
2. Are there any differences in motivation factors between Islamic and non-Islamic stream students?
3. Is there any relationship between SRL practices and motivation for Islamic and non-Islamic stream students' academic performance?

## **2. Theoretical Framework**

### ***2.1 Learning strategies***

According to self-regulated learning theory, self-regulated learning is an integrated learning process, which occurs when individuals attempt to adjust the characteristics of their own behaviour, motivation, and cognition to best suit their own learning. Pintrich (1999) describes self-regulated learning as an active, constructive process whereby learners set goals for their learning plan actions and monitor, regulate and control their cognition, motivation and behaviour.

An important aspect of self-regulated learning theory is that students' learning and motivation are interdependent. Their learning strategy enables them to be self-aware, knowledgeable, and decisive in implementing their learning strategy. While in terms of motivation,

they possess high self-efficacy, self-attribution and intrinsic task interest. Their self-motivation is also evident in their continuing tendency to set higher learning goals for themselves when they achieve the earlier goals (Zimmerman, 1990). In that level, self-regulated learners are not only self-directed but are also self-motivated.

According to Pintrich et al.(1991), learning strategies can be classified into cognitive, metacognitive, and resource management strategies. The cognitive and metacognitive strategies can be further classified into metacognitive self-regulation, organization and peer learning. Paris et al. (1983) resolved that using self-regulated learning strategies promotes students' motivational beliefs.

Researchers define learning strategies in various ways. According to Weinstein and Mayer (1986), learning strategies are the involvement of students' behaviour and thought during learning activities which, in turn, affect the process of encoding information or skills into the memory. They cluster learning strategies according to their functions, such as cognitive strategies (rehearsal, description, and organising), metacognitive strategies (comprehension monitoring), and affective strategies (motivation). Zimmerman and Martinez-Pons (1990) stressed that learning strategies as an appropriate plan to achieve individual learning goals. The ability to plan requires the skill to control one's own learning which ultimately leads to the attainment of one's goals. O'Malley and Chamot (1990) viewed learning strategies as the special thoughts or behaviours that individuals use to help them comprehend, learn, or retain new information. Accordingly, Byrnes (1996) stated that learning strategies are a set of actions undertaken to achieve the target. In this case, Byrnes divides learning strategies into cognitive and cognitive-control strategies. A cognitive strategy involves cognitive information skills that will help students remember facts systematically; organise the facts or concepts into a clear, easy-to-understand structure; and integrate new knowledge on the basis of prior knowledge and daily experience. A cognitive-control strategy (metacognitive strategies) is a decision making process that determines which strategies should be used to achieve the goals; monitors the extent to which the implementation of the strategies towards the objectives are to be achieved; and reviews what steps have been applied, once the goals have been achieved.

## **2.2 Motivation**

The objectives of education are to help students to acquire knowledge and skills; and to encourage them to have a desire to succeed. Both of these objectives are related to motivation theory (Klausmeier and Ripple, 1971).

Motivation to learn is the tendency of individuals to perform academic activities meaningfully. Students who have high motivation to learn will make appropriate efforts to achieve their learning goals, and students who are motivated to learn will seek to understand a topic if they find the topic is interesting and fun. Motivation can be distinguished in value components (intrinsic goal orientation and extrinsic goal orientation), control belief (self-efficacy for learning and performance) and affective component (test anxiety).

Value components consist of goal orientation and task value. Identification of learning goals is an important element for students' success. Goal orientation is important in moving effort, increasing persistence and influencing efficacy through commitment. Goal orientation refers to the student's perception of the reasons why he or she is participating in a learning task. There are two types of orientation; intrinsic goal orientation and extrinsic goal orientation. Intrinsic goal orientation is students' inspiration to participate in a task from primarily internal reasons such as being curious, wanting to challenge, wanting to master the content. Whereas extrinsic goal orientation complements intrinsic goal orientation, and is caused by primarily external reasons such as getting good grade, competing with others, and seeking approval or rewards. Although these two categories of motivation have different goals, but learning based on the integration of intrinsic and extrinsic motivation will lead students to effective learning (Eggen & Kauchak, 2004).

