

Exploring the Relationship Between Self-Regulated Learning Strategies and Components in Motivational Beliefs

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ABSTRACT

Self-regulated learning strategies and motivational beliefs are considered to be contributing factors in determining students' learning capacity. However, the relationship between the two variables are not commonly written in the realm of academia. It is of the best interest of learners that they incorporate self-regulated learning strategies and have high motivational beliefs in order to accomplish tasks in classes. Understanding the relationship between self-regulated learning strategies and motivational beliefs is essential for fostering effective learning. Researchers are addressing the need for a clearer understanding of how students' perceptions of their motivation would impact their ability to regulate their learning and the findings will provide insights into how educators can better support students in developing both the confidence and strategies necessary for academic success. This study aims to explore motivational factors in learning among undergraduates. A quantitative survey approach was employed. The instrument used is a 5-point Likert-scale survey adapted from Pintrich & De Groot (1990). The survey is divided into three sections: Section A collects demographic data, Section B includes 22 items assessing motivational beliefs, and Section C contains 22 items focusing on self-regulated learning strategies. A purposive sample of 282 participants completed the survey. This study finds that learners actively use cognitive strategies and self-regulation in their studies, staying motivated to achieve good grades. They plan and monitor their understanding but feel less confident when comparing themselves to peers in study skills and subject knowledge. Test anxiety is a moderate concern. There is a weak but significant link between self-regulated learning strategies and motivation. Educators should foster intrinsic motivation and self-efficacy while helping students manage test anxiety. Future research should explore how self-regulated learning and motivation influence each other over time.

Keywords: Self-regulated learning strategies, Motivational beliefs, Motivation factors, Learning strategies, Motivational Components

INTRODUCTION

Background of Study

Self-regulated learning (SRL) is a critical factor in academic success, as it enables learners to set goals, monitor their progress, and adapt their learning strategies to achieve desired outcomes. Zimmerman (2002) defines self-regulated learning as a proactive approach in which students take control of their cognitive, behavioral, and motivational processes to optimize their learning. Within SRL, key strategies include goal setting, self-monitoring, time management, and metacognitive reflection. These strategies influence how students engage with learning materials, persist through challenges, and develop independent learning habits.

Motivational beliefs, on the other hand, play a crucial role in driving student engagement and effort in learning. Pintrich and De Groot (1990) categorized motivational beliefs into components such as self-efficacy, intrinsic

value, and test anxiety, which shape students' willingness to employ SRL strategies. Self-efficacy refers to a student's confidence in their ability to succeed, influencing persistence and strategy use. Intrinsic value reflects the perceived importance and interest in a subject, fostering deeper engagement with learning tasks. Conversely, test anxiety can negatively impact self-regulation by creating cognitive and emotional barriers to effective learning.

Research suggests that motivational beliefs and self-regulated learning strategies are interrelated, yet their relationship is not fully understood across different learning contexts. Studies by Schunk and Ertmer (2000) and Eccles and Wigfield (2002) highlight that motivation influences students' ability to regulate their learning, but the extent to which specific motivational components drive cognitive and metacognitive strategy use remains an area for further exploration. Additionally, variations in these relationships based on academic disciplines, learning environments (e.g., online vs. traditional classrooms), and student demographics have yet to be fully examined.

Given the growing emphasis on learner autonomy and self-directed learning in modern education, understanding how motivational beliefs influence SRL strategies is essential for developing effective instructional approaches. This study seeks to explore the relationship between self-regulated learning strategies and components of motivational beliefs, providing insights that can inform teaching practices, curriculum design, and student support programs. By investigating these connections, the research aims to contribute to a deeper understanding of how students regulate their learning and what drives them to persist and succeed in academic settings.

Statement of Problem

Effective learning requires students to take an active role in regulating their own learning processes. Self-regulated learning (SRL) strategies—such as goal setting, self-monitoring, and metacognitive control—are essential for academic success. However, the extent to which students adopt these strategies depends largely on their motivational beliefs, including self-efficacy, intrinsic value, and test anxiety. While previous research has established that motivation plays a role in learning behavior (Pintrich & De Groot, 1990; Zimmerman, 2002), there remains a gap in understanding how specific components of motivational beliefs influence the use of SRL strategies in different academic contexts.

