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Self- regulated Learners: What Drives Them?

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Abstract

In an online environment, students can learn independently and flexibly. Motivation and emotional control are the critical factors that influence learning. Therefore, applying self-regulation learning strategies may assist students to remain proactive in the online learning environment. Self-regulation is a holistic learning strategy to understand how students regulate their learning from the perspectives of cognitive, metacognitive, behavioural, motivational and emotional or affective. This study aimed to examine how motivation beliefs and self-regulation learning strategies affect learning, and the relationships between motivation beliefs and self-regulation learning strategies. A sample of 155 students obtained by purposive sampling from a university in Malaysia participated in this quantitative study. The study used a questionnaire with five-point Likert scales as the instrument. The results indicated that students sometimes had self-efficacy and very often had the intrinsic value online language learning environment, but they very often had test anxiety. Besides, they very often used cognitive strategies to facilitate their learning, but sometimes applied self-regulation in the online language learning environment There was a significantly strong relationship between motivation beliefs and self-regulation learning. The outcomes of the survey suggest that the instructor might redesign the instruction and assist students in self-regulation learning process.

Keywords: Self-Regulation, Motivation Beliefs, Online Learning, Language Learning Strategy

Introduction

Background of Study

Online learning has become a central form of learning in today's educational landscape. In an online learning environment, students can learn flexibly and conveniently. Therefore, it is crucial for them to maintain their motivation and emotional control in learning in order to pursue their learning goals. According to Zimmerman (2002), motivation is one of the core components of self-regulated learning that determines how well students can regulate their emotions, behaviours and learning strategy. Self-regulated learning provides a holistic and

comprehensive learning model to understand the variables that influence student learning from cognitive, metacognitive, behavioural, motivational and emotional, or affective perspectives; and is critical to help students achieve their personal learning goals (Panadero, 2017; Schunk & Zimmerman, 2012).

Self-regulated learning is a cyclical and goal-driven learning process (Schunk & Zimmerman, 2012). In general, the process of self-regulation learning involves students' beliefs about their abilities and control over their emotions in relation to the success of learning goals (Pintrich, 2000; Zimmerman, 2002). The main emotions that affect academic performance are joy, anger, boredom, anxiety, hopelessness, and pride (Adesola & Li, 2018). Ping et.al (2015) also state that learning strategies and motivational beliefs are interrelated factors of self-regulated learning and are key factors in students' academic performance.

According to Zimmerman (2008), the self-regulation model consists of three main phases, namely, forethought, performance and self-reflection. In the forethought phase, there are two sub-processes which include task analysis and self-motivation belief. Prior to the learning task, students analyse a task, set goals, develop a plan for action and develop learning beliefs related to a task (self-efficacy, outcome expectations, task interest/value and goal orientation). Then, in the performance stage, they regulate their own learning process by monitoring their own performance and evaluating how well the strategies from the aspects of self-monitoring (self-instruction, imagery, attentional focusing and task strategies) and self-observation (metacognitive monitoring and self-recording). After completing a task, which is in the self-reflection phase, they reflect on their performance and determine what led to the results and what they need to change. This final phase includes processes of self-evaluation (self-assessment and causal attribution) and self-reaction (self-satisfaction/effect and adaptation/defence).

Self-regulation learning has been studied in various disciplines in schools and institutions in Malaysia. It has also gained interest in the field of language learning. Ping, et.al (2015) applied the model of self-regulation to investigate Chinese learners learning English as a Foreign Language (EFL) at the University of Malaya in terms of the use of cognitive and metacognitive strategies and learners' perceptions, and knowledge in vocabulary learning. The findings indicate that students had insufficient knowledge of high-frequency words and showed deficits in the use of cognitive deep processing strategies and metacognitive control strategies. The study also found that learners' low self-efficacy and motivation were due to their lack of strategy knowledge, which affected their performance. Meanwhile, Shing & Rameli (2020) examined the influence of self-regulation learning in English and academic achievement of upper primary students in Johor Bahru, Malaysia. The results showed that there was a significant difference in self-regulation learning in English between gender in the performance and self-reflection phases, except in the forethought phase, which showed no significant difference. All three phases showed significant difference in self-regulation in the English language learning according to the students' achievement level. Besides language learning, there have been studies that investigated the influence of self-regulated learning on university students for other subjects (Ramli, et. al., 2018). Tee et. al (2021) examined the impact of self-regulation processes on students' mathematical reasoning and academic achievement. Rasheed et. al (2021); Zalli et. al (2019) explored the influence of self-regulated learning in an online environment.