Task value focuses on the student assessment on the importance of the task. It refers to the student's evaluation of how interesting, how important, and how useful the task is. According to Pintrich (1999), high task value leads to better learning involvement. Pintrich, Roeser and De Groot

(1994) proposed three key aspects of the task value, namely interest, utility and importance. Interest refers to the personal interests of students and their desire to study the materials. Utility aspect refers to the students' perception of how useful the learning materials are to them. Importance refers to the perception of students about the suitability of the course material to them. Higher task will produce motivated behaviour and the task was found to correlate with academic performance.

Self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Bandura (1997) states that 'perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the course of action required to manage prospective situations' (p. 2). Bandura (1994) pointed out four primary factors influencing students' self-efficacy. The first is the positive impact of the learning experience and the self-efficacy enhancement when students attain success. In contrast, the negative experience of frequent failure in a subject lowers their self-efficacy. The second factor that influences students' self-efficacy is when the students are the role models of their peers; they become more '*efficacious*' and try to do their best in any given task (Bandura, 1986; Kitsantas, Zimmerman, and Clearly, 2000). Third, praise and words of encouragement from teachers will positively stimulate students to continue studying, despite challenging tasks. Finally, psychological factors such as fatigue or a poor diet will reduce efficacy, and negative emotional states such as anxiety may also lessen efficacy. Eggen and Kauchak (2004) listed the influences of self-efficacy on student behaviours and cognitive development when the students are more confident in their ability to succeed and can anticipate their success: which expectations positively affect their motivation. Students who have high self-efficacy are more willing to accept a challenging task, work harder, have a calmer disposition despite experiencing failure in the beginning, practice effective learning strategies, and generally generate better performance than students who have low self-efficacy, even if they have the same abilities and skills.

Affective behaviour refers to the emotional response of a particular task. A common measure to see the emotional reaction is a measure of test anxiety. Test anxiety is a combination of physiological over-arousal, tension and somatic symptoms, along with worry, dread and fear of failure, that occurs before or during test situations (Zeidner, 1998). It is a physiological condition in which people experience extreme stress, anxiety, and discomfort during and or before taking a test. These responses can drastically hinder an individual's ability to perform well and negatively affects their social emotional and behavioural development and feelings about themselves and school (Salend, 2012). Pintrich and de Groot (1990) found that test anxiety has a negative relationship with academic achievement. Students who have lower level of performance might have higher levels of test anxiety.

### **3. Methodology**

#### **3.1 Sample**

Data were collected from the selected Malaysia Higher Learning Institution. The participants in this study were university students who enrolled in undergraduate bachelor programmes in Islamic studies and non-Islamic studies programmes. The study used a convenience sampling of 825 students from universities in Malaysia. This sampling technique is preferable because it is fast, inexpensive and the subjects are readily available.

#### **3.2 Procedure**

A questionnaire was administered in order to collect information on the students' motivation, learning strategies, and individual backgrounds. The questionnaires were pilot tested, and modified for the current study. A total of 60 students were involved in the pilot test. The questionnaire was adopted and adapted from the Motivated Strategies for Learning Questionnaires (MSLQ) originally developed by Pintrich et al. (1991). This instrument was one of the most frequently used (see for

example (Easton and McColl, 1997; Gay, Mills, and Airasian, 2006). Each item was measured on a seven-point Likert scale, ranging from not at all true of me (= 1) to very true of me (= 7).

The questionnaire is divided into three parts. The first part involves the background of the respondents. This part of the questionnaire uses a nominal scale. Respondents are needed to specify their gender, ethnicity, home town, income of family, place of study, year of study, and latest result (Cumulative Grade Point Average = CGPA). The second part concerns with students' motivation and contained 23 statements of motivational items, representing five dimensions, namely intrinsic goal orientation, extrinsic goal orientation, task value, self-efficacy and test anxiety.