Despite the recognition that self-efficacy enhances persistence, intrinsic value promotes deep engagement, and test anxiety can hinder learning, little is known about the strength and nature of their relationship with cognitive strategy use and self-regulation. Additionally, while studies suggest a correlation between motivation and SRL, findings have been inconsistent across different populations and learning environments (Schunk & Ertmer, 2000; Eccles & Wigfield, 2002). This lack of clarity limits educators' ability to design effective interventions that foster both motivation and self-regulation in students.

Therefore, this study seeks to explore the relationship between self-regulated learning strategies and components of motivational beliefs, addressing the need for a clearer understanding of how students' perceptions of their motivation impact their ability to regulate their learning. The findings will provide insights into how educators can better support students in developing both the confidence and strategies necessary for academic success.

Objective of the Study and Research Questions

This study is done to explore perception of learners on their motivational components and self-regulated learning strategies. Specifically, this study is done to answer the following questions;

1. How do learners perceive their self-regulated learning strategies?
2. How do learners perceive their self-efficacy in learning?
3. How do learners perceive their intrinsic value in learning?
4. How do learners perceive their test anxiety in learning?
5. Is there a relationship between self-regulated learning strategies and motivational components?

LITERATURE REVIEW

Theoretical Framework

Motivational Beliefs

Smit et al. (2017) highlighted that motivational strategies can help students begin their schoolwork, sustain effort despite motivational difficulties, or shift their focus from non-learning to learning goals. According to Pintrich and De Groot (1990), there are three key motivational factors that affect academic performance in the classroom: self-efficacy, intrinsic value, and test anxiety. They explained that self-efficacy refers to a student's belief in their abilities, including their confidence and perceived competence in performing academic activities. Zainuddin et al. (2023) explained that self-efficacy involves the belief in one's capacity to complete tasks successfully, and learners with high self-efficacy are more adept at understanding concepts and engaging with course material. Intrinsic value, as defined by Pintrich and De Groot (1990), refers to a student's internal interest in and perceived importance of their coursework, as well as their inclination toward challenges and mastery-oriented goals. Bandura and Schunk (1981) noted that intrinsic interest can be cultivated through the satisfaction gained from achieving subgoals. According to Yew et al. (2023), students tend to be more engaged in learning subjects they enjoy, find important, or consider interesting and useful. Lastly, Pintrich and De Groot (1990) described test anxiety as the feelings of worry and mental distraction students experience during exams. Yew et al. (2023) suggested that a strong desire for academic success may contribute to heightened test anxiety among students.

Self-Regulated Learning Strategies

Self-regulated learning is a form of cognitive engagement, which is an indirect factor inferred from measures of motivated behavior (Corno & Mandinach, 1983). Pintrich and De Groot (1990) identified key elements of self-regulated learning that are crucial for academic success, such as metacognitive strategies, self-regulation, and cognitive strategies. Metacognitive strategies involve the planning, monitoring, and adjustment of one's cognitive processes (Pintrich & De Groot, 1990). Similarly, Zimmerman and Martinez-Pons (1988) stated that self-regulated learners engage in planning, organizing, self-instruction, and self-evaluation at various stages of learning.

Cognitive strategies, on the other hand, refer to the techniques learners use to study, memorize, and understand learning materials (Pintrich & De Groot, 1990; Corno & Mandinach, 1983; Zimmerman & Pons, 1986, 1988). Self-regulation involves a student's ability to manage and control their effort during academic tasks in the classroom (Pintrich & De Groot, 1990). According to Corno and Mandinach (1983), directing effort toward academic tasks is a form of cognitive engagement, and if this intellectual activity is sustained, students will be able to apply the learning strategies they use in school. Yew (2023) highlighted that cognitive strategies and self-regulation are strongly linked to self-regulated learning in the pursuit of students' goals. Therefore, this study aims to explore how Japanese and English language students perceive self-regulated learning strategies, focusing on these two components.

Past Studies

Past Studies on Motivation Belief

The past studies in Motivational Belief mainly focused on students' academic performance. These studies concluded that motivational belief has a positive relationship with motivational belief.

Ocak and Yamak (2013) investigated the connections between fifth graders' self-regulated learning strategies, motivational beliefs, attitudes toward mathematics, and academic achievement. The study involved 204 students from primary schools in Afyonkarahisar province, who completed the Motivated Strategies for Learning Questionnaire (MSLQ) and the Mathematics Attitude Scale (MTÖ). The findings revealed that metacognitive self-regulation, self-efficacy, task value, and intrinsic goal orientation influenced students' attitudes toward mathematics, while self-efficacy and test anxiety were related to their academic achievement.

