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Motivation and Self- Regulated Learning

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ABSTRACT

Motivation plays a critical role in learning, as it drives individuals to act and achieve their objectives, yet many students fail to manage their own learning processes. Self-regulated learning (SRL) involves learners' active control over their cognition, motivation, and behaviour but the influence of key motivational components on SRL remains underexplored, particularly among Malaysian higher education students. On that note, this study seeks to explore the relationship between motivational components and self-regulation focusing on self-efficacy, intrinsic value, and test anxiety. A survey questionnaire, consisting of three sections employing a 5-point Likert scale, is administered to 127 respondents who are diploma and degree students at Universiti Teknologi MARA (UiTM). The survey questionnaire employed a 5-point Likert scale and was influenced by the research of Pintrich and DeGroot (1990). Data were analysed using SPSS correlation analysis. The findings reveal that motivational factors significantly influence students' ability to regulate their learning, with intrinsic value showing the strongest effect, followed by self-efficacy and test anxiety. These results highlight the importance of fostering intrinsic motivation and self-belief among learners to enhance their use of self-regulated learning strategies, while also recognizing the complex role of test anxiety. Future research could examine additional motivational constructs and investigate interventions to further support self-regulated learning among Malaysian students.

Keywords: (Cognitive strategy, Intrinsic value, Motivational beliefs, Self-regulated learning, Self-efficacy, Test anxiety)

INTRODUCTION

Motivation is defined by the inspiration that drives someone to take action. Learner motivation on the other hand refers to a process where their internal drive is focused on achieving various goals in their environment (Borah, 2021). Based on Self-determination Theory (SDT), learners are directed to learn by two types of sources which are internal and external. In terms of motivation, it can be broadly categorised into two types which are intrinsic motivation and extrinsic motivation. The driving force behind intrinsic motivation is typically internal, often rooted in biological, emotional, spiritual and social factors. The second type of motivation, extrinsic motivation, alternatively is driven by external stimuli such as social cognition and operant conditioning (Borah, 2021).

In relation to self-regulated learning, it involves a process where learners actively control their cognition, motivation and behaviour (Inan, 2013). Since this process is a lifelong learning (Inan, 2013), learners can control their motivation towards their learning goals. As Dornyei (2005) viewed self-regulation in academic settings as a multifaceted concept encompassing motivational, meta-cognitive, behavioural and environmental processes. Hence, it clearly shows both learners' motivation and self-regulated learning are interrelated to reach their learning goals. Ng and Kamariah (2006) claimed only a limited number of local studies have examined the relationship between the three motivational beliefs namely self-efficacy, control beliefs and anxiety. The same authors also urged more studies should be conducted as the findings may shed light on the connection between motivation and self-regulated learning among Malaysian students. In this regard, this study is significant as it aims to address the gap in exploring the relationship between motivation and self-regulated learning in the Malaysian context.

In recent years, prior studies emphasised the importance of self-regulated learning in improving the language acquisition for students as mentioned in Deng et al. (2022), Teng and Zhang (2021) and Zumbrunn et al. (2011). Those learning strategies are self-instructed in students during their daily process of learning the languages. Following the remote learning importance due to Covid-19 pandemic phase in 2020, many studies were looking at the efficiency of the role of self-regulated learning in coping with the quality of education as well as procrastination issues among students. Trisnawati and Rahimi (2022) discovered that post-graduate students developed motivational self-regulated strategies such as mastery of self-talk and environment-forming strategy during remote studies as the result of academic procrastination defence mechanisms. This study emphasised the importance of prioritising motivational aspects (self-efficacy, intrinsic value and test anxiety) to induce useful self-regulation learning strategies in achieving academic goals.

Teng (2021) revealed that motivational beliefs components, specifically the intrinsic value, had a predominant predictive effect on students' SRL strategies. Besides, it is also highlighted that self-efficacy highly affects metacognitive, cognitive and motivational regulation strategies when learning foreign languages. Teng (2021) specifically mentioned that abundant existing general studies of motivation on SRL underscored lack of specific studies related to different components of motivation beliefs in self-regulatory learning strategies. This niche area should be further explored in optimising motivation among students to induce motivation regulation strategies like emotional control and interest enhancement which could serve as a better understanding on how different components of motivation are the determinants of motivational self-regulated strategies in learning English as a second/foreign language.

This research aims to investigate how learners view their motivational beliefs and their utilization of self-regulated learning strategies. More precisely, this study intends to answer the following questions: (1) How does self-efficacy influence learning motivation? (2) How does intrinsic value influence learning motivation? (3) How does test anxiety influence learning motivation? (4) How does self-regulation in learning influence learning motivation? (5) Is there a relationship between motivational components and self-regulation?

