Journal of Nusantara Studies 2023, Vol 8(1) 469-489
Universiti Sultan Zainal Abidin
ISSN 0127-9386 (Online)
http://dx.doi.org/10.24200/jonus.vol8iss1pp469-489

ACHIEVEMENT MOTIVATION AMONG ISLAMIC STUDIES STUDENTS AND ITS CORRELATION WITH PROBLEM BASED LEARNING AND SELF-EFFICACY

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Received: 16.10.2022 Accepted: 15.01.2023

ABSTRACT

Background and Purpose: Achievement Motivation defines motivation as a concept that forecasts the behavioural inclination to strive for success and performance based on a person's urge for achievement. The purpose of this study was to examine the link between academic self-efficacy and problem-based learning (PBL) and achievement motivation among students of Islamic studies.

Methodology: A quantitative research design was used for this explanatory investigation. 578 undergraduate students from three institutions in Malaysia—UM, IIUM, and USIM—totaled took part in the study. The participants were chosen at random. Both descriptive statistics and regression analysis were used to analyse the data set. Additionally, an intergroup comparison analysis and the independent sample t-test were performed.

Results: The results of an independent sample t-test showed a significant difference in the mean achievement motivation scores between students of applied Islamic studies (M = 3.31, SD =.41) and those of non-applied Islamic studies (M = 3.04, SD =.38). This difference is statistically significant at t (575) = -7.94, p =.00. When ASE was controlled, PBL's influence on AchM diminished (Sobel z= 3.83, p=0.00), indicating that ASE was the mediator of the relationship between PBL and AchM. F (7, 570) = 22.42, p .0005, adj. R2 =.206, multiple regression substantially predicted ASE. The outcome

demonstrates that the method used to solve problems and the kind of programs used may both be effective predictors of students' academic self-efficacy in Islamic studies.

Contribution: The study concludes that achievement has a big impact on students' motivation. The findings of the study may contribute to the departments of Islamic studies and the Ministry of Higher Education in Malaysia (MoHE) in understanding the present issue of achievement motivation, as the ministry's goal is to increase students' self-efficacy. The study has implications on Islamic Studies students at higher learning institutions to boost their motivation.

Keywords: Achievement Motivation, Islamic studies, Problem Based Learning (PBL), self-efficacy.

Cite as: Islam, T., & Zayed, T. M. (2023). Achievement motivation among Islamic studies students and its correlation with problem based learning and self-efficacy. *Journal of Nusantara Studies, 8*(1), 469-489. http://dx.doi.org/10.24200/jonus.vol8iss1pp469-489

1.0 INTRODUCTION

The achievement motivation hypothesis has had an impact on many different areas of study, including entrepreneurship, business, and education. While there has been a lot of study on achievement motivation in education, there have been relatively few studies on the achievement motivation of students in Islamic studies. The Malaysian case, however, was seldom investigated. To visualize Malaysia's ambitions of high-quality education and competent human resource in the field of Islamic studies, this research gap supports the study of Islamic Studies students. At the secondary and higher secondary levels, the Malaysian government also offers an integrated education for its Islamic religious education system. More intriguingly, certain public institutions in Malaysia, including the University of Malaya and University Sains Islam Malaysia, have lately combined Islamic studies departments with a few other non-Islamic subjects to establish 'applied Islamic studies.' Achievement motivation (AchM) is a predictor of student performance and results, according to existing research. There are several variables that impact students' AchM, including those that are intrinsic, extrinsic, socioeconomic, personal, and behavioral (Breen & Lindsay, 2002). This study focuses on PBL. This research examines the impact of PBL on AchM students studying Islamic studies at prestigious institutions in Malaysia namely University of Malaysia (UM), International Islamic University Malaysia (IIUM), and Universiti Sains Islam Malaysia (USIM). Additionally, it tracks the way that student self-efficacy mediates the relationship between PBL and AchM.

2.0 LITERATURE REVIEW

2.1 Problem Based Learning (PBL)

Since its debut in 1969 at McMaster University's medical school in Hamilton, Canada, problem-based learning (PBL) has grown in popularity (Moust, Bouhuijs, & Schmidt, 2021). PBL needs certain components to function as a teaching strategy, including the following: (1) A problem description, which invites further active deliberation; (2) Prior knowledge that is activated by the process of thinking through the problem; (3) Questions raised by the problem, and (4) The need for motivation to look for further information relevant to the problem at hand (Moust et al., 2021). It would be helpful to have a basic understanding of learning to comprehend how problem-based learning functions. As a result, we explain four concepts in this paragraph that are essential to comprehending what learning is all about: (1) Learning as the construction of meaning, (2) Elaboration, (3) Learning in Context, and (4) Intuitive Motivation as a Learning Motor (Moust et al., 2021). As a self-directed learning mindset, PBL requires students to use active learning techniques. The following is a list of the principles: (1) Self-directed learning that is independent; (2) Group learning occurs, and the facilitator is the instructor; (3) Participation from all groups must be equitable; (4) The lessons that students are learning about engagement, motivation, cooperation, and problem-solving, and (5) Informational materials, including data, images, and articles, can be used to address the issue (Ali, 2019).

There are some more teaching strategies that are virtually identical to or comparable to PBL strategies. However, PBL is one of these classroom activities that incorporates students' involvement and reflection on learning activities (Chng, Yew, & Schmidt, 2011). PBL may thus only be used for collaborative, cooperative, and self-directed learning (Wang, 2012). It may alternatively be seen as an inquiry-based or student-centered paradigm (Wang & Zhang, 2014). In addition, Kumar and Refaei described learner-centered instructional activities as those that provide students the tools to do research, combine theory and practice, and use their knowledge to solve specific problems (Kumar & Refaei, 2013).