Gharghani et al. (2019) examined the relationship between motivational beliefs, cognitive and metacognitive strategies, and academic performance among students. They selected 250 medical and health students from Shiraz University of Medical Sciences using the Levy and Lemeshow sampling formula, and collected data using the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich and de Groot. The study found that self-efficacy, one of the key components of motivational beliefs, was positively correlated with academic performance. Through multiple regression analysis, Gharghani et al. (2019) concluded that self-efficacy plays a significant role in predicting academic success, as students with higher self-efficacy tend to achieve better academic outcomes.

Starr et al. (2022) conducted a systematic review of studies on how parents' STEM socialization practices impact the STEM motivational beliefs of Black and Latinx adolescents. The review analyzed 36 relevant peer-reviewed articles published between January 2000 and January 2020. Starr et al. (2022) found that most of the studies supported the idea that parents' STEM-specific support is positively linked to adolescents' motivational beliefs in Black and Latinx families. This positive relationship helps increase adolescents' interest, self-confidence, and perceived value of STEM, which in turn influences their persistence and engagement in STEM activities.

Based on the mentioned studies, academic performance has a significant connection with motivational belief. Both Gharghani et al. (2019) and, Ocak and Yamak (2013) both agreed that students who are self-efficacious, have a higher chance to perform better academically. Additionally, motivational belief aids students in being confident and persistent in their study.

Past Studies on Self-Regulated Learning Strategies

Similar to motivational belief, previous studies discovered that self-regulated learning strategies also have a positive relationship with academic performance. In addition, these studies also discovered that there is a connection between self-regulated learning studies and motivational belief.

Ocak and Yamak (2013) explored the connections between fifth graders' self-regulated learning strategies, motivational beliefs, attitudes toward mathematics, and academic performance. A total of 204 students from primary schools in Afyonkarahisar province participated by completing the Motivated Strategies for Learning Questionnaire (MSLQ) and the Mathematics Attitude Scale (MTÖ). The study found that self-regulated learning strategies were influenced by task value, self-efficacy, and intrinsic goal orientation. Additionally, students' attitudes toward mathematics were positively influenced by metacognitive self-regulation.

Smit et al. (2017) examined how students use motivational strategies as intermediaries between their beliefs about the value of schoolwork, their sense of competence, and their motivational engagement. The study included 3,602 students aged 11 to 21 from 49 pre-vocational secondary education schools, who completed Wolters' questionnaire on strategies in Dutch. The results showed that self-regulated learners were capable of setting goals, planning, and adjusting their motivation through self-regulated learning strategies. Furthermore, Smit et al. (2017) argued that while using more motivational strategies could enhance a student's effort, it does not necessarily lead to improved academic achievement. They suggested that students first need to be trained in using cognitive and metacognitive strategies.

Broadbent (2017) investigated the relationship between self-regulated learning strategies and academic performance in two learning environments: online and blended. The study collected data from 606 undergraduate students at a university in Melbourne, Australia, with an average age of 23.5 years, between 2014 and 2016. The students completed the Motivated Strategies for Learning Questionnaire, and the results indicated that online students used self-regulated learning strategies more frequently than those in blended learning environments, except in the areas of peer learning and help-seeking. Additionally, time management and effort regulation strategies were found to have a positive impact on the academic performance of online learners.

The studies discussed concluded that self-regulated learning strategies have a significant relationship with not only academic performance but also student's effort in studying. Metacognitive strategy is seen to be prominent in these studies as planning, setting goals as well as time management are seen to be vital in achieving greater grades.

Conceptual Framework

Figure 1 illustrates the conceptual framework of the study, which examines the link between self-regulated learning strategies and components of motivational beliefs. For learners to regulate their learning effectively, motivation plays a crucial role in driving the learning process. Motivation is key to maintaining engagement in learning activities (Rahmat & Thasrabiab, 2024). Learners who are motivated typically exhibit self-efficacy, intrinsic value, and the ability to manage test anxiety. This study specifically examines the connection between self-regulated learning strategies and self-efficacy, as well as the relationship between these strategies and intrinsic value. Lastly, the study seeks to explore how self-regulated learning strategies relate to test anxiety.