LITERATURE REVIEW

Motivation Components in Learning

Motivation in learning includes motivation components such as effort, goal orientation, locus of control and self-efficacy, sense of self as learner, self-esteem, self-assessment and interest (Harlen & Deakin-Crick, 2002; in Muho & Kurani, 2013). Generally, the first component, effort, refers to an individual's willingness to persist and put in effort towards a task. Goal orientation as the second component refers to the set of behavioural intentions revealing how students' approach and engage in their learning activities (Meece, Blumenfeld & Hoyle, 1988; in Muho & Kurani, 2013). As for goal orientation, Kroll and Ford (1992; in Muho & Kurani, 2013) argued that students may focus on achieving task goals indicating that their attention is directed towards the task itself.

Next which is the locus of control refers to how much individuals believe they have control over their learning, as opposed to it being influenced by external factors. Self-efficacy as the fourth component is closely linked to an individual's confidence, as their perception of their abilities directly influences their judgement. Intrinsic motivation, which is connected to one's sense of self as a learner, provides valuable insights into how to strengthen one 's perception as a learner (Covington, 2000; in Muho & Kurani, 2013). These two components, self-efficacy and intrinsic motivation were the similar components accessed via Science Motivation Questionnaire in a study by Campos-Sanchez, Lopez-Nunez, Carriel, Martin-Piedra, Sola and Alaminos (2014). Another motivation component which is self-esteem refers to an individual's overall positive evaluation of the self (Cast & Burke, 2002; in Muho & Kurani, 2013). As Brindley (1989; in Muho & Kurani, 2013) argued on the next component of motivation, self-assessment, is a skill that must be developed. The last component, interest, is also connected to intrinsic motivation, much like one's sense of self as a learner (Covington, 2000; in Muho & Kurani, 2013). The same author proposed that this type of motivation stems from the satisfaction gained by overcoming personal challenges, learning new things, or exploring areas of personal interest.

Self-Regulation in Learning

One of the most important factors affecting students' academic performance, motivation, and general learning efficiency is self-regulation. According to Zimmerman (2000), self-regulated learning (SRL) is defined as learning that arises from students' ideas and actions that are methodically focused on achieving their learning objectives. It is learning that is deliberate, goal-oriented, and not directly controlled by a tutor (Rheinberg et al., 2000). It is an active process in which students establish objectives, track their progress, and modify their approach to maximise learning results (Zimmerman, 2002). The three main components of self-regulated learning are typically thought of as cognitive, metacognitive, and motivational (Butler & Winne, 1995; Zimmermann, 2000). The entire learning experience is shaped by these interrelated and contextually impacted components (Seban & Urban, 2024).

According to Schraw et al. (2006), the cognitive component includes critical thinking, problem-solving, and learning methods and strategies. Another key component of learning is metacognitive, which comprises the information and abilities that allow students to understand and assess their thought processes (Seban & Urban, 2024). Lastly, motivation encompasses attitudes that impact the use and growth of cognitive and metacognitive skills as well as views about one's abilities and skills (Schraw et al., 2006). A student needs to be adequately motivated to adopt efficient cognitive methods, even if they are more challenging to use. This is because, according to Pintrich and De Groot (1990) strong motivation affects academic achievement and encourages cognitive engagement with the work. Cognition and metacognition have a reciprocal link with motivation, since motivational consequences from significant cognitive processes further improve self-regulatory behaviours (Borkowski, 1992).

Research shows that self-regulated learners are more persistent, academically successful, and intrinsically motivated (Schunk & Greene, 2018). For example, a study by Moghadari-Koosha et al. (2020) revealed that self-regulated learning was the strongest predictor of academic success and showed a clear correlation, implying that students with strong SRL abilities are more likely to perform better academically. Additionally, Ma and She (2024) showed that academic results were favourably connected with learning goal orientation However, in an online learning environment, academic self-efficacy, engagement, and learning satisfaction were not mediators of this correlation.

Past Studies on Motivation for Learning

Motivation is an element which enables learners to adopt different types of learning strategies. A significant number of studies have analysed students' motivation and learning strategies across different subjects (Abeysekera & Dawson, 2015). A study conducted by Gibbens (2019) aimed to measure biology students' motivation over the course of the semester and identify whether students' motivation scores were correlated with their performance. Overall, the highest scores were on questions related to value and the lowest on anxiety items. Referring to the result, it has been indicated that students concerned on the subject matter, yet the tension levels were manageable. In relation to biology students' motivation, it changed during the semester. Hence, all researchers and Biology instructors who intend to assess the motivation of Biology students are recommended to conduct assessments at least twice each semester to determine how a particular course influences students' baseline motivation.

Another study examined the connection between the motivation levels of prospective teachers and the learning strategies they employ. A research instrument which is known as Motivation strategies for learning questionnaire (MSLQ) was adopted by Sehar and Rizwan (2019) to collect data from a sample of 300 prospective teachers. The research findings revealed three different types of motivation level namely high, moderate and low. The high motivation level of prospective teachers related to different learning strategies equally with learning strategies. Conversely, it was not associated with the help-seeking learning strategy. Another finding on the moderate motivation level of the respondents showed no association with effort regulation as a learning strategy. The final finding regarding the respondents' low motivation levels contrasted with those who had moderate levels, as the latter linked to learning strategies. At the conclusion of the study, a recommendation was made for

future researchers to explore the use of learning strategies by prospective teachers in relation to their learning approaches.