The last section concerns the students learning strategies, and it contains 23 statements of learning strategies items representing four dimensions, namely metacognitive self-regulation, help seeking, organization and effort regulation.

### 3.3 Data Collection and Analysis

The questionnaire was administered to university students by the lecturers during a regular class period. Subjects were provided with full instruction regarding the procedures of administration. The students were informed that there were no right or wrong answers to any question, that their confidentiality was secured, and that their response would be used solely for research purposes. The subjects were also informed that their participation was on voluntary basis and it would not affect their grades.

Quantitative data analysis was used in this study. Quantitative analysis involved both descriptive, as well as inferential statistics. Descriptive statistics (frequency) were used to analyse the background of the respondents, whereas inferential statistics, including t-test, Pearson's correlation and multiple regression analysis were used to determine any variation in variables. T-test was conducted to investigate the differences in motivation and learning strategies between Islamic studies and non-Islamic studies students, whereas Pearson's correlation was conducted to examine the relationships between students' motivation and learning strategies. Regression analysis was conducted to test the effects of the strategy employed and motivation on students' grades.

### 3.4 Initial Factorial Analysis

This study used Principle Component Analysis with varimax rotation to identify the elements or factors which may exist in the study that may affect students' performance. Principle Component Analysis is a data reduction technique used to identify the major dimensions underlying a number of variations in the participants' responses. Two statistical methods were used to test the appropriateness of the factor model; Barlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO). If the Barlett's test of sphericity was significant and KMO provide great value, which is greater than 0.5, then the factor analysis is appropriate to be used in this study (Malhotra, 1996). The result is shown in Table 1.

**Table 1** KMO and Bartlett's Test for Motivation and Self-Regulated Learning (SRL)

	Motivation	SRL
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.890	.920
Approx. Chi-Square	7702.911	6562.809
Bartlett's Test of Sphericity	df	253
	Sig.	.000

The results from the Bartlett's test of Sphericity shows statistically significant correlation among items, where  $\chi^2(253) = 7703$ ,  $p < .001$  for motivation and  $\chi^2(253) = 6563$ ,  $p < .001$  for self-regulated learning. Kaiser-Meyer-Olkin Measure of Sampling Adequacy also shows a great value,

(0.890 for motivation and 0.920 for self-regulated learning) which is greater than 0.7. These results suggest that a factor analysis is appropriate and the sample size is sufficient for meaningful factorability (Pett, Lackey, & Sullivan, 2003).

### **3.5 Factor Structure of Motivation and SRL**

Five factors are obtained from motivation dimension and four factors are from SRL dimension. Each of the nine factors had eigenvalues greater than 1. The five factors of motivation dimension accounted for 60.42 percent of the total variance explained and four factors of SRL accounted for 51.66 percent of the total variance explained. The nine factors from two dimensions and their factor loadings are detailed in Appendix. The factors were reviewed while the properties reflected were named by the loaded items. These consisted of the following:

#### **3.5.1 Motivation Dimension (five factors)**

Factor 1 has high coefficients with variables v13, v14, v12, v19 and v20, and represents *extrinsic goal orientation*. Factor 2 consists of variables v18, v17, v4, v8 and v16, and represents *self-efficacy strategy*. Factor 3 signifies *test anxiety* that consists of six variables (v7, v3, v23, v22, v11 and v21). Factor 4 entails variables v9, v10, v1, and represents *intrinsic goal orientation*. Factor 5 represents *task value* and consists of variables v5, v6, and v2.

#### **3.5.2 Self-Regulated Learning Dimensions (four factors)**

Factor 1 has high coefficients with variables v18, v12, v11, v17, v15, v19, v14, v13, v22, and v20, and represents *Metacognitive self-regulation*. Factor 2 contains variables v6, v4, v5, v1, and v2, and represents *help seeking*. Factor 3 represents *organization* and consists of variables v9, v10, v7 and v3. Factor 4 involves variables v23, v8, v16 and v21 and represents *effort regulation*.