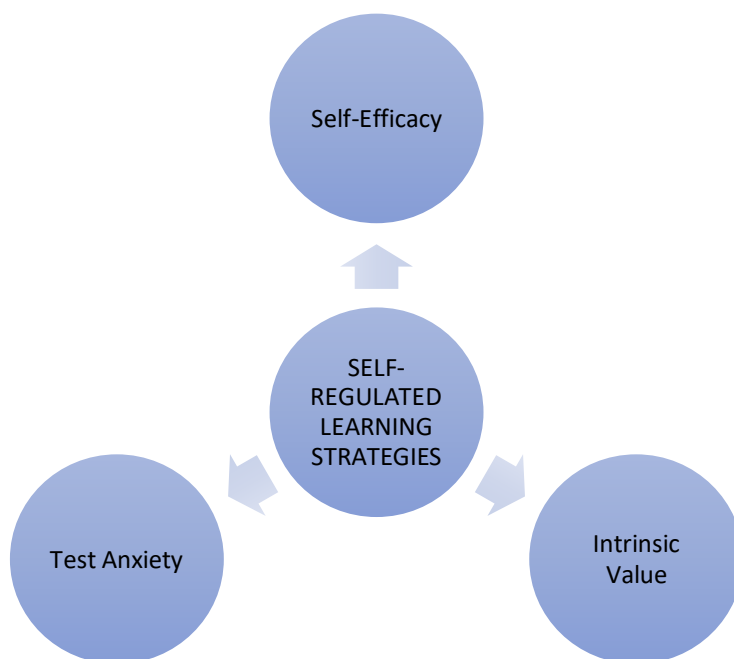


Figure 1 - Conceptual Framework of the Study - Relationship Between Self-Regulated Learning Strategies and Components in Motivational Beliefs

METHODOLOGY

This quantitative study aims to investigate motivational factors influencing learning among undergraduate students. A purposive sample of 282 participants completed the survey. The survey instrument, based on a 5-point Likert scale, is adapted from Pintrich & De Groot (1990) to assess the variables presented in Table 1 below. The survey is divided into three sections: Section A gathers demographic information, Section B includes 22 items that assess motivational beliefs, and Section C features 22 items focused on self-regulated learning strategies.

Table 1 - Distribution of Items in the Survey

PART	STRATEGY		SCALE	No Of Items	Total Items	
Two	Motivational Beliefs	A	Self-Efficacy	9	22	.871
		B	Intrinsic Value	9		
		C	Test Anxiety	4		
Three	Self-Regulated Learning Strategies	D	Cognitive Strategy Use	13	22	.890
		E	Self-Regulation	9		
	Total No Of Items				44	.929

Table 1 presents the reliability of the survey, with a Cronbach's alpha of .871 for motivational beliefs and .890 for self-regulated learning strategies. The overall reliability for all 44 items is .929, indicating strong reliability of the instrument. Further analysis was conducted using SPSS to present the findings that address the research questions of this study.

FINDINGS

Findings for Demographic Profile

Table 2 - Gender of the Respondents

NO	ITEM	PERCENTAGE
1	Male	35%
2	Female	65%

Table 2 delineates that 65% of the respondents were female, while 35% were male, indicating a higher participation rate among female students.

Table 3 - Cluster of Studies of the Respondents

NO	ITEM	PERCENTAGE
1	Science & Technology	33%
2	Social Sciences	60%
3	Business	7%

Table 3 unveils that the majority of respondents (60%) were from the Social Sciences cluster, followed by 33% from Science & Technology and 7% from Business.

Table 4 - Language Learned of the Respondents

NO	ITEM	PERCENTAGE
1	English	26%
2	Japanese	33%
3	Both	41%

Table 4 demonstrates that 41% of respondents learned both English and Japanese, 33% learned Japanese, and 26% learned English.

Table 5 - Semester of the Respondents

NO	ITEM	PERCENTAGE
1	Semester 1-2	33%
2	Semester 3-4	52%
3	Semester 5 and above	15%

Table 5 depicts that the largest group of respondents, 52% were in Semesters 3-4, followed by 33% in Semesters 1-2, and 15% in Semester 5 and above.

Findings for Self-regulated Learning Strategies

This section presents data to answer Research Question 1: *How do learners perceive their self-regulated learning strategies?* In the context of this study, this refers to (i) cognitive strategy use and (ii) self-regulation.