**Past Studies on Self-Regulated Learning Strategies**

Many studies have been done to investigate the learning of self-regulated strategies and its impact on learners. A study by van Alten et al. (2020) was conducted to identify how self-regulated learning strategies provide an impact on learners' learning outcomes. This quasi-experimental study involved a total of 115 students and was regulated for over a period of eight weeks. The results of this study indicated that employing self-regulated learning strategies has positive and beneficial effects on learning outcomes. This is supported by El Adl and Alkharusi (2020) who found that self-regulated learning strategies demonstrated positive relationships with intrinsic and extrinsic motivation as well as academic performance. This descriptive study incorporated 238 students of which participants were assessed using a questionnaire. Based on the assessed results, most students reflected positive output towards self-regulated learning strategies, motivation and academic performance. Therefore, studies revealed a similar and consistent connection in the use of self-regulated learning strategies and the level of motivation among individuals.

CONCEPTUAL FRAMEWORK

Motivation in learning can significantly impact a learner's path to success in various ways. The achievement of learning goals is closely tied to the level of motivation exhibited by learners. As Rahmat et al. (2021) have noted, motivated learners approach their learning endeavours with eagerness. Such individuals are better equipped to handle the obstacles that may arise during the learning process and are more inclined to develop self-regulation skills.

The study's conceptual framework, depicted in Figure 1, is built upon the foundation of Pintrich and DeGroot's (1990) theories concerning motivational beliefs and self-regulated learning strategies. In this framework, motivational beliefs are divided into three categories: (i) self-efficacy, (ii) intrinsic value, and (iii) test anxiety. Additionally, self-regulated strategies encompass cognitive strategy utilization and self-regulation practices. The primary focus of this research is to examine the connections between motivational elements, such as self-efficacy, intrinsic value, and test anxiety, and their impact on self-regulated learning.

Figure 1 Conceptual Framework of the Study The Influence on Motivational Components on Self-Regulation in Learning.
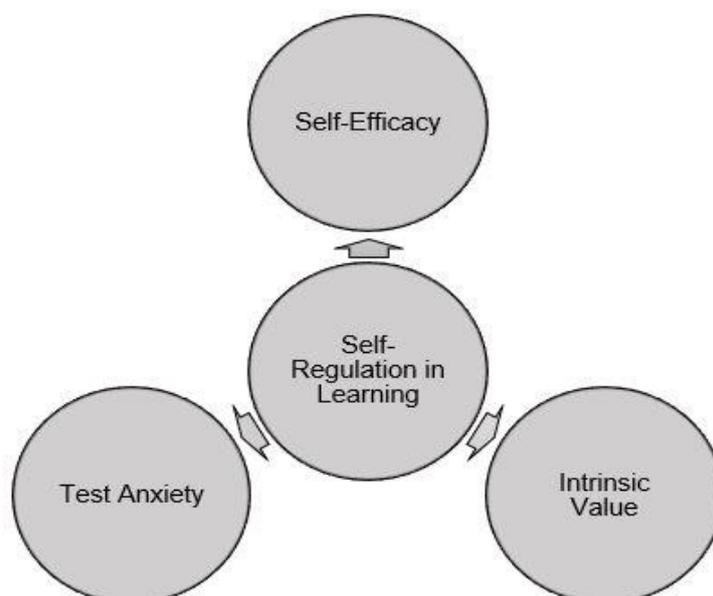
METHODOLOGY

This quantitative research aims to investigate the motivating factors that influence learning among undergraduate students. The study collected responses from a purposefully selected group of 127 participants through a survey. The survey instrument utilized a 5-point Likert scale and drew its inspiration from the work of Pintrich and DeGroot (1990) to identify the variables outlined in Table 1 below. The survey itself comprises three sections: Section A focuses on gathering information related to participants' demographic profiles, while Section B contains 22 items related to motivational beliefs, and Section C includes 22 items pertaining to self-regulated learning strategies.

Table 1- Distribution of Items in the Survey

Section	Strategy (Pintrich & DeGroot, 1990)		Scale	No of Items	Total Items
B	Motivational Beliefs	A	Self-Efficacy	9	22
		B	Intrinsic Value	9	
		C	Test Anxiety	4	
C	Self-Regulated Learning Strategies	D	Cognitive Strategy Use	13	22
		E	Self-Regulation	9	
	Total No of Items				44

Table 2- Reliability of Survey

Reliability Statistics	
Cronbach's Alpha	N of Items
0.933	44

Table 2 presents the survey's reliability assessment. The analysis indicates Cronbach's alpha value for the impact of motivational beliefs on self-regulated learning strategies, demonstrating that the instrument used is reliable. Additional analysis utilizing SPSS is used to show the results and address the research questions for this study.