### **3.6 Reliability**

On the basis of the study sample, the coefficient alpha reliability estimates for motivation dimensions were as follows: Extrinsic goal orientation = .827, self-efficacy = .850, test anxiety = .783, Intrinsic goal orientation = .670 and task value = .772. The coefficient alpha reliability estimates for learning strategies were the following: metacognitive self-regulation = .871, help seeking = .782, organization = .728 and effort regulation = .615. According to Hair, Black, Babin and Anderson (2010), the generally agreed upon lower limit for Cronbach's alpha is 0.70, although it may decrease to 0.60 in an exploratory research. Therefore, there is a high consistency among respondents in this study in answering the questionnaires.

## **4. Results**

### **4.1 Demographic Information**

The respondents who participated in this study consist of 263 male (31.2%) and 580 female (68.8%). Of the 825 respondents, 21.4 percent are from Universiti Kebangsaan Malaysia (UKM), 32.6 percent are from Kolej Universiti Islam Selangor (KUIS), 19.9 percent are from Universiti Tenaga Nasional (UNITEN) and 26.1 percent are from Universiti Sultan Zainal Abidin (UNISZA). The respondents were from rural (43.5 %) and urban areas (56.5%). In addition, 56.4 percent of the respondents are from Islamic studies while 43.6 percent are from non-Islamic studies.

#### 4.2 The differences between Islamic and non-Islamic stream students on Self-Regulated Learning practices

An independent sample t-test was employed to assess the difference in the mean of metacognition self-regulation strategies, help seeking strategies, organization strategies and effort regulation strategies. Table 2 shows the differences between Islamic studies and non-Islamic studies stream students in learning strategies. The t-test result indicated that there were significant differences between the non-Islamic studies students and Islamic studies students in the metacognition self-regulation,  $t(df = 823) = -3.421$ ,  $p < .01$  and organization,  $t(df = 823) = -8.272$ ,  $p < .01$ . The mean values indicate that non-Islamic studies students practice metacognitive self-regulation strategies ( $M = 5.3880$ ) and organization strategies ( $M = 4.8563$ ) more than Islamic studies students. The results also revealed that there were no statistically differences between the non-Islamic studies students and Islamic studies students in the help seeking strategies  $t(df = 823) = -1.698$ ,  $p > .01$  and effort regulation strategies  $t(df = 823) = -1.672$ ,  $p > .01$ .

**Table 2** Mean and Standard Deviation (SD) across the Self-Regulated Learning Dimension

Variables	Islamic Studies (N=465)		Non-Islamic Studies (N=360)		t	sig
	Mean	SD	Mean	SD		
Metacognition	5.1847	.85991	5.3880	.82854	-3.421	.001
Help seeking	5.1849	.95486	5.2975	.93037	-1.698	.090
Organization	4.2462	1.12326	4.8563	.99055	-8.272	.000
Effort Regulation	4.3602	1.04792	4.4813	1.00961	-1.672	.095

#### 4.3 Differences between Islamic studies and non-Islamic studies stream students on motivation

An independent sample t-test was performed to compare the difference in the mean of the task value, intrinsic goal orientation, test anxiety, self-efficacy and extrinsic goal orientation. Table 3 presents the differences in the mean score of motivation dimension between Islamic studies and non-Islamic studies stream students. The results of the independent sample t-test illustrated that out of five constructs of motivation, there was only one construct of extrinsic goal orientation that has a statistically significant difference between the Islamic studies stream students ( $M=5.9329$ ,  $SD=.98215$ ) and non-Islamic studies stream students ( $M=5.7739$ ,  $SD=.89286$ );  $t(737) = 2.399$ ;  $p < .05$ ). The results also indicated that students from Islamic studies background prefer using more strategies to score extrinsic goal orientation than non-Islamic studies students. The other four constructs did not appear to differ significantly in their learning motivation.