Table 6 - Mean for (i) Cognitive Strategy Use (13 items)

ITEM	MEAN
SRLSCSUQ1 When I study for a test, I try to put together the information from class and from the book.	4.1
SRLSCSUQ 2 When I do homework, I try to remember what the teacher said in class so I can answer the questions correctly.	4.2
SRLSCSUQ 3 It is hard for me to decide what the main ideas are in what I read.	3.2
SRLSCSUQ 4 When I study, I put important ideas into my own words.	3.9

SRLSCSUQ 5I always try to understand what the teacher is saying even if it doesn't make sense.	3.9
SRLSCSUQ 6When I study for a test, I try to remember as many facts as I can.	4.2
SRLSCSUQ 7When studying, I copy my notes over to help me remember material.	3.9
SRLSCSUQ 8When I study for a test, I practice saying the important facts over and over to myself.	4
SRLSCSUQ 9I use what I have learned from old homework assignments and the textbook to do new assignments.	4
SRLSCSUQ 10When I am studying a topic, I try to make everything fit together.	3.9
SRLSCSUQ 11When I read material for this class, I say the words over and over to myself to help me remember.	3.9
SRLSCSUQ 12I outline the chapters in my book to help me study.	3.7
SRLSCSUQ 13When reading I try to connect the things, I am reading about with what I already know.	4

The respondents generally exhibits strong cognitive strategy use for studying, as shown in Table 6, with mean scores ranging from 3.2 to 4.2. The highest mean scores were recorded for remembering teacher instructions during homework (SRLSCSUQ2) and memorizing facts for tests (SRLSCSUQ6), both scoring 4.2. Additionally, respondents frequently employed strategies such as practicing important facts (SRLSCSUQ8) and applying previous learning to new assignments (SRLSCSUQ9), each with a mean of 4.0. However, there was some difficulty in identifying main ideas during reading (SRLSCSUQ3), reflected in the lower mean score of 3.2. Overall, the findings suggest a generally effective use of cognitive strategies, with some variation in their application.

Table 7 - Mean for (ii) Self-Regulation (9 items)

ITEM	MEAN
SRLSSRQ1I ask myself questions to make sure I know the material I have been studying.	3.8
SRLSSRQ 2When work is hard I either give up or study only the easy parts.	3.1
SRLSSRQ 3I work on practice exercises and answer end of chapter questions even when I don't have to.	3.4
SRLSSRQ 4Even when study materials are dull and uninteresting, I keep working until I finish.	3.6
SRLSSRQ 5Before I begin studying, I think about the things I will need to do to learn.	3.8
SRLSSRQ 6I often find that I have been reading for class but don't know what it is all about.	3.2
I find SRLSSRQ 7that when the teacher is talking, I think of other things and don't really listen to what is being said.	2.9
SRLSSRQ 8When I'm reading, I stop once in a while and go over what I have read.	3.7
SRLSSRQ 9 I work hard to get a good grade even when I don't like a class.	4

The mean scores for self-regulation strategies in Table 7 highlights a range from 2.9 to 4.0. The highest score (4.0) was for working hard to achieve good grades, even in a disliked class (SRLSSRQ9). Respondents also demonstrated strong self-regulation in planning their study approach (SRLSSRQ5) and asking themselves questions to check their understanding (SRLSSRQ1), with both items scoring 3.8. Conversely, the lowest score (2.9) was for losing focus during the teacher's explanation (SRLSSRQ7), indicating difficulty in maintaining attention. Overall, the data suggests that while most students exhibit positive self-regulation, challenges remain in maintaining focus and engagement during less stimulating tasks.

Findings for Self-Efficacy

This section presents data addressing research question 2: *How do learners perceive their self-efficacy in learning?* In the context of this study, this refers to (i) self-efficacy, (ii) intrinsic value, and (iii) test anxiety.

Table 8 - Mean for (i) Self-Efficacy (9 items)

ITEM	MEAN
MBSEQ1Compared with other students in this class I expect to do well.	3.4
MBSEQ2I'm certain I can understand the ideas taught in this course.	3.9
MBSEQ 3I expect to do very well in this class.	3.9

MBSEQ 4 Compared with others in this class, I think I'm a good student	3.3
MBSEQ5 I am sure I can do an excellent job on the problems and tasks assigned for this class.	3.7
MBSEQ6 I think I will receive a good grade in this class.	3.8
MBSEQ 7 My study skills are excellent compared with others in this class.	3
MBSEQ8 Compared with other students in this class I think I know a great deal about the subject.	3.2
MBSEQ9 I know that I will be able to learn the material for this class	3.9

Table 8 displays the mean scores for self-efficacy, which range from 3.0 to 3.9. The highest scores (3.9) were associated with statements reflecting confidence in understanding course material (MBSEQ2), expecting good academic performance (MBSEQ3), and believing in one's ability to learn the material (MBSEQ9). Conversely, respondents showed less confidence in comparing their study skills to others, as reflected by the lowest score of 3.0 for "My study skills are excellent compared with others in this class" (MBSEQ7). Overall, the data indicates that students generally believe in their ability to perform well in the course, though there is moderate self-perceived competence when compared to peers.