RESULTS AND DISCUSSION

Findings for Demographic Profile

Table 3: Percentage for Gender

1	Male	30%
2	Female	70%

Table 3 shows the gender distribution across all respondents involved in this study. Female accounts the majority samples of 70% out of 127 respondents while only 30% are male participants.

Table 4: Percentage for Age Group

1	18-21 years old	65%
2	22-25 years old	34%
3	26 years old and above	1%

The distribution of age groups is reflected on the above table; the minimum age involved is 18 years old. Table 4 displays the tabulation of each age group predominantly the 18-21 years old group with the percentage of 65%. The second group of 22-25 years old comprises 34% respondents while the smallest age group is 26 years old and above at 1%.

Table 5: Percentage for Level of Study

1	Diploma	28%
2	Degree	72%

Table 5 displays that the respondents involved in this study are mainly bachelor's degree students at 72%. The remaining 28% are contributions from diploma students from three different campuses.

Table 6: Percentage for Discipline

1	Science & Technology	61%
2	Social Science	21%
3	Business	18%

Table 6 presents the information on the respondents' discipline of study. the respondents comprise from the major Science and Technology group (61%), followed by Social Science discipline (21%) and the least are from Business background (18%).

Findings for Self-Efficacy

This section presents data to answer research question 1- How does self-efficacy influence learning motivation?

Table 7: Mean for Self-Efficacy

A. Self-Efficacy (9 Items)		
1	MBSEQ1 Compared with other students in this class I expect to do well.	3.5
2	MBSEQ2 I'm certain I can understand the ideas taught on this course.	3.9
3	MBSEQ3 I expect to do very well in this class.	3.9
4	MBSEQ4 Compared with others in this class, I think I'm a good student.	3.2
5	MBSEQ5 I am sure I can do an excellent job on the problems and tasks assigned for this class.	3.7
6	MBSEQ6 1 think I will receive a good grade in this class.	3.6
7	MBSEQ7 My study skills are excellent compared with others in this class.	3.1
8	MBSEQ8 Compared with other students in this class I think I know a great deal about the subject.	3.2
9	MBSEQ9 I know that I will be able to learn the material for this class.	3.7

Table 7 shows the mean for students' self-efficacy. The results indicate that, on average, most students believe they can understand the ideas taught in the course and expect to perform well in the class (M=3.9). The second highest mean reflects students' confidence in completing tasks and problems assigned in class successfully (M=3.7). In addition, there are respondents who know that they will be able to learn the material for the class (M=3.7). Other than that, there are respondents who always compare themselves with other classmates and think they know a great deal about the subject. The same number of respondents who also compare with other classmates think they are good students (M=3.2). The lowest mean which is 3.1 shows respondents' study skills are excellent compared with others in the class.

Findings for Intrinsic Value

This section presents data to answer research question 2- How does intrinsic value influence learning motivation?

Table 8: Mean for Intrinsic Value

	B. Intrinsic Value (9 Items)	
1	MBIVQ1 I prefer class work that is challenging so I can learn new things.	3.6
2	MBIVQ2 It is important for me to learn what is being taught in this class.	4.2
3	MBIVQ3 I like what I am learning in this class.	4.1
4	MBIVQ4 I think I will be able to use what I learn in this class in other classes.	4
5	MBIVQ5 I often choose paper topics I will learn something from even if they require more work.	3.7
6	MBIVQ6 Even when I do poorly on a test I try to learn from my mistakes.	4.3
7	MBIVQ7 I think that what I am learning in this class is useful for me to know.	4.3
8	MBIVQ8 I think that what we are learning in this class is interesting.	4.1
9	MBIVQ9 Understanding this subject is important to me.	4.4

Table 8 displays the mean values for intrinsic value. Many of the respondents agreed that understanding the subject is important as this statement records the highest mean score (4.4). The second highest mean value of 4.3 is reflected in both items 6 and 7 where they agreed that even when they do poorly on a test they try to learn from their mistakes, and they think that what they are learning in class is useful for them to know. Following that, with only a slight difference, is the third highest mean score (4.2) where most of the participants agreed that it is important for them to learn what is being taught in class. Additionally, respondents recorded a mean score of 4.1 for two of the statements given in the survey where respondents agreed that they like what they are learning in class and think that what they are learning is interesting. Other than that, some respondents believed that they would be able to use what they learned in this class in other classes (M=4.0). Lastly, the lowest mean score which is 3.6 indicates that a minority of respondents prefer class work that is challenging so they can learn new things.

Findings for Test Anxiety

This section presents data to answer research question 3- How does test anxiety influence learning motivation?