PBL activities boosted students' learning success and encouraged their favorable attitudes towards physics courses, according to the findings of an experimental investigation (Fidan & Tuncel, 2019). Islamic studies investigated how to teach Islamic morals (*akhlaq*) using a PBL method. The outcome demonstrated its ability to organically mold students' thought processes and address the morality-related learning challenge. The researchers offered a PBL approach that incorporates the following to help students in the *akhlaq* course improve their manners - finding problems, defining the problem, gathering facts, preparing the

hypothesis, investigating, completing the defined problems, summing up alternative solutions collaboratively, evaluating the results (Baharun & Ummah, 2018).

PBL, however, helps to increase student involvement (Chng et al., 2011). It helps with overall success and gives the chance for increased information acquisition (Grave, Schmidt, & Boshuizen, 2001). PBL helps students succeed by facilitating the review of previously taught material and facilitating the learning of new knowledge. The three PBL phases of issue analysis, self-directed learning, and reporting have a significant impact on students' academic achievement levels (Chng et al., 2011). Wang and Zhang (2014) claimed that PBL might enhance female college students' drive for achievement. According to Kumar and Refaei, the constructivist model, which contends that knowledge between teacher and student is co-created, is the proper theory to serve as the foundation for PBL (Kumar & Refaei, 2013). Thus, the process of creating knowledge involves both teachers and students (Hmelo-Silver, 2004).

According to the findings of a recent study, the PBL teaching methodology provides advantages for student learning since it encourages the fusion of theory and practice, which heightens interest in learning. The students thought that the PBL lessons' practical focus, emphasis on cooperation, and inclusion of an entrepreneur or manager were all positive learning components (Da Silva et al., 2018).

2.2 Academic Self-Efficacy (ASE)

Self-efficacy is the belief in one's capability of doing or achieving a particular goal (Hussain, Mkpojiogu, & Ezekwudo, 2021). It refers to one's perceived capability and confidence to perform given academic tasks at the desired level (Ferla, Valcke, & Schuyten, 2010). However, traditionally those who have accepted the theorization and conceptualization of self-efficacy given by Albert Bandura have measured ASE based on the general belief of respondents on their potency aspects. In contrast, this study defines ASE as the comprehensive belief of individuals on her skill in academic matters. ASE includes skill, ability to behave, and end-product. There is a disagreement with this idea of efficacy, as it cannot judge what skills and abilities individuals possess, rather it considers what beliefs individuals have (Bong & Skaalvik, 2003).

ASE is used in educational psychology as an influential factor to enhance academic performance. According to the findings of a structural equation modelling, a student's self-efficacy affects their learning-related emotions and metacognitive learning techniques, which in turn influence how well they perform academically. Additionally, emotions associated with learning affect metacognitive learning techniques, which in turn mediate the impact of

emotions on academic achievement (Hayat at al., 2020). Through four processes and the two primary routes of cognition and motivation, emotions can affect students' academic performance. Through three processes in the cognitive pathway, which are mood-dependent memory, cognitive and metacognitive learning techniques, and the utilization of cognitive source, emotions can affect one's performance (Hayat at al., 2020).

2.3 Achievement Motivation

Achievement Motivation Theory attempts to explain and predict behavior and performance based on a person's need for achievement, power, and affiliation" (Lussier & Achua, 2006, p. 42). The Achievement Motivation Theory is also referred to as the Acquired Needs Theory of McClelland or the Learned Needs Theory (Moore, Grabsch, & Rotter, 2010). In essence, this theory postulates that people are motivated in varying degrees by their need for Achievement, need for Power, and need for Affiliation, and that these needs are acquired, or learned, during an individual's lifetime (Lussier & Achua, 2006). Achievement motivation only focuses on the behaviors related to achievement. It is concerned with how to explain students' approaches to learning (Axler, 2008).

Apart from PBL and ASE, this AchM has also motivated us to investigate the achievement motivation of Islamic studies students. Elias, Rafael, and Rahman found significant differences in achievement motivation among students based on faculty (Elias, Rafael, & Rahman, 1995). This study is among the very few studies conducted in the Malaysian context, as many studies investigated the achievement motivation of students from western educational institutions.

Results in a study conducted by Lee, McInerney, Liem, and Ortiga implies that the investigation of achievement motivation from the students reveals to the researcher about the inherent achievement motivation in the participant (Lee et al., 2010). What can be inferred from this is that the early study of students' achievement motivation could reveal the trait in the children. Khan and Haider assert that both males and females are equal in terms of achievement motivation (Khan & Haider, 2011). This shows that equal importance should be given in terms of achievement motivation. It was also discovered from the study of Jegede, Jegede, and Ugodulunwa that achievement motivation enhances to a greater extent of student performance in English (Jegede, Jegede, & Ugodulunwa, 1997). All these assertions highlight the importance of investigating achievement motivation.