Table 9 - Mean for (ii) Intrinsic Value (9 items)

ITEM	MEAN
MBIVQ1 I prefer class work that is challenging so I can learn new things.	3.5
MBIVQ2 It is important for me to learn what is being taught in this class.	4.3
MBIVQ3 I like what I am learning in this class.	4.3
MBIVQ 4 I think I will be able to use what I learn in this class in other classes.	3.9
MBIVQ 5 I often choose paper topics I will learn something from even if they require more work.	3.5
MBIVQ 6 Even when I do poorly on a test I try to learn from my mistakes.	4.2
MBIVQ7 I think that what I am learning in this class is useful for me to know.	4.3
MBIVQ 8 I think that what we are learning in this class is interesting.	4.3
MBIVQ 9 Understanding this subject is important to me.	4.4

The mean scores for intrinsic value, ranging from 3.5 to 4.4 in Table 9, indicates that the highest score of 4.4 reflects the importance placed on understanding the subject (MBIVQ9). Students also expressed a strong interest in the material being taught, with several items scoring 4.3, including "It is important for me to learn what is being taught in this class" (MBIVQ2), "I like what I am learning in this class" (MBIVQ3), and "I think that what I am learning in this class is useful for me to know" (MBIVQ7). The lowest mean score (3.5) was given to "I prefer class work that is challenging so I can learn new things" (MBIVQ1) and "I often choose paper topics I will learn something from even if they require more work" (MBIVQ5), indicating that while students find value in learning, they may not always seek the most challenging tasks. Overall, the data reflects a strong sense of intrinsic motivation and interest in the class content.

Table 10 - Mean for (iii) Test Anxiety (4 items)

ITEM	MEAN
MBTAQ1 I am so nervous during a test that I cannot remember facts I have learned.	3.2
MBTAQ 2 I have an uneasy, upset feeling when I take a test.	3.1
MBTAQ 3 I worry a great deal about tests.	3.5
MBTAQ 4 When I take a test I think about how poorly I am doing.	3.3

The data on test anxiety in Table 10 denotes that the item "I worry a great deal about tests" (MBTAQ3) has the highest mean of 3.5, indicating that test-related stress and anxiety are somewhat prevalent among students. The item "I am so nervous during a test that I cannot remember facts I have learned" (MBTAQ1) shows a mean of 3.2, reflecting moderate nervousness that affects memory recall during exams. Similarly, "When I take a test I think about how poorly I am doing" (MBTAQ4) has a mean of 3.3, denoting that students occasionally focus on their performance negatively during tests. The lowest mean of 3.1 is for "I have an uneasy, upset feeling when I take a test" (MBTAQ2), suggesting that while students experience some discomfort during tests, it is not as intense as other aspects of test anxiety. In conclusion, test anxiety is present but not overwhelming, with a tendency toward moderate anxiety related to performance and recall.

Findings for Relationship between self-regulated learning strategies and motivational components

This section presents data to address Research Question 5: *Is there a relationship between self-regulated learning strategies and motivational components?* To determine whether there is a significant association between the mean scores of self-regulated learning strategies and motivational components, the data was analyzed using SPSS for correlations. The results are presented separately in Tables 11, 12, and 13 below.

Table 11 - Correlation between Self-Regulated Learning Strategies and Self-Efficacy

Correlations

		SELF_REGULATED_LEARNING	SELF_EFFICACY
SELF_REGULATED_LEARNING	Pearson Correlation	1	.523**
	Sig. (2-tailed)		.000
	N	282	282
SELF_EFFICACY	Pearson Correlation	.523**	1
	Sig. (2-tailed)	.000	
	N	282	282

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

Table 11 shows an association between self-regulated learning strategies and self-efficacy. Correlation analysis reveals a significant and strong positive association between the two variables, with a correlation coefficient of $r=.523^{**}$ and $p=.000$. According to Jackson (2015), coefficients are considered significant at the .05 level, and positive correlations are measured on a scale of 0.1 to 1.0. A weak positive correlation ranges from 0.1 to 0.3, moderate from 0.3 to 0.5, and strong from 0.5 to 1.0. This result confirms a strong positive relationship between self-regulated learning strategies and self-eff

Table 12 - Correlation between Self-Regulated Learning Strategies and Intrinsic Value