Table 9: Mean for Test Anxiety

	C. Test Anxiety (4 Items)	
1	MBTAQ1 I am so nervous during a test that I cannot remember facts I have learned	3.5
2	MBTAQ2 I have an uneasy, upset feeling when I take a test.	3.4
3	MBTAQ3 I worry a great deal about tests.	3.8
4	MBTAQ4 When I take a test I think about how poorly I am doing.	3.6

Table 9 depicts the mean values for test anxiety through which most respondents expressed significant worry about tests, as indicated by a mean value of 3.8. However, a minority of respondents reported experiencing the feelings of unease and upset when taking a test, with a mean calculation of 3.4. Additionally, respondents recorded a mean value of 3.5 to be so nervous during a test that respondents cannot remember learned facts and 3.6 suggested to be thinking about how poorly respondents were doing while taking a test. These findings revealed a significant influence of test anxiety on learning motivation.

Findings for Self-Regulation in Learning

This section presents data to answer research question 4- How does self-regulation in learning influence learning motivation?

Table 10: Mean for Cognitive Strategy

	A. Cognitive Strategy Use (13 Items)	
1	SRLSCSUQ1 When I study for a test, I try to put together the information from class and from the book.	4.1
2	SRLSCSUQ2 When I do homework, I try to remember what the teacher said in class so I can answer the questions correctly.	4.1
3	SRLSCSUQ3 It is hard for me to decide what the main ideas are in what I read.	3.4
4	SRLSCSUQ4 When I study, I put important ideas into my own words.	4
5	SRLSCSUQ5 I always try to understand what the teacher is saying even if it doesn't make sense.	3.8
6	SRLSCSUQ6 When I study for a test, I try to remember as many facts as I can.	4.1
7	SRLSCSUQ7 When studying, I copy my notes over to help me remember material.	3.8
8	SRLSCSUQ8 When I study for a test, I practice saying the important facts over and over to myself.	4
9	SRLSCSUQ9 I use what I have learned from old homework assignments and the textbook to do new assignments.	4
10	SRLSCSUQ10 When I am studying a topic, I try to make everything fit together.	4
11	SRLSCSUQ11 When I read material for this class, I say the words over and over to myself to help me remember.	4
12	SRLSCSUQ12 I outline the chapters in my book to help me study.	3.8
13	SRLSCSUQ13 When reading I try to connect the things I am reading about with what I already know.	4

It has been revealed that when the respondents study for a test, they try to put together the information from class and from the book besides trying to remember as many facts as they can. The respondents also try to remember what the teacher said in class when they do homework so that they can answer the questions correctly (M=4.1). Other than that, the respondents always try to understand what the teacher is saying even if it does not make sense. The same number of respondents copy their notes over to help them remember material when studying besides outline the chapters in their book to help them study (M=3.8). The lowest mean of only 3.4 shows the respondents' difficulty in deciding the main ideas in the material they read.

Table 11: Mean for Self-Regulation

	B. Self-Regulation (9 Items)	
1	SRLSSRQ1 I ask myself questions to make sure I know the material I have been studying.	3.9
2	SRLSSRQ2 When work is hard, I either give up or study only the easy parts.	3.3
3	SRLSSRQ3 I work on practice exercises and answer end of chapter questions even when I don't have to.	3.5
4	SRLSSRQ4 Even when study materials are dull and uninteresting, I keep working until I finish.	3.7
5	SRLSSRQ5 Before I begin studying, I think about the things I will need to do to learn.	3.9
6	SRLSSRQ6 I often find that I have been reading for class but don't know what it is all about.	3.5
7	SRLSSRQ7 I find that when the teacher is talking, I think of other things and don't really listen to what is being said.	3.1
8	SRLSSRQ8 When I'm reading, I stop once in a while and go over what I have read.	3.8
9	SRLSSRQ9 I work hard to get a good grade even when I don't like a class.	4

Mean values for self-regulation are depicted in the table above. Most respondents agreed that they work hard to get a good grade even when they don't like a class (M=4). Concurrently, it is followed by SRLSSRQ1 (I ask myself questions to make sure I know the material I have been studying) and SRLSSRQ5 (Before I begin studying, I think about the things I will need to do to learn) with the mean value of 3.9. However, the lowest mean value (M=3.1) is recorded to be SRLSSRQ7 where respondents think of other things and don't really listen to what teachers say when teachers are talking. Hence, self-regulation exerts influence on learning motivation.

Findings For Relationship Between Motivational Components and Self-Regulation in Learning

This section presents data to answer research question 5: Is there a relationship between motivational components and self-regulation? In order to assess whether there is a noteworthy connection in the average scores among metacognitive, effort regulation, cognitive, social, and affective strategies, data has been analysed using SPSS for correlation. The outcomes of this analysis are then presented individually in Figure 2.