It is evident that self-regulated learning plays an important role in the learning process as a guide to assist students in achieving their own learning goals. As such, the instructor should support, encourage and assist students to apply self-regulation model in the learning process. Hence, the current study uses Pintrich & De Groots's (1990) model of self-regulation of learning to examine language learners from the perspective of motivational beliefs and self-regulated learning strategies at a public university in Malaysia.

Statement of Problem

Self-regulated learning is one of the most important skills for achieving learning goals and is a key factor in ensuring the quality of online learning. In general, students can be described as self-regulated to the extent that they are metacognitively, motivationally, and behaviourally active participants in their learning process. To explicitly qualify as being self-regulated, student learning must involve in the use of specific strategies to achieve academic goals based on a sense of self-efficacy (Zimmerman, 1989).

Bai & Wang (2021) investigated the relationships between motivational beliefs, the use of self-regulated learning strategies and English as a second/foreign language (ESL/EFL) writing ability. The participants were 540 8th graders in Hong Kong. A multivariate analysis of variance (MANOVAs) was conducted to examine whether there were differences in motivational belief levels and self-regulated learning writing strategy use among high-, middle- and low-achieving writers. Structural equation modelling (SEM) was conducted to examine the effect of motivational beliefs on the use of self-regulated learning writing strategy. Differences in motivation and self-regulated learning strategy use were found among students with different levels of writing ability, indicating that both motivation and self-regulated learning strategy use contributed to improved writing ability. The results also suggest that students' motivational beliefs are critical to the use of self-regulated learning strategies in English writing.

In another study of Bai & Wang (2023), the role of growth mindset, self-efficacy, and intrinsic value in self-regulated learning and English language learning achievements in Hong Kong primary school students was examined. A sample of 690 4th graders participated in the study. The findings suggest that students' motivational beliefs (i.e. growth mindset, self-efficacy and intrinsic value) drive the level of use of self-regulated learning strategies (i.e. monitoring, effort regulation, and goal setting and planning) in different ways. Monitoring and effort regulation contributed significantly to participants' English language learning performance, but goal setting and planning did not predict their English language learning performance. The finding suggests that growth mindset is a better predictor of self-regulated learning than self-efficacy and the intrinsic value.

However, Ye et al (2022) argue that studying the types and sequential patterns of learners' self-regulated learning behaviour in online environments remains challenging. In the study, the researchers first classified the learning groups using a hierarchical clustering approach. Lagged series analysis was then used to explore the most significant differences in self-regulated learning behaviour and its serial patterns between the different learning groups. Finally, differences in academic performance between the groups were discussed. The results were as follows: (1) the group with higher average behavioural frequency tended to be more active in solving online tasks, showing a 'cognitive-oriented' sequential pattern, and this group

performed the best; (2) the group with higher active behavioural frequency tended to improve in the trial-and-error process, showing a 'reflective-oriented' sequence pattern, and this group had better performance; (3) The group with the lowest behavioural frequency tended to complete the learning task passively, showing a "negative regulation" sequence pattern, and this group performed less well.

El-Adl & Alkharusi (2020) examined the relationships of self-regulated learning strategies with students' learning motivation and academic achievement in mathematics. The results indicated positive relationships of self-regulated learning with motivational beliefs aspects including intrinsic and extrinsic motivations, task value, control of learning beliefs, self-efficacy and academic achievement despite test anxiety was negatively related to self-regulated learning.

Al Mamun & Lawrie (2023) mention that technological innovations and changing learning environments affect student engagement more than ever before. They also state that the structure of student behavioural engagement in online environments need to be carefully examined to determine how to achieve better student learning goals. Rasheed et.al (2021) argue that the biggest challenge associated with the online component of blended learning is the inability of students to properly self-regulate their learning activities.

This study was conducted to deepen the understanding of how students engage and interact with online content in a self-regulated environment, considering lack of direct teacher support. Therefore, the research questions of this study are as follows:

- How does motivational beliefs influence learning?
- How do learners perceive their self-regulation learning strategies?
- Is there a relationship between motivational beliefs and self-regulation learning strategies?