According to a study, one of the motivations for growth and nation-building is achievement motivation (Elias et al., 1995). The social-economic and educational aspects may

both benefit in the long run from this. Additionally, the socioeconomic condition of students may have a big impact on how motivated they are to succeed (Rahman et al., 2010). Even more so, persons with diverse cultural origins might have distinct motivator concerns for accomplishment. Tripathi and Cervone provided evidence for this claim by looking at whether persons from two different cultural backgrounds—Indians and Americans—might have a general degree of success drive while having diverse life experiences and modes of expression (Tripathi & Cervone, 2008). The study found that the two countries differed in terms of their achievement motivation (Thijs & Verkuyten, 2009).

2.4 PBL, ASE, and AchM

Repeatedly completing hard or difficult activities has an impact on high achievement motivation (Durik & Harackiewicz, 2003). AchM may rise or decrease according on the environment, circumstances, internal, or external change. As a result, the degree of AchM inside a person fluctuates between low and high. Therefore, theoretically, achievement motivation could not be static; it should either be low or high. For instance, McClelland's theory of achievement motivation proposed that those who have economic growth are known to have high levels of achievement motivation (Elias et al., 1995). Meanwhile, Hancock, Bray, and Nason proposed that professors could improve the level of their student achievement and motivation by changing their instructional procedure to be in line with students' interests (Hancock, Bray, & Nason, 2002). With this perspective, we discovered that PBL is a freshly established teaching-learning technique that helps students have higher learning outcomes. It could be a more effective, unconventional teaching method. Dochy, Segers, Buehl found in a 'complex causal model of educational achievement' that the quality of instruction was related to achievement (Dochy, Segers, & Buehl, 1999). PBL is a process where the quality of instruction is different from traditional instruction. In that, it shifts the emphasis of learning to the student. PBL is comparable to cooperative learning (CL). Conceptual learning has curricular, structural, and complicated instruction techniques. In contrary, PBL puts students in situations where they are more exposed to facts and subject matter. According to a study, the various learning and study techniques used by students have a significant impact on their academic success (Yip, 2012). Perhaps this enhanced teaching-learning approach affects both desire for achievement and academic self-efficacy.

An experimental study was conducted by Sungur, Tekkaya, and Geban to ascertain the impact of PBL on students' academic attainment and performance abilities (Sungur, Tekkaya, & Geban, 2006). They discovered that PBL might improve students' comprehension of

scientific ideas, as well as how well they organize and apply relevant data to create new knowledge and draw more accurate conclusions. Higher academic achievement is often attained by students who score well in self-concept-related domains such as general self-efficacy, academic self-efficacy, particular self-efficacy, and specific self-concept (Choi, 2005). In this triadic approach, a student, their environment, and their behavior continually interact and support students' sense of self-efficacy (Bandura, 1991). Finally, in this study, we looked at how PBL affected AchM rather than just focusing on the AchM of the Islamic studies students. We also assumed that ASE may have mediated this association. Consequently, the following are the hypotheses:

H1: Problem Based Learning, mediated by self-efficacy, boosts Achievement Motivation (figure-1).
H2: Achievement motivation among the students of applied Islamic Studies is higher than the students in non-applied Islamic Studies.

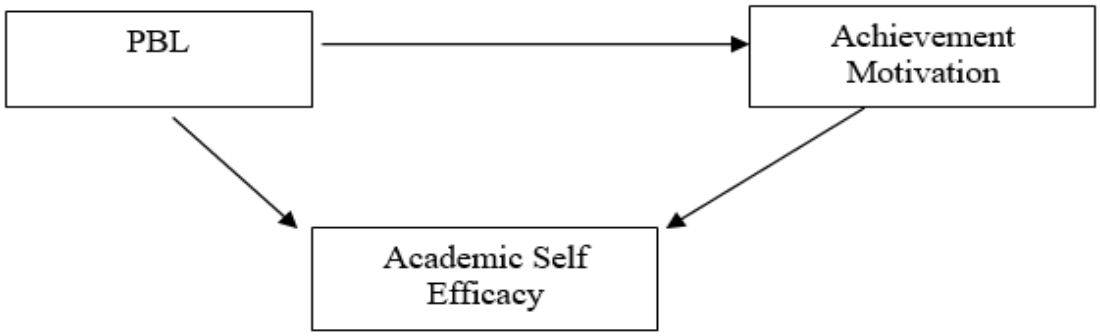

Figure 1: Hypothesized model for the mediating effect of ASE on AchM

2.5 Islamic Studies Disciplines in Malaysian Universities

Samples from the University of Malaya, the International Islamic University of Malaysia, and the University Sains Islam of Malaysia were utilized in this study. An Islamic studies department is present at these three universities (see appendix A for details). These colleges teach Islamic studies using two distinct methods - a classical orientation and an applied orientation (Table 1). The Malaysian Qualification Agency establishes the following fundamental requirements for graduates in each orientation:

Table 1: Comparison between Islamic studies as classical orientation and applied orientation

Islamic Studies: Classical Orientation	Islamic Studies: Applied Orientation
Understanding, skills, and expertise in the area of study followed, and in addition, they also have good background knowledge of other areas of Islamic studies. Core competencies include: i) The ability to refer to classical texts related to the area of study; ii). The ability to relate what is learned to contemporary settings, and iii). The ability to articulate the teachings of Islam to a contemporary audience.	Understanding, skills, and expertise in the practical aspects of the implementation of Islamic principles and teachings in a particular job sector such as education, management, counseling, judiciary, banking, finance, and so on. Therefore, apart from understanding the Islamic principles and ethical practices in theory, they are expected to have industry-related skills and competencies.