Figure 2 Correlation between Self-Efficacy and Self-Regulation in Learning

Correlations

		SELFEFFICACY	selfregulated strategies
SELFEFFICACY	Pearson Correlation	1	.447**
	Sig. (2-tailed)		<.001
	N	127	127
selfregulatedstrategies	Pearson Correlation	.447**	1
	Sig. (2-tailed)	<.001	
	N	127	127

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

Figure 2 presents the findings, indicating a connection between self-efficacy and self-regulated learning strategies. The correlation analysis demonstrates a moderately significant association between self-efficacy and self-regulated learning strategies, with a correlation coefficient of (r=.447**) and a (p=.001). According to Jackson (2015), this coefficient holds significance at the .05 level and reflects a positive correlation on a scale ranging from 0.1 to 1.0. To clarify, a weak positive correlation would fall within the 0.1 to 0.3 range, a moderate positive correlation between 0.3 to 0.5, and a strong positive correlation between 0.5 to 1.0. In this context, it means that there exists a moderately positive relationship between self-efficacy and self-regulated learning strategies.

Figure 3 Correlation between Intrinsic Value and Self-Regulation in Learning

Correlations

		INTRINSICVALUE	selfregulated strategies
INTRINSICVALUE	Pearson Correlation	1	.564**
	Sig. (2-tailed)		<.001
	N	127	127
selfregulatedstrategies	Pearson Correlation	.564**	1
	Sig. (2-tailed)	<.001	
	N	127	127

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

Figure 3 displays findings indicating a relationship between intrinsic value and self-regulated learning strategies. The correlation analysis reveals a highly significant association between intrinsic value and self-regulated learning strategies, with a correlation coefficient of (r=.564**) and (p=.000). As per Jackson's criteria (2015), this coefficient holds significance at the .05 level and represents a positive correlation assessed on a scale from 0.1 to 1.0. To put it simply, a weak positive correlation falls within the 0.1 to 0.3 range, a moderate positive correlation spans from 0.3 to 0.5, and a strong positive correlation ranges from 0.5 to 1.0. In this context, it indicates a strong positive relationship between intrinsic value and self-regulated learning strategies.

Figure 4 Correlation between Test Anxiety and Self-Regulation in Learning

Correlations

		TESTANXIETY	selfregulated strategies
TESTANXIETY	Pearson Correlation	1	.259**
	Sig. (2–tailed)		.003
	N	127	127
selfregulatedstrategies	Pearson Correlation	.259**	1
	Sig. (2–tailed)	.003	
	N	127	127

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

Figure 4 presents data indicating an association between test anxiety and self-regulated learning strategies. The correlation analysis reveals a statistically significant but relatively weak association between test anxiety and self-regulated learning strategies, with a correlation coefficient of (r=.259**) and (p=.000). In accordance with Jackson's criteria (2015), this coefficient is deemed significant at the .05 level, and it signifies a positive correlation assessed on a scale from 0.1 to 1.0. To clarify, a weak positive correlation falls within the 0.1 to 0.3 range, while a moderate positive correlation spans from 0.3 to 0.5, and a strong positive correlation extends from 0.5 to 1.0. In this context, it indicates a relatively low positive relationship between test anxiety and self-regulated learning strategies.

SUMMARY OF FINDINGS AND DISCUSSIONS

The objective of this study was to explore the relationship between motivational components and self-regulation based on Pintrich and DeGroot's (1990). Due to that, five research questions were introduced which focused on self-efficacy, intrinsic value, test anxiety, self-regulation and the relationship between these components.

RQ1 (How does self-efficacy influence learning motivation?)

The findings revealed that students typically have positive self-efficacy beliefs with most of them believe they can understand course material and successfully finish given tasks and problem in class. This aligns with Bandura's (1997), who found that self-efficacy influences students' confidence in their ability to finish academic tasks. It has also been revealed that students lack confident when comparing their study skills to their peers. This finding is consistent with the study by Zimmerman (2000) and Schunk and DiBenedetto (2020), who discovered that while self-efficacy promotes persistence and effective learning strategies, peer comparison can negatively affect them. Overall, the results suggest that while students are motivated and confident in their capacity to learn the material for the class, they become less confident when comparing their performance to their peers.

RQ2 (How does intrinsic value influence learning motivation?)

The results demonstrate that most students place a high importance on comprehending and applying what they learn. This finding is consistent with Ryan and Deci (2000), Jalongo (2007) and Muho and Kurani (2013) who found that students are more likely to stick with and do well academically if they believe their education is

valuable, engaging, and meaningful. The result also indicates the students also try to grow from their errors and take some pleasure in their learning. Similarly, Covington (2000) highlighted that learners are intrinsic motivated to learn more and get better when constructive feedback is given as it enables them to improve and learn more. Overall, these findings support the idea that intrinsic value is a critical factor in sustaining motivation and engagement.

RQ3 (How does test anxiety influence learning motivation?)

The findings show that anxiety is a common issue among students, as many respondents experienced considerable worry about tests and a tendency to have negative self-thoughts about poor performance during test. These results are in line with studies by Ng and Kamariah (2006), Gall (1985) and Sogunro (1998), which found that students frequently perceive tests as threatening and that they are a source of stress. Similarly, Putwain (2007) confirmed that too much anxiety can lower students' motivation and distract them to engage in learning tasks. Overall, these findings support the idea that test anxiety strongly affects students' learning motivation.