Literature Review

Motivation for Learning

Motivation is a complex aspect of human psychology and behaviour that influences how individuals allocate their time, energy, thoughts, and emotions to a learning task, and it also includues how long they work at it and their ability to overcome obstacles during the learning process (Bakar, 2014). Filgona et al (2020) point out that motivation is what makes someone know, act, understand, believe, or gain certain skills that satisfy the person's needs. Many researchers have addressed motivation and its role in the learning process, including instrumental and integrative orientations (Gardner, 1985). According to Gardner (1985), an instrumental orientation refers to the learner learning the language because of specific external goals, such as the desire to achieve a good grade in a subject or to gain career opportunities. An integrative orientation, on the other hand, refers to the desire to learn a language with the goal of interacting with the culture of the native-speaking community. Affective variables, which are attitude, orientation, anxiety, and motivation, have been shown to be as important as linguistic aptitude in predicting second language (L2) performance (Gardner, 1985). Following Deci & Ryan's (1985) self-determination theory (SDT), there are two types of motivation: intrinsic and extrinsic. Intrinsic motivation means that the motivation to perform an activity is because of the activity is enjoyable and satisfying. Whereas extrinsic motivation is the performance of activities or tasks by individuals to achieve

an outcome other than learning itself. Several studies have confirmed that motivated learners tend to perform better than less motivated learners in second language acquisition (SLA) (Dörnyei, 2005; Papi, 2018; de Burgh-Hirabe, 2019; Filgona et al., 2020; Gong et al., 2020; Sudina, 2021).

Self-Regulated Learners

Self-regulated learners are individuals who can take control of their learning process, and they are intrinsically motivated and autonomous individuals who are proactively pursue their own learning goals (Oates, 2019). They are individuals who have the skills necessary to monitor and adjust their strategies as needed to meet the demands of their own goals in their learning environment (Cohen, 2012; Zimmerman, 2008). According to Zimmerman (2008), self-regulated learners are metacognitively, motivationally, and behaviourally active in their own learning processes to achieve their own goals. Students who practice self-regulated learning can improve their academic performance, find value in their own learning process, and continue to learn effectively. They are much more likely to succeed in school, learn more and achieve at higher levels. A self-regulated learner has revealed high correlations with academic achievement (Zimmerman, 2002). DiFrancesca et.al (2016) found that there are significant differences in self-regulation between high and low performing students and recommended that the instructor to re-design instruction. Shing & Rameli (2020) found that self-regulated learners could perform when learning English. Furthermore, Mbato & Cendra (2019) investigated how Indonesian students (EFL) self-regulated their thesis writing process and found that a self-regulation learning strategy is important for them to complete their thesis.

Past Studies on Motivation for Learning Language

Greenwald et al (2023) investigated the link between bilingualism and academic motivation. The researchers asked whether bilingual students would exhibit higher levels of intrinsic or extrinsic motivation than monolingual students, how intrinsic and extrinsic motivation changed over time, and the extent to which these forms of motivation were in tension with each other. Relative to the monolingual students, the researchers expected bilingual students to (1) report higher levels of intrinsic and extrinsic forms of motivation, and (2) show a weaker negative correlation between intrinsic and extrinsic forms of motivation. Bilingual status, intrinsic motivation and extrinsic motivation were measured at two time points in a diverse sample of 1047 third to eighth grade students (851 monolingual and 196 bilingual). Bilingual students reported significantly higher levels of intrinsic and extrinsic motivation than monolingual students. They also showed a more substantial decrease in intrinsic motivation from autumn to spring. Intrinsic and extrinsic forms of motivation were negatively correlated with monolinguals but not with bilinguals, suggesting that these two types of motivation may be less antagonistic among students who speak a language other than English at home. These differences may be driven by cognitive (e.g., executive functioning skills) and cultural (e.g., family cohesion, interdependence orientation) factors, and may inform educators wishing to support the learning of students from diverse groups.