Source: Programme Standards: Islamic Studies, p. 6)

If pupils do not have high levels of achievement motivation because of excellent teaching and learning, the ministry's goals will not be fully met. Thus, the ultimate implication of this study will be the development of Islamic studies disciplines in Malaysia.

3.0 METHODOLOGY

3.1 Research Design

This explanatory study employed the correlation research design, employing a quantitative research approach to gather data including the quantifiable variables, conventional research tools, a normal population distribution, data presented in tables, graphs, or figures, and a repeatable process.

3.2 Population and Setting

The study population comprises the groups of undergraduate students of Islamic Studies departments from three universities in Malaysia namely the University of Malaya, the University of International Islamic University of Malaysia (IIUM), and the Islamic Science University of Malaysia (USIM).

3.3 Sample and Sampling method

Primarily, the consent to survey among the students was obtained from instructors of Islamic Studies departments at the aforesaid universities. To pool full class attendance, we selected the last two weeks of the semester to conduct the survey. To ensure a sampling that includes students from all batches and years (i.e., first year to fourth year), we chose the classes of 28 courses at UM, 20 courses at IIUM, and 15 courses at USIM. We also avoided responses from

overlapping groups of students or batches. Then, we distributed the questionnaire to 50% of the students seated on the front benches and 50% of the students seated on the rear seats. It was suggested to the students that they complete the form at home in 15 minutes and bring it back to the following class. Nearly 58 percent (n=578) of the replies were useful.

To generalize the results of the study, the probability sampling techniques was used. Therefore, 578 undergraduate students (M=277, F=301) were randomly selected and they participated in the survey. The respondents were from three East Malaysian institutions that specialized in Islamic studies - University of Malaya (UM), International Islamic University Malaysia (IIUM), and University Sains Islam Malaysia (USIM). The participants were 22 years old on average (min 19 year, max 34, SD 1.65). Out of the total of 578 students, 152 attended UM, 243 attended IIUM, and 183 attended USIM.

3.4 Research Instruments

Participants' demographic information such as gender, age, year of study, and name of the department was asked. The questionnaire was divided into three subsets to cover the scope of the hypotheses, namely the environment of problem-based learning, academic self-efficacy, and achievement motivation.

3.4.1 Environment of Problem Based Learning

To assess the students' practice of their PBL, a questionnaire was developed based on the PBL environment as the effective learning environment (Dochy et al., 2005). This scale was broken down into four subscales, focusing on the key characteristics and elements of the PBL environment, including practices linked to the problem-solving process, the role of tutors, students' individual practice, group practice, and interpersonal practice. These four aspects of learning can enhance student learning. Twenty-three statements were mentioned in the *environment of problem-based learning scale*. The scale has a high level of internal consistency based on Cronbach's alpha of .89. Reliability of four sub-scales mentioned above were respectively: a =.82, .78, .80, .85. Participants assessed each item according to how frequently they engage in PBL: never, seldom, occasionally, frequently, or always.

3.4.2 Academic Self Efficacy (ASE)

The ASE scale was adopted from previous studies (Fan & Williams, 2010) and modified accordingly. The items covered both expectancies for academic success and belief in successful accomplishment of academic tasks and activities. The scale comprised eight items having high

levels of internal consistency (*a* = .86). Items were measured on a 4-point scale ranging from strongly disagree to strongly agree.

3.4.3 Achievement Motivation

This scale was adapted from the study of Lang and Fries (Lang & Fries, 2006). It has 10 elements with internal consistency, as developed by a Cronbach's alpha of.82. A 4-point scale from strongly disagree to strongly agree was used to rate each statement.

3.5 Method of Data Analysis

3.5.1 Coding

Each participant's affiliation with a department (within the field of Islamic studies) that uses a curriculum and courses that are applied and practical in character was coded (Appendix-A). Participants were coded by either 1 (for applied Islamic studies) or 0 (for traditional/ non-applied Islamic studies). The code was determined by the list mentioned in appendix-A. We read the descriptions of each department's undergraduate programmes before beginning to code. 45 percent (n=257) were discovered to be in applied Islamic studies departments, whereas 55 percent (n=321) were discovered to be in non-applied Islamic studies departments.

3.5.2 Preliminary Analysis

First, we looked at the means and standard deviations of students' perceptions of problem-based learning, academic self-efficacy, and achievement motivation. In the cases of the kind of academic department (i.e., applied or non-applied), the academic year of study, and the university, descriptive statistics were computed separately for men and women.

3.5.3 Achievement Motivation

To ascertain the differences in achievement motivation between male and female students in the department of Islamic studies, we used an independent sample t-test analysis. Additionally, using the same research method, disparities between students of applied Islamic studies and non-applied Islamic studies were investigated. Analysis of variance (ANOVA) was employed to determine the difference between students of the three sample universities and students of several academic years ranging from the 1st year through to the 4th year. Lastly, the mediating effect of ASE on achievement motivation was also analyzed.

3.5.4 Academic Self-Efficacy (ASE)

To determine how much each factor contributed to predicting ASE, multiple regression analysis was used to evaluate four components of the perceived PBL environment: age of the students, year of study, and kind of academic programme.

4.0 RESULTS

4.1 Descriptive

The ratings on academic self-efficacy, achievement motivation, and problem-based learning as perceived by students are shown in Table 2 below. The table accounts for four academic years of study, university type, applied and non-applied Islamic studies students, men and females separately.