**Table 3** Mean and Standard Deviation (SD) across the Motivation Dimension

Variables	Islamic Studies (N=465)		Non-Islamic Studies (N=360)		t	sig
	Mean	SD	Mean	SD		
Task Value	5.7935	.97694	5.7287	.88778	.984	.326
Intrinsic Goal Orientation	4.8100	1.09597	4.8630	1.09685	-.688	.492
Test Anxiety	4.4749	1.12507	4.3644	1.17168	1.375	.170
Self-Efficacy	4.9803	.90967	4.9625	.99039	.265	.791
Extrinsic Goal Orientation	5.9329	.98215	5.7739	.89286	2.399	.017

#### 4.4 Relationship between self-regulated learning practices, motivation and students' academic performance

Table 4 shows the correlation matrix of the nine variables: four for learning strategy subscales and five for motivation subscales. As shown in the table, metacognitive self-regulation strategy was positively correlated with help seeking strategy ( $r=.689$ ,  $p<.01$ ), organization strategy ( $r=.588$ ,  $p<.01$ ), and effort regulation strategy ( $r=.173$ ,  $p<.01$ ), and students who had a better help seeking strategy, would have better organization ( $r=.562$ ,  $p<.01$ ) and effort regulation strategies ( $r=.080$ ,  $p<.05$ ). Organization strategy was significantly correlated with effort regulation strategy ( $r = .174$ ,  $p<.01$ ). Task value strategy was positively correlated with metacognitive self-regulation ( $r=.512$ ,  $p<.01$ ), help seeking ( $r=.430$ ,  $p<.01$ ) and organization strategy ( $r=.207$ ,  $p<.01$ ). Students who have intrinsic goal orientation seemed to have more self-regulation in metacognitive ( $r=.408$ ,  $p<.01$ ), help seeking ( $r=.393$ ,  $p<.01$ ) and organization strategy ( $r = .303$ ,  $p<.01$ ). The data also showed that test anxiety strategy was significantly positively correlated with metacognitive self-regulation ( $r=.153$ ,  $p<.01$ ), help seeking ( $r=.136$ ,  $p<.01$ ), organization ( $r=.139$ ,  $p<.01$ ), extrinsic goal orientation ( $r=.140$ ,  $p<.01$ ) and effort regulation ( $r=.487$ ,  $p<.01$ ).

Students who have a high level of self-efficacy, have a high level of metacognitive self-regulation ( $r=.573$ ,  $p<.01$ ), seek help from peer and expert ( $r=.529$ ,  $p<.01$ ), organize their study effectively ( $r=.465$ ,  $p<.01$ ), and have high intrinsic goal orientation ( $r=.532$ ,  $p<.01$ ). The data also showed that extrinsic goal orientation factor had a significant correlation with all variations except effort regulation strategy; however, the level of significant correlation was moderate. Overall, the study found that all the variables of learning strategies had a positive relationship with motivation variables. The value shown for the nine variables is between 0.080 to 0.689,  $p < 0.05$ . This shows that the motivation of university students in Peninsular Malaysia had a strong positive relationship with their learning strategies. The result is consistent with the findings of studies by other researchers (O'Malley and Chamot, 1990).

**Table 4** Relationship between Self-Regulated Learning and Motivation

V	M	HS	O	ER	EGO	SE	TA	IGO	TV
M	1	.689**	.588**	.173**	.532**	.573**	.153**	.408**	.512**
HS	.689**	1	.562**	.080*	.453**	.529**	.136**	.393**	.430**
O	.588**	.562**	1	.174**	.190**	.465**	.139**	.303**	.207**
ER	.173**	.080*	.174**	1	.049	.045	.487**	.056	-.020
EGO	.532**	.453**	.190**	.049	1	.489**	.140**	.339**	.623**
SE	.573**	.529**	.465**	.045	.489**	1	.091**	.532**	.564**
TA	.153**	.136**	.139**	.487**	.140**	.091**	1	.107**	.023
IGO	.408**	.393**	.303**	.056	.339**	.532**	.107**	1	.422**
TV	.512**	.430**	.207**	-.020	.623**	.564**	.023	.422**	1