Correlations

		SELF_REGULATED_LEARNING	INTRINSIC_VALUE
SELF_REGULATED_LEARNING	Pearson Correlation	1	.659**
	Sig. (2-tailed)		.000
	N	282	282
INTRINSIC_VALUE	Pearson Correlation	.659**	1
	Sig. (2-tailed)	.000	
	N	282	282

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

Table 12 reveals an association between self-regulated learning strategies and intrinsic value. Correlation analysis indicates a significant and strong positive association between the two variables, with a correlation coefficient of $r=.659^{**}$ and $p=.000$. According to Jackson (2015), coefficients are significant at the .05 level, and positive correlations are measured on a scale of 0.1 to 1.0. A

weak positive correlation falls within the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. Therefore, the results confirm a strong positive relationship between self-regulated learning strategies and intrinsic value.

Table 13 - Correlation between Self-Regulated Learning Strategies and Test Anxiety

Correlations		SELF_REGULATED_LEARNING	TEST_ANXIETY
SELF_REGULATED_LEARNING	Pearson Correlation	1	.266**
	Sig. (2-tailed)		.000
	N	282	282
TEST_ANXIETY	Pearson Correlation	.266**	1
	Sig. (2-tailed)	.000	
	N	282	282

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

Table 13 records an association between self-regulated learning strategies and test anxiety. Correlation analysis indicates a low but significant association, with a correlation coefficient of $r = .266^{**}$, $r = .266^{**}$ and $p = .000$. According to Jackson (2015), coefficients are significant at the .05 level, and positive correlations are measured on a scale of 0.1 to 1.0. A weak positive correlation falls within the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. Thus, the findings suggest a weak positive relationship between self-regulated learning strategies and test anxiety.

CONCLUSION

Summary of Findings and Discussions

RQ 1: How do learners perceive their self-regulated learning strategies?

The findings indicate that learners generally perceive themselves as active users of cognitive strategies and self-regulation techniques in their studies. Regarding cognitive strategies, students frequently employ techniques such as integrating class materials with textbooks, practicing important facts, and using prior knowledge to complete assignments. These strategies align with past studies that emphasize the importance of rehearsal, elaboration, and organization in effective learning (Pintrich & De Groot, 1990; Zimmerman, 2002). However, some students struggle with identifying main ideas while reading, suggesting a need for improved metacognitive awareness in reading comprehension.

In terms of self-regulation, students report being motivated to persist in their studies, particularly when working towards good grades. They also engage in planning and self-questioning to monitor their understanding. These findings are consistent with research by Schunk and Ertmer (2000), which highlights the role of goal-setting and self-monitoring in academic achievement. However, difficulties in maintaining attention during teacher explanations suggest that sustained focus and engagement remain a challenge. This aligns with prior studies that show attention regulation is critical for deep learning but often requires external support and scaffolding (Eccles & Wigfield, 2002).

RQ 2: How do learners perceive their self-efficacy in learning?

The findings suggest that learners generally have a moderate to high sense of self-efficacy in their learning, particularly in their confidence to understand course material and perform well academically. The highest-rated statements indicate that students believe they can grasp the course concepts and achieve good grades, aligning with Bandura's (1997) Social Cognitive Theory, which posits that self-efficacy influences motivation, effort, and persistence in learning tasks.

However, while students exhibit self-assurance in their individual abilities, they demonstrate less confidence when comparing themselves to peers, particularly in study skills and subject knowledge. The lower scores for comparative self-evaluations suggest that social comparison may negatively impact self-efficacy, a finding supported by Schunk and Pajares (2009), who highlight that students often base their self-efficacy judgments on social comparisons rather than objective performance.

This moderate self-efficacy could influence academic behaviours and motivation, as research by Zimmerman (2002) suggests that students with strong self-efficacy are more likely to engage in self-regulated learning strategies, persist in challenging tasks, and adopt mastery-oriented goals. Given the mixed confidence levels observed, interventions such as goal-setting strategies, peer modeling, and metacognitive training could be beneficial in strengthening self-efficacy beliefs, particularly in areas where students feel less competent compared to their peers.

RQ 3: How do learners perceive their intrinsic value in learning?