Table 2: (Means of PBL, ASE, AchM)

Constructs*	Applied	Non-Applied	Male	Female	UM	IIUM	USIM	1st Yr	2nd Yr	3rd Yr	4th Yr
	n257 (45%)	n321 (55 %)	n277 (48%)	n301 (52%)	n 152 (26 %)	n 243 (42%)	n 183 (32%)	n 7 (20%)	n 9 (22%)	n 171 (29%)	n 170 (29%)
PBL Overall	3.90	3.76	3.8	3.85	3.88	3.75	3.88	3.85	3.75	3.83	3.87
PSP	4.2	3.8	3.94	4	4	3.95	4	4	3.88	3.95	3.98
RL	3.73	3.7	3.7	3.75	3.81	3.6	3.8	3.7	3.62	3.74	3.79
SIP	3.97	3.97	3.95	4	4	3.88	4	3.9	3.88	4	4
GIP	3.71	3.57	3.6	3.68	3.75	3.6	3.61	3.7	3.6	3.6	3.68
ASE	3.37	3	3.15	3.17	3.29	3.09	3.15	3.25	3.16	3.11	3.15
AchM Overall	3.12	3.11	3.13	3.10	3.13	3.15	3.07	3.17	3.16	3.11	3.05
AchM (Approach)	3.46	3.15	3.28	3.29	3.44	3.25	3.22	3.34	3.31	3.27	3.26
AchM (Avoidance)	3.17	2.94	3.09	3	3.06	3.01	3.07	3.31	3.11	2.96	2.9

** PBL Overall - Overall problem-based learning environment, PSP- problem solving process, RL- role of lecturer, SIP-students' individual practice, GIP - group and interpersonal practice, ASE - academic self-efficacy, AchM Overall- overall achievement motivation, AchM (Approach)- Achievement Motivation (approach), AchM (Avoidance)- Achievement Motivation (avoidance)*

4.2 Correlations Among Variables

Table 3 provides correlations among the research variables. These connections only have a few notable characteristics. First, there are no negative associations between anyone and anyone else. Additionally, there is a correlation between each of the PBL aspects. Third, ASE and AchM are more closely connected than PBL is.

Table 3: Correlations among the variables of this study

	Correlations (n=578)					
	PSP	RL	SIP	GIP	ASE	AchM
PSP	-	.331**	.286**	.314**	.340**	.150**
RL		-	.515**	.546**	.148**	.086*
SIP			-	.548**	.155**	.093*
GIP				-	.176**	.095*
ASE					-	.221**
AchM						-

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

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

4.3 Achievement Motivation

Independent sample t-test did not yield a significant difference between male and female students of Islamic studies in their achievement motivation. Interestingly, a significant difference is found in the mean scores of achievement motivation between the students of applied Islamic studies *(M* = 3.31, *SD* = .41*)* and those of non-applied Islamic studies *(M*= 3.04, *SD*= .38*)*. The difference is statistically significant too, at *t* (575) = -7.94, *p*= .00. Besides, the analysis of variance (ANOVA) indicates that the students of UM have the highest achievement motivation than those of IIUM and USIM. In this case, the difference between the students of UM and IIUM is statistically significant (Table 4).

Table 4: Difference in AchM between students of UM, IIUM and USIM

	USIM			UM		
	Mean Dif	SE	Sig	Mean Dif	SE	Sig
IIUM	-.009	.040	1.00	-.119*	.043	.019
UM	.108	.046	.055			

**. The mean difference is significant at the 0.05 level*

Table-5 indicates that the time passed in university has an influence on decreasing achievement motivation. First-year students possess higher achievement motivation, while 4th-year students have less achievement motivation.

Table 5: Difference in AchM between students of different academic years

	2nd Year			3rd Year			4th Year		
	Mean Dif	SE	Sig	Mean Dif	SE	Sig	Mean Dif	SE	Sig
1st Yr	.117	.053	.168	.211	.049	.000*	.243	.049	.000*
2nd Yr				.093	.049	.340	.125	.049	.068
3rd Yr							.031	.044	1.000

**. The mean difference is significant at the 0.05 level*

4.4 Mediating Effect of ASE

We examined our hypothesis on the effects of PBL on achievement motivation as possibly mediated by academic self-efficacy. To assess this possible mediation, the following conditions had to be met: (Baron & Kenny, 1986) (a) problem-based learning must significantly predict achievement motivation; (b) problem-based learning must significantly predict academic self-efficacy; (c) academic self-efficacy must significantly predict achievement motivation, and (d) the effect of problem-based learning must significantly decline after controlling for academic self-efficacy. We used the Sobel test to determine if this decline was significant. The analyses revealed that the relation between PBL and AchM was mediated by ASE. Even though the effect of PBL on AchM decreased when ASE was controlled for (Sobel z= 3.83, p=0.00), a significant effect remained. Hence, having the practice of PBL at university predicted higher levels of academic self-efficacy among students and, in turn, higher levels of achievement motivation among students (Figure 2).