Xu et al (2022) examined the predictive of motivation, anxiety, and learning strategies for Chinese language achievement among Thai learners learning Chinese as a foreign language during online Chinese courses. In this study, 90 local undergraduate participants with different grades were from three universities in Thailand. The mean age was 19.21 years old (SD=1.19) and consisted of 11 male students and 79 female students. The participants

primarily identified between elementary and intermediate levels of Chinese language proficiency. In this study, the researchers applied a quantitative method by using four instruments. The first instrument was a questionnaire with 18 items (Cronbach's α = 0.77) that was used to test the Chinese foreign language (CFL) 's motivation. It included two categories of motivation: intrinsic motivation (IM) and extrinsic motivation (EM). IM was divided into three categories, including knowledge, accomplishment, and stimulation, While EM included external regulation, introjected regulation, and identified regulation. The second instrument was a questionnaire with 16 items divided into four subscales (Cronbach's α = 0.79). It was designed to assess the learners' anxiety about Chinese language speaking, listening, reading, and writing during their online study. The third instrument was a questionnaire with 24 items (Cronbach's α = 0.84). It focused on six aspects: goal setting, environment structuring, task strategies, time management, help-seeking, and self-evaluation. The final instrument was a vocabulary test evaluate the participants' vocabulary size. The finding of the research indicated that for predictive of motivation and CFL learning, the participants of online Chinese learning had a strong intrinsic motivation and moderate extrinsic motivation to learn Chinese and that their intrinsic motivation levels significantly correlated with and further significantly predicted their self-rated Chinese language proficiency after controlling for their background variables. However, this significant predictive power of motivation disappeared after further controlling for anxiety and learning strategies in the regression model. The finding regarding anxiety and CFL learning, the study indicated that participants showed moderate anxiety in the context of online learning, and their anxiety had a negative correlation with and prediction for self-rated Chinese language proficiency. It is possible that the low correlation between anxiety and foreign language achievement in Thailand is due to cultural values within the country. Referring to the learning strategies and CFL learning, the study reviewed that learning strategies did not significantly correlate with L2 Chinese achievement. Nonetheless, the researchers acknowledged that self-regulated learning strategies are crucial in online learning and could exert their influence on learning achievements via cognitive, metacognitive, behavioural, and self-motivational. The finding also concluded that anxiety emerged as the most stable factor for the participants' CFL achievement, followed by learning strategies and motivation. Besides, motivation, anxiety, and learning strategies only significantly predicted the participants' self-rated Chinese language proficiency, but not their performance on the Chinese vocabulary size test. The implication of study provided theoretical implications for understanding the role of motivation, anxiety, and learning strategies in the context of online learning. The general results partially support the importance of individual differences factors (such as anxiety and learning strategies) in L2 achievement. The researchers recommended that for less developed countries, instructors could pay more attention to establishing self-regulating strategies for learning a foreign language online. Learners are therefore encouraged to become familiar with the benefits of self-regulated learning strategies and to increase their online learning autonomy from the perspectives of motivation, affect, cognition, and social interaction.

Past Studies on Self-Regulated Learners

Many studies have been conducted to examine self-regulated learning. Vasu et al (2022) investigated the effects of self-assessment and indirect teacher feedback on self-regulated learning. A quasi-experimental design with an embedded experimental model was used in this study. Three intact classes were randomly assigned to the experimental and control groups. Both quantitative and qualitative data were collected in this study. Quantitative data

were obtained through self-reporting using the Self-Regulation Strategy Inventory (SRI). Qualitative data were obtained from the self-regulated learning microanalysis programme. The findings showed that both self-assessment and indirect teacher feedback helped learners to become more self-regulated. However, self-assessment reduced maladaptive behaviour more than indirect teacher feedback. This study concludes that self-assessment is an effective instructional practice that promotes self-regulated learning in terms of goal setting, strategy planning, strategy use, attribution and adaptive behaviour. It is recommended that self-assessment should be used as part of the instructional practice rather than as an alternative strategy in writing lessons.

According to Al-Hawamleh et al (2022), self-regulated learning has been found to contribute to language learning. This study demonstrated how self-regulated learning can help to stimulate students' speaking skills. Speaking in an English as a Foreign Language (EFL) environment is often considered to be a challenging task that requires actions, skills or strategies to achieve successful communication. As actions, skills or strategies are characterised by the learner's planning in the classroom, digital portfolios greatly influence language learning. This study examined the influence on Kuwaiti female students' self-regulation processes in an EFL classroom speaking task. The main outcomes that were prevailed were the anticipation, realisation and reflection stages in the speaking task. The results indicate that self-regulated learners can successfully speak when they understand and regulate what they are doing in the speaking task.