The findings indicate that learners generally recognise the intrinsic value of learning and are motivated by their interest in the subject matter. Respondents strongly agree that understanding the subject is important to them and find the content useful and enjoyable. These results align with Self-Determination Theory (Deci & Ryan, 1985), which suggests that intrinsic motivation enhances deep learning and engagement when students find the material personally meaningful. Students also exhibit a strong sense of purpose in their studies, as they believe what they learn in class can be applied to other subjects. This finding supports research by Eccles and Wigfield (2002), which highlights the role of task value beliefs in academic motivation. When students perceive learning as relevant to their broader educational goals, they are more likely to engage with the material. However, while students express a high intrinsic value for learning, they are less inclined to seek out challenging tasks. The lower scores for choosing difficult coursework or research topics suggest that effortful engagement may be limited, even when students value the subject. High Intrinsic value similar to Ocaik and Yamak (2013) discovered that intrinsic goal orientation can determine the students' attitudes toward mathematics.

According to Yew et al. (2023), students are motivated to learn subjects they enjoy, consider important, or find interesting and useful. This aligns with findings from Pintrich (2003), which suggest that while students may recognize the importance of learning, they do not always demonstrate high challenge-seeking behaviors, particularly if the tasks require extra effort.

RQ 4: How do learners perceive their test anxiety in learning?

The findings indicate that test anxiety is a moderate but notable concern among students, with worry about tests (MBTAQ3, mean = 3.5) being the most pronounced aspect. This suggests that many learners experience pre-exam stress, which aligns with Zeidner's (1998) research on test anxiety, highlighting that cognitive worry is a key component affecting academic performance. A significant number of students also report difficulty recalling information due to nervousness (MBTAQ1, mean = 3.2) and negative self-evaluation during tests (MBTAQ4, mean = 3.3). These findings are consistent with Sarason's (1984) Cognitive Interference Theory, which posits that anxiety disrupts working memory and concentration, leading to poorer test performance. While students do not report extreme anxiety, the presence of mild to moderate nervousness (MBTAQ2, mean = 3.1) suggests that physiological symptoms—such as feeling uneasy before tests—are common but not overwhelming. Past studies, such as Putwain & Daly (2014), suggest that high test anxiety can hinder motivation and self-regulated learning strategies, potentially lowering academic performance. Given these findings, educators might consider interventions such as mindfulness training, test-taking strategies, and cognitive restructuring techniques to help students manage anxiety more effectively.

RQ 5: Is there a relationship between self-regulated learning strategies and motivational components?

The findings indicate a weak but statistically significant positive correlation between self-regulated learning strategies and test anxiety ($r = .266$, $p = .000$). This suggests that as students engage more in self-regulated learning strategies, they may still experience some level of test anxiety. While self-regulated learning strategies, such as goal setting, self-monitoring, and cognitive strategy use, are generally associated with improved

academic performance and reduced stress, the persistence of test anxiety may be linked to external factors such as high academic expectations, time pressure, or lack of confidence in one's abilities. Past studies provide mixed insights into this relationship. For instance, Pintrich (2000) emphasized that self-regulated learners tend to experience lower test anxiety due to their ability to plan, monitor, and adjust their learning behaviors. However, Zimmerman (2002) highlighted that while self-regulated strategies enhance learning efficiency, they do not entirely eliminate test anxiety, especially for students who place high importance on academic success.

Pedagogical Implications and Suggestions for Future Research

The findings of this study highlight important pedagogical implications for enhancing students' self-regulated learning strategies and addressing motivational components that influence academic performance. Weak but statistically significant correlation between motivational beliefs and cognitive strategy use, as well as self-regulation, suggest that fostering intrinsic motivation and self-efficacy can enhance students' ability to regulate their own learning effectively but it is not as impactful as we thought. Educators should focus on designing instructional strategies that promote students' intrinsic value of learning, such as incorporating real-world applications, providing autonomy in learning tasks, and fostering a growth mindset to improve self-efficacy.

The presence of moderate test anxiety among students suggests a need for interventions that help learners manage stress during assessments. Strategies such as mindfulness training, test-taking skills workshops, and providing low-stakes formative assessments can help alleviate anxiety while promoting a more supportive learning environment. Additionally, since a weak but significant relationship was found between self-regulated learning strategies and test anxiety, educators should emphasize metacognitive strategies, such as reflection and self-assessment, to help students develop better coping mechanisms and adaptive test-taking behaviors.

Given the findings, future research should explore the causal relationships between self-regulated learning strategies and motivational components through longitudinal studies. Additionally, qualitative studies can provide deeper insights into students' personal experiences with motivation and self-regulation, allowing for a more nuanced understanding of their challenges and successes. Further research could also examine the effectiveness of specific pedagogical interventions in enhancing self-regulation and reducing test anxiety across different educational contexts

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