RQ4 (How does self-regulation in learning influence learning motivation?)

The results show that most students use a variety of self-regulated learning strategies to stay motivated and succeed in class. It has been discovered that, students try to organise their studies for tests by connecting various sources. They also make effort to recall as many details as they can. These results are in line with those of Zimmerman (2000) and Schunk and Greene (2018), who found that self-regulated learners are generally more motivated because they take an active role in their learning process which include planning, monitoring and reflecting. The results also revealed that many students work hard to achieve good grades even in classes they do not particularly enjoy. This aligns with Pintrich's (2004) finding that even in less enjoyable classes, students who have strong self-regulated learning still strive. Overall, the results point to a significant influence of self-regulation on learning motivation.

RQ5 (Is there a relationship between motivational components and self-regulation?)

The findings revealed clear connections between motivational components (such as self-efficacy, intrinsic value, and test anxiety) and self-regulation. First, self-regulation is strongly supported by intrinsic value. Students who feel learning is important and enjoyable are more likely to stay motivated and perform in school. This confirms earlier research by Ryan and Deci's (2000) Self-Determination Theory and Pintrich and De Groot's (1990) findings on motivation and learning. Second, self-efficacy has been found to moderately support self-regulation. This suggests that students who trust in their talents are more likely to use successful learning tactics such as planning, monitoring, and regulating their study habits, supporting Bandura's (1997) theory that self-efficacy promotes perseverance and effort. Finally, test anxiety has only a weak influence on self-regulation. This implies that anxiety might motivate students to prepare but it does not strongly support efficient learning techniques as Putwain (2007) noted concerning the harmful impacts of excessive anxiety. Overall, the findings indicate that test anxiety has the least impact on self-regulated learning while intrinsic value has the biggest influence, followed by self-efficacy.

CONCLUSION

Implications and Suggestions for Future Research

The current study suggests that intrinsic value and self-efficacy play vital role in self-regulated learning, but test anxiety has a smaller influence. The findings have significant implications for educators. The findings suggest that the educators' teaching method should focus on providing meaningful learning experiences that increase students' motivation and build confidence through constructive and positive feedback as well as addressing the detrimental effects of test anxiety in examination-driven contexts like Malaysia. While the study offers useful insights, various areas for future investigation are suggested. First, future study should look at how motivational elements and self-regulated learning techniques work in online learning platforms or hybrid learning contexts since their effects might vary depending on the type of learning environment. Apart from that, further research

should be done in a variety of educational stages (e.g., elementary, secondary, and university education) to confirm the generalization of these findings. Lastly, qualitative methods like interviews may provide deeper insight into how students actually feel anxiety, learning techniques, and motivation.

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REFERENCES

1. Abeysekera, L., & Dawson, P. (2015). Motivation and cognitive load in the flipped classroom: Definition rationale and a call for research. Higher Education Research & Development, 34(1), 1–14. https://doi.org/10.1080/07294360.2014.934336
2. Bandura, A. (1977). Self-efficacy: Towards a unifying theory of behavioural change. Psychological Review, 84(2), 191-215.
3. Borah, M. (2021). Motivation in learning. Journal of Critical Reviews, 8(2), 550-552. https://www.jcreview.com/admin/Uploads/Files/61c1acf9cfb5a1.40236533.pdf
4. Borkowski, J. G. (1992). Metacognitive theory: A framework for teaching literacy, writing, and math skills. Journal of Learning Disabilities, 25(4), 253–257. https://doi.org/10.1177/002221949202500406
5. Butler, D. L., & Winne, P. H. (1995). Feedback and self-regulated learning: A theoretical synthesis. Review of Educational Research, 65(3), 245–281. https://doi.org/10.3102/00346543065003245
6. Covington, M. V. (2000). Goal theory, motivation, and school achievement: An integrative review. Annual Review of Psychology, 51, 171–200. https://doi.org/10.1146/annurev.psych.51.1.171
7. Dornyei, Z. (2005). The Psychology of the language learner: Individual differences in second language acquisition. New Jersey: Lawrence Erlbaum Associates Publishers
8. El-Adl, A., & Alkharusi, H. (2020). Relationships between self-regulated learning strategies, learning motivation and mathematics achievement. Cypriot Journal of Educational Sciences, 15(1), 104-111.
9. Gall, M. D. (1985). Study for success: The most essential study skills for school and college. Eugene, OR: Damein.
10. Gibbens, B. (2019). Measuring student motivation in an Introductory Biology Class. The American Biology Teacher, 81(1), 20-26. https://doi: 10.1525/abt.2019.81.1.20
11. Inan, B. (2013). The relationship between self-regulated learning and academic achievement in a Turkish EFL setting. Academic Journals, 8(17), 1544-1550. https://doi: 10.5897/ERR2013.1561
12. Jackson,S.L. (2015). Research methods and Statistics-A Critical Thinking Approach (5tH Edition). Boston, USA: Cengage Learning.
13. Jalongo, M. R. (2007). Beyond benchmarks and scores: A reassertion of the role of motivation and interest in academic achievement. Childhood Education, 83(6), 395-407, http://dx.doi.org/10.1080/00094056.2007.10522958
14. Ma, L., & She, L. (2024). Self-Regulated Learning and Academic Success in Online College Learning. The Asia-Pacific Education Researcher, 33, 519–533. https://doi.org/10.1007/s40299-023-00748-8.
15. Moghadari -Koosha, M., Moghadasi-Amiri, M., Cheraghi, F., Mozafari, H., Imani, B., & Zandieh, M. (2020). Self-Efficacy, Self-Regulated Learning, and Motivation as Factors Influencing Academic Achievement Among Paramedical Students: A Correlation Study. Journal of Allied Health, 49(3), 145-152. Retrieved from https://www.jstor.org/stable/48723064
16. Muho, A., & Kurani, A. (2013). Components of motivation to learn from a psychological perspective. Academic Journal of Interdisciplinary Studies, 2(4), 173-180. https://doi:10.5901/ajis.2012.v2n4p173
17. Ng, M. L. Y. A., & Kamariah, A. B. (2006). Motivational beliefs and Self-regulated Learning: A Study on Malaysian Students. http://eprints.usm.my/4891/1/Motivational_Belief_And_Self-Regulated_Learning_A_Study_On_Malaysian_Students.pdf