Conceptual Framework

Learning involves the interaction between the learning task and the environment around them. A positive learning environment provides a positive learning experience and vice versa (Rahmat, 2018). When it comes to learning, besides the environment, motivation also plays an important role for success. This study (refer to Figure 1) is replicated from Pintrich and De Groot (1990). Their study explored the motivational beliefs and self-regulated strategies of learners. Learners who are self- regulated can put their (a) cognitive strategy to use and (b) use self-regulation techniques. These learners have motivational beliefs such as (a) self-efficacy, (b) intrinsic value and also (c) text anxiety.

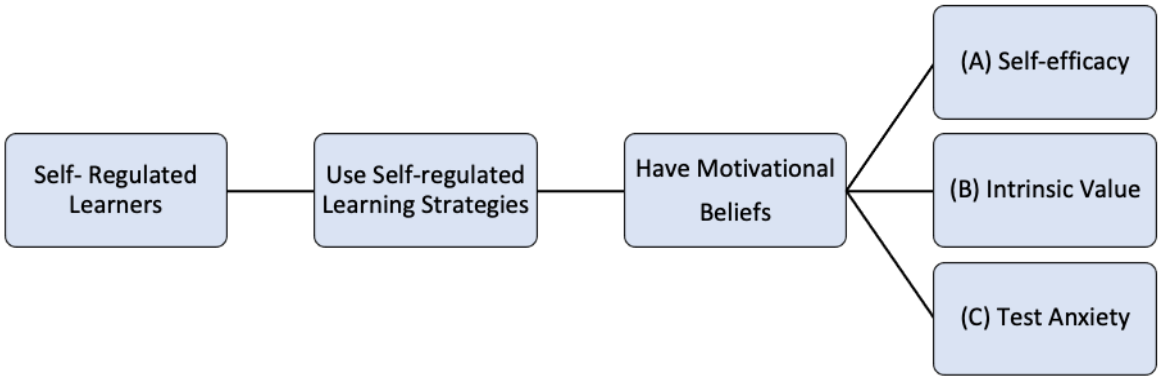

Figure 1: *Conceptual Framework of the Study-Self-Regulated Learners and their Motivational Beliefs*

Mthodology

This quantitative study was conducted to explore learners' perception of self-regulated learning. A purposive sampling was used to select the sample of 155 participants who responded to the survey. The instrument used was a survey which had three sections. With reference to Table 1, Section One has two items on the demographic profile. Section B has 22 items on motivational beliefs. Section C has 22 items on self-regulated learning strategies.

Table 1
Distribution of Items in the Survey

Part	Strategy Pintrich and De Groot (1990)		Scale	No of Items	Total Items
Two	Motivational Beliefs	A	Self-efficacy	9	22
		B	Intrinsic Value	8	
		C	Test Anxiety	4	
Three	Self-regulated Learning Strategies	D	Cognitive Strategy Use	13	22
		E	Self-regulation	9	
	Total Number of Items				44

The instrument used five Likert scales (1-Never 2-Rarely 3-Sometimes 4-Very Often 5-Always). The findings were reported in mean scores. Therefore, the mean score was interpreted by using the following interpretation provided by Alston and Miller (2002) as illustrated in Table 2.

Table 2
Interpretation of Mean of the Five Likert Scales

Likert Scale	Likert Description	Mean of Likert Scale
1	Never	1.0 - 1.49
2	Rarely	1.5 - 2.49
3	Sometimes	2.5 - 3.49
4	Very often	3.5 - 4.49
5	Always	4.5 – 5.0

Table 3
Reliability of Survey

Reliability Statistics	
Cronbach's Alpha	N of Items
.947	44

Table 3 shows the reliability of the survey. The analysis shows a Cronbach alpha of .947; thus, revealing a good reliability of the instrument used. Further analysis using the SPSS was done to present findings for answering the research questions for this study.

Findings

Findings for Demographic Profile

This section presents the findings for the demographic profile.

Table 4 indicates the participants' gender. The majority of them (86.0%) were females and only 14.0% of them were males. This is due to the student intake that consisted of more females than males.