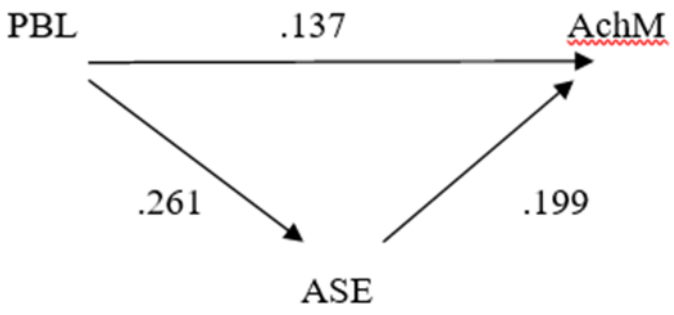

Figure 2: Standardized coefficients

4.5 Regressing ASE on PBL and Demographic Variables

ASE is predicted from several practices of PBL i.e., problem-solving process (PSP), the role of tutors or lecturers (RL), students' individual practice (SIP), group and interpersonal practice (GIP) and other demographic variables such as age, year of study, type of program (i.e., applied and non-applied). Multiple regression was run to predict ASE. These variables statistically significantly predicted ASE, F (7, 570) = 22.42, p<.0005, adj. R^2 = .206. Regression coefficients and standard errors can be found in Table 6. The result shows that problem-solving process and type of program can be a good predictor of academic self-efficacy for the students of Islamic studies.

Table 6: Summary of multiple regression analysis

	B	*SE*	*β*
Intercept	2.176	.291	
PSP	.162	.037	.190*
RL	.017	.033	.025
SIP	.050	.033	.070
GIP	.022	.034	.031
Year of Study	.005	.020	.012
Age	-.007	.013	-.024
Type of program	.306	.038	.328*

*Dependent variable is Academic self-efficacy. *p < .05; B = unstandardized regression coefficient; SE= standard of error of coefficient; β = standardized coefficient.*

4.6 Perceived PBL Environment

Table 7 shows that in the case of the overall PBL environment, students of applied Islamic studies are significantly different from those of non-applied but among the several aspects of PBL only PSP is significantly differently perceived by students. Other aspects such as RL, SIP, and GIP are almost equally practiced in both types of programs.

Table 7: T-test results of perceived PBL environment

	Applied	Non-Applied	t	P
PSP	4.18	3.80	-8.840	.000
RL	3.73	3.70	-.553	.581
SIP	3.97	3.97	-.065	.948
GIP	3.71	3.57	-2.468	.014
Overall PBL	3.90	3.76	-3.446	.001

PSP- problem solving process, RL- role of lecturer, SIP-students' individual practice, GIP - group and interpersonal practice, PBL Overall - Overall problem-based learning environment.

5.0 DISCUSSION

Based on the findings, the first-year students had greater AchM levels than fourth-year students do. Since AchM and students' academic achievement are closely connected, both might support students' autonomous and mastery-focused learning (Axler, 2008). Therefore, if student achievement motivation is low, the student's academic performance could be affected. This could later influence students' autonomous and mastery-oriented learning negatively. Equally, students' achievement motivation can be reduced or become low due to their perception of the object of studying. For example, Randler, Hummel, and Wüst-Ackermann discovered through their study that perceived disgust could influence AchM (Randler, Hummel, & Wüst-Ackermann, 2013). This has practical ramifications for disciplines like biology, where actual experiments are required. For instance, students who are sensitive to seeing blood may grow to detest such a course, lowering the degree of student accomplishment in that course, as well as their level of knowledge. Similar to this, there is something concealed in Islamic studies students that contributes to their declining AchM.

Since its inception, PBL has been very popular. It has been 'more than a passing fad in education' (Savery, 2006). It is widely adopted in different educational settings such as elementary schools, middle schools, high schools, universities, and professional schools (Torp & Sage, 2002). Different education institutions have incorporated PBL into various undergraduate programs within the Schools of Arts and Sciences, Business, Education, Nursing, and Pharmacy (Savery, 2006). Despite its expansion and acceptance in several disciplines in education some points if not taken seriously will result in the failure of PBL before introducing PBL staff need effective training as it is not teaching, the nature and type of problem must be researched, renewal of learning resources, implementing appropriate assessment methods, and not to focus on the key learning issues. However, one of the major

challenges of PBL is the aspect of the students' transition from passive learners to active participants in the process of knowledge creation, which might not be easily achieved. The second fallout of the model is that it could be time-consuming, as compared to the conventional model (Williamson & Gregory, 2010).

Meanwhile, PBL is a model that is used in academic settings, and might be suitable for some subjects and not suitable for others. Therefore, Williamson and Gregory proposed that PBL is a suitable model to teach political science based on the nature of the subject, which requires critical thinking and solving real-life problems (Williamson & Gregory, 2010). Equally, Altshuler Bosch, conducted research to examine the applicability of PBL to social work education (Altshuler & Bosch, 2003). They found that PBL is a suitable model for social work education, because it enables students to learn practically due to the cultural diversity within different families and children. However, some of the fallouts as mentioned by Kumar and Refaei are that some students feel hesitant to take control of their learning (Kumar & Refaei, 2013). Sometimes students may find it difficult to understand the problem required to be solved. This may make the student confused, and if care is not taken, may reduce their interest in PBL. Equally, they argued that there is also a problem with PBL in the aspect of testing and evaluation. Some students are concerned that their marks will be affected due to the ill performance of weak students since the work is collective. This study reveals that only the PSP (problem-solving process) and type of program can be a good predictor of ASE for the students of Islamic studies. The other aspects of PBL such as RL, SIP, and GIP do not significantly predict ASE. There is no significant difference in perceived PBL environment between students of applied Islamic studies and those of non-applied Islamic studies students except in PSP. This result indicates that PBL is not fully practiced, which may cause a decrease in AchM among final year students.