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

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

V: Variable, M: Metacognitive, HS: Help Seeking, O: Organization, ER: Effort Regulation, EGO: Extrinsic Goal Orientation, SE: Self-Efficacy, TA: Test Anxiety, IGO: Intrinsic Goal Orientation, TV: Task Value

The correlation coefficient is a popular inferential statistic used by researchers to see the relationship between variables but the correlation coefficient does not show how much the independent variable can predict the dependent variables. Hence, a multiple regression analysis was used as the second step of the analysis to further investigate the relationship between learning strategies and motivation. The learning strategies constructs and motivation constructs were used as the independent variables, and the students' performance was treated as the dependent variable. In

order to explain the role of gender and hometown in affecting learning strategies and motivation on students' performance, those three variables were used as the moderator variables in the regression analysis.

Before fitting the multiple regression models, a multicollinearity test was conducted to examine the correlation between those variables. The test revealed that there is no significant correlation between them. When the predictor variables are correlated among themselves, the unique contribution of each predictor variable is difficult to assess. This is because of the overlapped or shared variance between the predictor variables, i.e., they are multicollinear. For this model, both of the "tolerance" values (greater than 0.10) and the "VIF" values (less than 10) are all quite acceptable. Thus, multicollinearity does not seem to be a problem for this model.

The results (in Table 5) show that the  $r$  value is 0.181, which is quite low. The obtained  $r^2$  was 0.033 [ $F(11,813) = 6.652, p < 0.05$ ], showing that 3.5 percent of the observed variability in academic performance was explained by the set of independent variables, were included in the regression model.

In order to determine which factors contribute to the prediction of academic performance, the standardised regression coefficients or beta weights ( $\beta$ ) were examined. 'Standardised' means that the values for the different variables have been converted to the same scale so that they can be compared. It revealed that the relative predictive power of each variable independently after the contributions of all other variables in the model was controlled.

**Table 5** Standardised beta coefficient of predictors of academic performance

Model	<b>B</b>	<b>SE B</b>	$\beta$	t	Sig.
(Constant)	2.149	.318		6.748	.000
Task Value	-.023	.055	-.021	-.416	.677
Test Anxiety	-.093	.040	-.097	-2.347	.019
Intrinsic Goal Orientation	.094	.037	.103	2.560	.011
Self-Efficacy	.086	.057	.077	1.505	.133
Extrinsic Goal Orientation	.039	.054	.035	.724	.469
Metacognition	-.137	.071	-.111	-1.946	.052
help seeking	.037	.057	.033	.650	.516
Organization	.046	.045	.049	1.038	.299
Effort Regulation	.036	.041	.035	.869	.385
gender	.106	.080	.047	1.327	.185
hometown	.119	.074	.056	1.611	.108

Dependent Variable: Academic Performance

$r=0.181, r^2=0.033, \Delta r^2=0.020, F(11,813) = 6.652, p<0.05$

Table 5 shows that the largest beta weight, 0.103, was recorded for intrinsic goal orientation. The predictive power for this variable was significant at the alpha value of 0.05. This means that intrinsic goal orientation had a contribution in explaining students' academic performance, when the variance explained by all other variables in the model was controlled for.

The second strongest predictor of students' academic performance is test anxiety, where  $p<0.05$ , the beta weight for learning challenges was -.097, after other independent variables in the regression model were statistically controlled.

Regression analysis on academic performance revealed that the significant predictors were test anxiety ( $r = -.136, p < .005$ ) and intrinsic goal orientation ( $r = .108, p < .005$ ).