18. Pintrich, P. R., & De Groot E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. Journal of Educational Psychology, 82(1), 33–40. Retrieved from https://psycnet.apa.org/doi/10.1037/0022-0663.82.1.33

19. Putwain, D. (2007). Researching academic stress and anxiety in students: Some methodological considerations. British Educational Research Journal, 33(2), 207–219. https://doi.org/10.1080/01411920701208258

20. Rahmat, N. H., Sukimin, I. S., Sim, M. K., Anuar, M., & Mohandas, E. S. (2021). Online Learning Motivation and Satisfaction: A Case Study of Undergraduates vs Postgraduates. International Journal of Asian Social Sciences, 11(2), pp 88-97. https://doi.org/10.18488/journal.1.2021.112.88.97

21. Rheinberg, F., Vollmeyer, R., & Rollett, W. (2000). Motivation and action in self-regulated learning. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), Handbook of self-regulation: Theory, research, and application, 503-529, San Diego, CA: Academic Press. https://doi.org/10.1016/B978-012109890-2/50044-5

22. Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivation: Classic definitions and new directions. Contemporary Educational Psychology, 25, 54-67.

23. Schraw, G., Crippen, K. J., & Hartley, K. (2006). Promoting self-regulation in science education: Metacognition as part of a broader perspective on learning. Research in Science Education, 36, 111–139. https://doi.org/10.1007/s11165-005-3917-8

24. Schunk, D. H., & DiBenedetto, M. K. (2020). Social cognitive theory, self-efficacy, and students with disabilities: Implications for students with learning disabilities, reading disabilities, and attention-deficit/hyperactivity disorder. In A. J. Martin, R. A. Sperling, & K. J. Newton (Eds.), Handbook of educational psychology and students with special needs (pp. 243–261). Routledge.

25. Schunk, D. H., & Greene, J. A. (2018). Handbook of Self-Regulation of Learning and Performance (2nd ed.). Routledge. https://doi.org/10.4324/9781315697048

26. Seban, P., & Urban, K. (2024). Examining the utilisation of learning techniques and strategies among pedagogy students: Implications for self-regulated learning. Journal of Pedagogy, 27-49. https://doi.org/10.2478/jped-2024-0002

27. Sogunro, O. A. (1998). Impact of evaluation anxiety on adult learning. Journal of Research and Development in Education, 31(2),109-l 19.

28. Teng, L. S. (2021). Individual differences in self-regulated learning: Exploring the nexus of motivational beliefs, self-efficacy, and SRL strategies in EFL writing. Language Teaching Research, 136216882110068. doi:10.1177/13621688211006881

29. Trisnawati, S., & Rahimi, N. M. (2022). The role of self-regulated learning in coping with postgraduate students academic procrastination during the COVID-19 pandemic in Malaysia. Muslim Education Review, 1(1), 85-105. https://doi.org/10.56529/mer.v1i1.2

30. Van Alten, D. C. D., Phielix, C., Janssen, J., & Kester, L. (2020). Self-regulated learning support in flipped learning videos enhances learning outcomes. Computers & Education, 158, 1-16. https://doi.org/10.1016/j.compedu.2020.104000

31. Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. Contemporary Educational Psychology, 25(1), 82–91. https://doi.org/10.1006/ceps.1999.1016

32. Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. Theory into Practice, 41(2), 64-70. https://doi.org/10.1207/s15430421tip4102_2