Table 4

Gender

1	Male	14.0%
2	Female	86.0%

Table 5

Discipline

1	Science & Technology: AS, AP, HS	44.0%
2	Business: AC,BM, HM	56.0%

Table 5 indicates the participants' discipline. More than half of them (56.0%) were from the Business discipline which comprised of three faculties: (1) Accounting, (2) Business Management and (3) Hotel Management). The remaining (44.0%) were from Science Technology discipline which comprised of three faculties: (1) Applied Science, (2) Architecture, Planning and Surveying and (3) Health Science. The number of students from Business discipline was slightly more than the Science and Technology discipline.

Findings for Motivational Beliefs

This section presents the findings to answer research question 1- How does motivational beliefs influence learning? In the context of this study, motivational beliefs were measured by (a) self-efficacy, (b) intrinsic value and (c) test anxiety.

Motivational Beliefs

Self-efficacy

Table 6 indicate the results for self-efficacy in mean scores. The results indicate that four items (MBSEQ9, 2, 3 and 6) recorded the mean scores between 3.6 to 3.5 which were interpreted as "Very Often". The other five items (MBSEQ1, 4, 5, 7, and 8) recorded the mean scores between 3.3 to 2.9 which were interpreted as "Sometimes". The highest mean score (M=3.6) was recorded by "MBSEQ9: I know that I will be able to learn the material for this class". While the lowest mean score (M=2.9) was recorded by two items: "MBSEQ4: Compared with others in this class, I think I'm a good student" and "MBSEQ7 My study skills are excellent compared with others in this class". The average mean score of the items for self-efficacy is 3.3 which reveals that the participants sometimes had self-efficacy in language learning in the online environment.

Table 6
Mean Scores and Interpretation for Self-efficacy

	Item	Mean
1	MBSEQ1 Compared with other students in this class I expect to do well.	3.3
2	MBSEQ2 I'm certain I can understand the ideas taught in this course.	3.5
3	MBSEQ3 I expect to do very well in this class.	3.5
4	MBSEQ4 Compared with others in this class, I think I'm a good student	2.9
5	MBSEQ5 I am sure I can do an excellent job on the problems and tasks assigned for this class.	3.3
6	MBSEQ6 1 think I will receive a good grade in this class.	3.5
7	MBSEQ7 My study skills are excellent compared with others in this class.	2.9
8	MBSEQ8 Compared with other students in this class I think I know a great deal about the subject.	3.0
9	MBSEQ9 I know that I will be able to learn the material for this class	3.6
	Average mean score	3.3

Intrinsic Value

Table 7 indicate the results for intrinsic value in mean scores. The results indicate that seven items (MBIVQ2, 3, 4, 6, 7, 8 and 9) recorded the mean scores between 4.1 to 3.6 which were interpreted as "Very Often". Only two items (MBIVQ1 and 5) recorded the mean scores between 3.3 to 3.2 which were interpreted as "Sometimes". The highest mean score (M=4.1) was recorded by "MBIVQ 9: Understanding this subject is important to me". While the lowest mean score (M=3.2) was recorded by "MBIVQ1: I prefer class work that is challenging so I can learn new things". The average mean score for intrinsic value is 3.8 which reveals that the participants very often had the intrinsic value for language learning in the online environment.

Table 7
Mean Scores and Interpretation for Intrinsic Value

	Item	Mean
1	MBIVQ1 I prefer class work that is challenging so I can learn new things.	3.2
2	MBIVQ2 It is important for me to learn what is being taught in this class.	4.0
3	MBIVQ3 I like what I am learning in this class.	4.0
4	MBIVQ4 I think I will be able to use what I learn in this class in other classes.	3.6
5	MBIVQ5 I often choose paper topics I will learn something from even if they require more work.	3.3
6	MBIVQ 6Even when I do poorly on a test I try to learn from my mistakes.	3.9
7	MBIVQ7 I think that what I am learning in this class is useful for me to know.	4.0
8	MBIVQ8 I think that what we are learning in this class is interesting.	4.0
9	MBIVQ9 Understanding this subject is important to me.	4.1
	Average mean score	3.8

Test Anxiety

Table 8 indicate the results for test anxiety in mean scores. Three out of four items recorded the mean score between 3.6 to 3.5 which were interpreted as "Very Often". Two items scored similar means scores (M=3.6). They were "MBTAQ1I am so nervous during a test that I cannot remember facts I have learned" and "MBTAQ3: I worry a great deal about tests". While

"MBTAQ4: When I take a test, I think about how poorly I am doing" scored 3.5. Only one item, "MBTAQ2: I have an uneasy, upset feeling when I take a test", had the interpretation of the mean score for "Sometimes" (M=3.4). The average mean score for test anxiety is 3.5 which reveals that the participants very often had test anxiety.