Choi emphasized letting the students experience increased self-efficacy and self-concept through completing numerous course activities at increasing difficulty levels (Choi, 2005). However, for this, the lecturers of universities need to examine their teaching strategy to care for the students in the classroom, because Bakar et al. found that a caring environment for the students is related to achievement (Bakar et al., 2010). Logically, ASE is hierarchical in nature i.e., more learning can increase ASE, but this is not found to be true in the case of Islamic studies students. However, we find in the analysis that ASE mediates the relationship between the effects of the PBL environment on AchM, therefore in Islamic studies disciplines, PBL might be emphasized through teacher education, training, and curriculum development. Perhaps the PBL is practiced in the Islamic studies disciplines loosely.

6.0 CONCLUSION

The study concludes that having a practice of PBL in college predicts a greater degree of academic self-efficacy among students, and therefore a higher level of achievement motivation among students. The main objective of this study was to examine the achievement motivation of the students of Islamic studies. For this, problem-based learning was investigated. We found that the University of Malaya scores relatively higher as it offers Islamic studies programs at its undergraduate levels which is applied in nature. However, the students of the other two universities scored less in achievement motivation. The students of IIUM scored low in achievement motivation partly because of the nature of their programs offered is not applied in nature and the PBL environment relatively less congenial. Institutions of higher learning should produce a group of skilled, creative, and innovative human resources. The Ministry of Higher Education places increased emphasis on the learning outcomes of students, particularly on achievement motivation, soft skills, and other factors. The support, acceptance, and preparedness of lecturers are essential since government aims cannot be promoted without their effective involvement. Therefore, regardless of how well a treatment for students' development is based on theoretical principles and proven successful in experimental settings, the ultimate utility of strategies for students' development will depend on the degree to which it is thought to be useful and effective by the agents who will apply those strategies. Thus, this study recommends investigating lecturers' acceptance and readiness to implement and practice the strategies for increasing students' achievement motivation.

REFERENCES

Ali, S. S. (2019). Problem based learning: A student-centered approach. *English Language Teaching*, *12*(5), 73-78.

Altshuler, S. J., & Bosch, L. A. (2003). Problem-based learning in social work education. *Journal of Teaching in Social Work, 23*(1–2), 201–215.

Axler, M. S. (2008). *Achievement goals and academic internalization: The role of perceived autonomy support, perceived academic competence, gender, and grade level in influencing academic motivation and performance.* (Unpublished doctoral dissertation). University at Albany.

Baharun, H., & Ummah, R. (2018). Strengthening students' character in "akhlaq" subject through problem based learning model. *Online Submission*, *3*(1), 21-30.

Bakar, K. A., Tarmizi, R. A., Mahyuddin, R., Elias, H., Luan, W. S., & Ayub, A. F. M. (2010). Relationships between university students' achievement motivation, attitude and

academic performance in Malaysia. *Procedia - Social and Behavioral Sciences*, *2*(2), 4906–4910.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, *50*(1), 248–287.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182.

Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational Psychology Review*, *15*(1), 1–40.

Breen, R., & Lindsay, R. (2002). Different disciplines require different motivations for student success. *Research in Higher Education*, *43*(6), 693–725.

Chng, E., Yew, E. H. J., & Schmidt, H. G. (2011). Effects of tutor-related behaviours on the process of problem-based learning. *Advances in Health Sciences Education: Theory and Practice*, *16*(4), 491–503.

Choi, N. (2005). Self-efficacy and self-concept as predictors of college students' academic performance. *Psychology in the Schools*, *42*(2), 197–205.

Da Silva, A. B., de Araújo Bispo, A. C. K., Rodriguez, D. G., & Vasquez, F. I. F. (2018). Problem-based learning: A proposal for structuring PBL and its implications for learning among students in an undergraduate management degree program. *Revista de Gestão*, *25*(2), 160-177.

Dochy, F., Segers, M., & Buehl, M. M. (1999). The relation between assessment practices and outcomes of studies: The case of research on Prior Knowledge. *Review of Educational Research*, *69*(2), 145–186.

Dochy, F., Segers, M., Bossche, P., Van Den, & Struyven, K. (2005). Students' perceptions of a problem-based learning environment. *Learning Environments Research*, *8*(1), 41–66.

Durik, A. M., & Harackiewicz, J. M. (2003). Achievement goals and intrinsic motivation: Coherence, concordance, and achievement orientation. *Journal of Experimental Social Psychology*, *39*(4), 378–385.

Elias, H., Rafael, W., & Rahman, A. (1995). Achievement motivation of university students. *Pertanika Journal of Social Science and Humanities*, *3*(1), 1–10.

Fan, W., & Williams, C. M. (2010). The effects of parental involvement on students' academic self-efficacy, engagement and intrinsic motivation. *Educational Psychology*, *30*(1), 53–74.

Ferla, J., Valcke, M., & Schuyten, G. (2010). Judgments of self-perceived academic competence and their differential impact on students' achievement motivation, learning approach, and academic performance. *European Journal of Psychology of Education, 25*(4), 519–536.

Fidan, M., & Tuncel, M. (2019). Integrating augmented reality into problem-based learning: The effects on learning achievement and attitude in physics education. *Computers & Education*, *142*(1), 103635.

Grave, W. S. de, Schmidt, H. G., & Boshuizen, H. P. A. (2001). Effects of problem-based discussion on studying a subsequent text: A randomized trial among first year medical students. *Instructional Science, 29*(1), 33–44.

Hancock, D. R., Bray, M., & Nason, S. A. (2002). Influencing university students' achievement and motivation in a technology course. *The Journal of Educational Research, 95*(6), 365–372.