Using the unstandardized coefficients, labelled as B in Table 5, a regression equation was produced. This equation consists of the constant, intrinsic goal orientation, test anxiety and a residual value.

$$\text{Academic performance} = 2.149 + 0.094(\text{IGO}) - 0.093 (\text{TA}) + e$$

Where;

- 2.149 = Constants
- IGO = Intrinsic Goal Orientation
- TA = Test Anxiety
- e = Residual

Based on the unstandardized B coefficients for each independent variable (Table 5), students' academic performance can be predicted. In detail, students' academic performance are expected to improve by 0.094 units with every one-unit increase in intrinsic goal orientation scores,  $t(813) = 2.560, p < 0.05$ . The improvement in this aspect may bring considerable positive changes to students' academic performance. The result on test anxiety was interesting. When the level of test anxiety is low, there is a predicted increase in academic performance by 0.093 units,  $t(813) = -2.347, p < 0.05$ . This findings is in line with the previous research (Chapell et al., 2005; Pintrich and De Groot, 1990). Test anxiety is a very common phenomenon among many students. They may feel a certain level of pressure due to their expectations and also their family expectations. According to Donnelly (2009), an average level of anxiety is possible and useful in helping students to be more hardworking and responsible of what they have to do.

## 5. Discussion

The main objective of this study is to examine the differences in learning strategy and motivation between Islamic studies and non-Islamic studies stream students. The study reveals that there is a significant difference in the metacognition self-regulation and organization between Islamic studies and non-Islamic studies stream students. The findings also directed that non-Islamic students score higher than Islamic studies students in all SRL strategies especially in metacognition self-regulation and organization. The possible explanation is because of the sample selected in this study. The majority of the respondents of non-Islamic studies are from accounting and engineering students. The nature of the accounting and engineering programmes which are classified as a professional field are structured according to the professional bodies such as Malaysian Institute of Accountants (MIA), Associations of Chartered Certified Accountants (ACCA), Board of Engineers Malaysia (BEM) and Institution of Engineers Malaysia (IEM). The structure of accounting and engineering programmes are more stringent compared to the Islamic studies programme. Moreover, the strategy of organising is designed to help students and it is proven to be more effective in learning technical subjects (Nota et al., 2004). Lucas and Meyer (2005) identified several causes as being potentially important in learning non-Islamic studies programmes. For example, the nature of accounting and engineering subjects as they involve mathematic, numbers, technique and formulae. These differences in both programs might influence the students' learning strategies.

The study also found a significant difference in extrinsic goal orientation between Islamic studies and non-Islamic studies stream students. The Islamic studies students scored higher than the non-Islamic studies students. This may be explained by the nature of the Islamic studies programmes. Generally, students from Islamic studies love to do something that will bring benefits to him and other people. For example, they usually give speech about the Islamic program to other people for the sake of reward for the hereafter.

Moreover, result of correlation shows that self-efficacy was significantly positively correlated with metacognitive self-regulation, help seeking and organization. Students who perceived they were capable were more likely to report the use of metacognitive strategies. They know how to plan, monitor and regulate the activities for their study. They are able to select appropriate information and also construct connections among the information to be learned and they are able to identify someone to provide them with some assistance.

Intrinsic and extrinsic goals were very strongly related to metacognitive self-regulation, self-efficacy and help seeking. Students who were motivated to learn, understand and master the materials, and concerned with the good grade and performance were more cognitively engaged to learn and tend to value a deeper level of understanding the materials. They try to communicate with the experts. In addition, these students were more desirable for improving their academic work.

The findings for the regression analysis reported that test anxiety and intrinsic goal orientation were the best predictors of academic performance. This means that test anxiety and intrinsic goal orientation are essential for academic performance either they are from Islamic studies or non-Islamic studies background.

There are various factor influencing students' learning strategies. However, this study only focuses on self-regulated learning strategy due to several limitations. Future study should explore other learning strategies such as deep, surface and strategic learning strategy. It is important to note that the generalizability of the results may be limited due to the sampling technique used. Future research should also consider a wider group of students in order to facilitate a reliable generalisation for the respective population.