Table 8
Mean Scores and Interpretation for Test Anxiety

	Item	Mean
1	MBTAQ1 I am so nervous during a test that I cannot remember facts I have learned.	3.6
2	MBTAQ2 I have an uneasy, upset feeling when I take a test.	3.4
3	MBTAQ3 I worry a great deal about tests.	3.6
4	MBTAQ4 When I take a test I think about how poorly I am doing.	3.5
	Average mean score	3.5

Findings for Self-Regulated Learning Strategies
This section presents data to answer research question 2- How do learners perceive their self-regulation learning strategies? Self-regulated learning strategies can be measured by (a) cognitive strategy use and (b) self-regulation.

Self-regulated Learning Strategeis
Cogntive Strategey Use
Table 9 indicate the results for cognitive strategy use in mean scores. 12 out of 13 items recorded the mean scores between 4.0 to 3.5 which were interpreted as "Very Often". The highest mean score (M=4.0) was recorded by "SRLSCSUQ1: When I study for a test, I try to put together the information from class and from the book". Only one item was interpreted as "Sometimes" (M=3.4). The item was "SRLSCSUQ3: It is hard for me to decide what the main ideas are in what I read". The average mean score for cognitive strategy use is 3.7 which reveals that the participants very often applied cognitive strategies for language learning in the online environment.

Table 9
Mean Scores and Interpretation for Cognitive Strategy Use

	Item	Mean
1	SRLSCSUQ1 When I study for a test, I try to put together the information from class and from the book.	4
2	SRLSCSUQ2 When I do homework, I try to remember what the teacher said in class so I can answer the questions correctly.	3.9
3	SRLSCSUQ 3 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.	3.5
5	SRLSCSUQ5 I always try to understand what the teacher is saying even if it doesn't make sense.	3.5
6	SRLSCSUQ6 When I study for a test, I try to remember as many facts as I can.	3.9
7	SRLSCSUQ7 When studying, I copy my notes over to help me remember material.	3.7
8	SRLSCSUQ8 When I study for a test, I practice saying the important facts over and over to myself.	3.8
9	SRLSCSUQ9 I use what I have learned from old homework assignments and the textbook to do new assignments.	3.8
10	SRLSCSUQ10 When I am studying a topic, I try to make everything fit together.	3.7
11	SRLSCSUQ11 When I read material for this class, I say the words over and over to myself to help me remember.	3.8
12	SRLSCSUQ12 I outline the chapters in my book to help me study.	3.6
13	SRLSCSUQ13 When reading I try to connect the things, I am reading about with what I already know.	3.7
	Average mean score	3.7

A. Self-Regulation

Table 10 indicate the mean scores and the interpretation of the scores for self-regulation. The results indicate that five items (SRLSSRQ1, 4, 5, 8 and 9) recorded the mean scores between 3.7 to 3.5 which were interpreted as “Very Often”. The other four items (SRLSSRQ2, 3, 6 and 7) recorded the mean scores between 3.3 to 3.0 which were interpreted as “Sometimes”. The highest mean score (M=3.7) was recorded by “SRLSSRQ 9: 1 work hard to get a good grade even when I don't like a class.”. While the lowest mean score (M=3.0) was recorded by “SRLSSRQ7: I find that when the teacher is talking, I think of other things and don't really listen to what is being said”. The average mean score for cognitive strategy use is 3.4 which reveals that the participants sometimes applied self-regulation for language learning in the online environment.