Hayat, A. A., Shateri, K., Amini, M., & Shokrpour, N. (2020). Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: A structural equation model. *BMC Medical Education*, *20*(1), 1-11.

Hmelo-Silver, C. E. (2004). Problem-based learning: What and how do students learn? *Educational Psychology Review*, *16*(3), 235–266.

Hussain, A., Mkpojiogu, E. O., & Ezekwudo, C. C. (2021). Improving the academic self-efficacy of students using mobile educational apps in virtual learning: A Review. *International Journal of Interactive Mobile Technologies*, *15*(6), 149-160.

Jegede, J. O., Jegede, R. T., & Ugodulunwa, C. A. (1997). Effects of achievement motivation and study habits on Nigerian secondary school students' academic performance. *The Journal of Psychology, 131*(5), 523–529.

Khan, Z., & Haider, N. A. (2011). Gender difference in achievement motivation of intervarsity level badminton players. *Journal of Physical Education and Sport, 11*(3), 255–258.

Kumar, R., & Refaei, B. (2013). Designing a problem-based learning intermediate composition course. *College Teaching*, *61*(2), 67–73.

Lang, J. W. B., & Fries, S. (2006). A revised 10-item version of the achievement motives scale. *European Journal of Psychological Assessment*, *22*(3), 216–224.

Lee, J. Q., McInerney, D. M., Liem, G. A. D., & Ortiga, Y. P. (2010). The relationship between future goals and achievement goal orientations: An intrinsic–extrinsic motivation perspective. *Contemporary Educational Psychology, 35*(4), 264–279.

Lussier, R. N., & Achua, C. F. (2006). *Leadership-theory, application, & skill development.* South-Western College Pub.

Moore, L. L., Grabsch, D. K., & Rotter, C. (2010). Using achievement motivation theory to explain student participation in a residential leadership learning community. *Journal of Leadership Education*, *9*(2), 22-34.

Moust, J., Bouhuijs, P., & Schmidt, H. (2021). *Introduction to problem-based learning: A guide for students.* Routledge.

Rahman, S., Mazlan, M., Kummin, S., Yasin, R. M., & Meerah, T. S. M. (2010). Examining the role of language on students' achievement: A study on the use of second language as a medium of instruction in teaching science subject in Malaysia. *Procedia - Social and Behavioral Sciences*, *9*(1), 1261–1265.

Randler, C., Hummel, E., & Wüst-Ackermann, P. (2013). The influence of perceived disgust on students' motivation and achievement. *International Journal of Science Education*, *35*(17), 2839–2856.

Savery, J. R. (2006). Overview of problem-based learning: Definitions and distinctions. *Interdisciplinary Journal of Problem-Based Learning*, *1*(1), 9–20.

Sungur, S., Tekkaya, C., & Geban, Ö. (2006). Improving achievement through problem-based learning. *Journal of Biological Education*, *40*(4), 155–160.

Thijs, J., & Verkuyten, M. (2009). Students' anticipated situational engagement: The roles of teacher behavior, personal engagement, and gender. *The Journal of Genetic Psychology*, *170*(3), 268–286.

Torp, L., & Sage, S. (2002). *Problems as possibilities: Problem-based learning for k-16 education.* The Association for Supervision and Curriculum Development.

Tripathi, R., & Cervone, D. (2008). Cultural variations in achievement motivation despite equivalent motivational strength: Motivational concerns among Indian and American corporate professionals. *Journal of Research in Personality*, *42*(2), 456–464.

Wang, M. (2012). Effects of cooperative learning on achievement motivation of female university students. *Asian Social Science*, *8*(15), 108–115.

Wang, Q., & Zhang, H. (2014). Promoting teacher autonomy through university–school collaborative action research. *Language Teaching Research*, *18*(2), 222-241.

Williamson, J., & Gregory, A. S. (2010). Problem-based learning in introductory American politics classes. *Journal of Political Science Education*, *6*(3), 274–296.

Yip, M. C. W. (2012). Learning strategies and self-efficacy as predictors of academic performance: A preliminary study. *Quality in Higher Education*, *18*(1), 23–34.

APPENDIX

Participants were coded by either 1 (for applied Islamic studies) or 0 (for traditional/ non-applied Islamic studies). Code was determined by the following list. Prior to coding, we studied undergraduate program descriptions of all departments.

University	Faculty	Department	Code
UM		Al-Quran and Al-Hadith	0
		Aqidah and Islamic thought	0
		Da'wah & Human Development	1
		Fiqh & Usul al Fiqh	1
		Islamic History and Civilization	0
		Siasah Syar'iyyah	1
		Syariah& Economics	1
		Syariah& Law	1
		Syariah& Management	1
		Applied Sciences with Islamic Studies	1
		Islamic Education Program	1
IIUM	Islamic Revealed Knowledge	Department Quran &Sunnah	0
		Department of Fiqh and Usul al Fiqh	0
		Department of Comparative Religion and Usuluddin	0
USIM	Faculty of Leadership and Management (FKP)	Da'wah and Islamic Management with Honours	1
		Akidah and Religion Studies with Honours	0
	Faculty of Quranic and Sunnah Studies	Quranic and Sunnah Studies with Honours	0
		Quranic Studies with Multimedia with Honours	1
		Sunnah Studies with Information Management with Honours	1
	Faculty of Syariah and Law	Syariah and Law with Honours	1
		Fiqh and Fatwa with Honours	0