In summary, this study has provided valuable information for educators and also the university in order to motivate students and promote effective learning to produce excellent students. In addition, the implication in teaching aspect is that instructors should engage in a supportive learning climate in order to enhance students' learning experiences and successful learning outcomes. Students need to have both the "will" and the "skill" to be successful in classrooms. Finally, this study may lead to the implementation of improved practices in training program design and stimulate further research into the areas of self-regulated learning and motivation.

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## 7. Appendix

The following items represent the Motivated Strategies for Learning Questionnaire (MSLQ) that was used in this study to measure students' motivational beliefs and self-regulated learning.

### 7.1 Motivational Belief

#### A. Extrinsic Goal Orientation

1. The most important for me right now is improving my overall grade point average, so my main concern is getting a good grade – v13
2. I want to do well because it is important to show my ability to my family, friends, employer, or others – v14
3. Getting a good grade in this class is the most satisfying thing for me right now – v12
4. If I can, I want to get better grades than most of the other students – v18

5. The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible – v19

#### B. Self-Efficacy

1. I am certain I can master the skills being taught – v17
2. I am confident I can understand the most complex material presented by the instructor – v16
3. I'm certain I can understand the ideas thought in this course – v4
4. I believe I will receive an excellent grade in this class – v8
5. Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class – v15

#### C. Test Anxiety

1. I have an uneasy, upset feeling when I take test – v7
2. I am so nervous during a test that I cannot remember facts I have learned – v3
3. I feel my heart beating fast when I take an exam – v22
4. When I take a test, I think of the consequences of failing – v21
5. When I take a test I think about I poorly I am doing compared with other students – v11
6. When I take test I think about items on other parts of the test I can't answer – v20

#### D. Intrinsic Goal Orientation

1. I prefer course material that arouses my curiosity, even if it is difficult to learn – v9
2. When I have the opportunity, I choose course assignment that I can learn from even if they don't guarantee a good grade – v10
3. I prefer class work that is challenging so that I can learn new things – v1

#### E. Task Value

1. I expect to do very well – v5
2. I am sure I can do an excellent job on the problems and tasks assigned – v6
3. Compared with other students I expect to do very well – v2

### ***7.2 Self-Regulated Learning Strategies***

#### A. Metacognitive Self-Regulation

1. When studying, I try to determine which concepts I don't understand well – v18
2. If course material are difficult to understand, I change the way I read the material – v12
3. When I become confused about something I'm reading, I go back and try to figure it out – v11
4. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying – v17
5. I memorise keywords to remind me of important concepts – v15
6. When I study, I set goals for myself in order to direct my activities in each study period – v19
7. I try to change the way I study in order to fit the course requirements and instructor's teaching style – v14
8. Before I study new course material thoroughly, I often skim it to see how it is organised – v13
9. I work hard to do well in class even if I don't like what I am doing – v22
10. If I get confused taking notes in class, I make sure I sort it out afterwards – v20

#### B. Help Seeking

1. When studying, I often set aside time to discuss the course material with a group of students – v6

2. When studying for this course, I often try to explain the material to a classmate or a friend – v4
3. I try to work with other students to complete the course assignment – v5
4. I ask myself questions to make sure I know the material I have been studying – v1
5. I make lists of important terms for this course and memorize them – v2

C. Organization

1. When I study, I attempt questions as my own exercise – v9
2. When reading, I make up questions to help focus my reading – v10
3. When studying for this class, I read my class notes over and over again – v7
4. Even when study materials are dull and uninteresting, I keep working until I finish – v3

D. Effort Regulation

1. When course work is difficult, I give up or only study the easy parts – v23
2. During class time I often miss important points because I'm thinking of other things – v8
3. I often find that I have been reading for class but don't know what it was all about – v16
4. I often feel so lazy or bored when I study that I quit before I finish what I planned to do – v21

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