Table 10
Mean Scores and Interpretation for Self-Regulation

	Item	Mean
1	SRLSSRQ1 I ask myself questions to make sure I know the material I have been studying.	3.5
2	SRLSSRQ2 When work is hard I either give up or study only the easy parts.	3.1
3	SRLSSRQ3 I work on practice exercises and answer end of chapter questions even when I don't have to.	3.3
4	SRLSSRQ4 Even when study materials are dull and uninteresting, I keep working until I finish.	3.5
5	SRLSSRQ5 Before I begin studying, I think about the things I will need to do to learn.	3.6
6	SRLSSRQ6 I often find that I have been reading for class but don't know what it is all about.	3.2
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.	3.0
8	SRLSSRQ8 When I'm reading, I stop once in a while and go over what I have read.	3.5
9	SRLSSRQ9 1 work hard to get a good grade even when I don't like a class.	3.7
	Average mean score	3.4

Findings for Relationship between Motivational Beliefs and Motivational Beliefs
This section presents data to answer research question 3- Is there a relationship between motivational beliefs and self-regulation learning strategies?

To determine if there is a significant association in the mean scores between motivational beliefs and self-regulated learning strategies, data is analysed using SPSS for correlations. Results are presented separately in table 3 below.

Table 11
Correlation between motivational beliefs and self-regulated learning

Correlations

		TOTALMOTIVATIONALBELEIFS	TOTALselfregulated
TOTALMOTIVATIONALBELEIFS	Pearson Correlation	1	.731**
	Sig. (2-tailed)		.000
	N	155	155
TOTALselfregulated	Pearson Correlation	.731**	1
	Sig. (2-tailed)	.000	
	N	155	155

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

Table 11 shows there is an association between motivational beliefs and self-regulated learning strategies. According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in 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 indicate that there is a strong positive relationship between motivational beliefs and self-regulated learning strategies ($r=.731$, $p<0.01$).

Conclusion

Summary of Findings and Discussion

This study examined how motivation beliefs affect learning, students' perception of self-regulation learning strategies and the relationship between motivation beliefs and self-regulation learning strategies. In terms of self-efficacy, they very often had self-efficacy in the learning process but sometimes were confident when compared to classmates in the learning process. Besides, they intrinsically motivated very often in their learning, but sometimes intrinsically motivated for challenging class work and learning something that required more work. However, they very often faced test anxiety for not being able to remember learnt facts, worrying about a test and thinking about their poor test performance. However, they just sometimes worry about test. Students' text anxiety will influence students' academic performance as Adesola & Li (2018) found that anxiety was one of the main emotions that affect academic performance.

The results suggest that it is crucially important to increase students' self-efficacy and address test anxiety among students to keep them motivated in learning. In general, students were motivated by intrinsic values to learn language in online environment although they felt lack of confident and self-efficacy if compared to their classmates. The findings suggest the need of improvement in students' motivational beliefs as according to Zimmerman (2008), self-regulated learners are metacognitively, motivationally, and behaviourally active in their own learning processes to achieve their own goals.

Contrary to the findings of Ping, et.al (2015) that student showed deficits in the use of cognitive deep processing strategies and had low self-efficacy in learning English as a foreign language, this study showed the students applied cognitive strategy very often in the online language learning environment and only one out of 13 items recorded the "sometimes" scale while the other 12 items recorded the "very often" scale. The results suggest that students found cognitive strategy was essential to facilitate them in learning language more effectively in the online language learning environment. Thus, teachers need to create awareness in class to ensure that students apply.

Self-regulation was sometimes applied by students in the online language learning. The results for the nine items were mixed as five items recorded the score "Very Often" while four items recorded the score "Sometimes". The results suggest that they had not applied self-regulation adequately in the online language learning environment. Thus, teachers must play their part to make students aware of the importance of self-regulation in increasing their motivation in learning. Students need to increase the use of cognitive and self-regulation strategies in online language learning as argued by Rasheed et.al (2021) that the biggest challenge of online component of learning is the inability of students to properly self-regulated their learning activities.

The study revealed that there was a significant positive relationship between motivational beliefs and self-regulation learning strategies. Therefore, students will be motivated in learning when they apply self-regulation learning strategies. The present study confirmed the finding about the strong relationship between motivational beliefs and self-regulated learning strategies and is directly in line with previous study about the positive

relationships self-regulated learning in mathematics with motivational beliefs factors (El-Adl & Alkharusi, 2020).

Pedagogical Implications and Suggestions for Future Research

Students' sustainable motivation and ability of regulating their own learning is the core factors to achieve their learning goals in the flexibility and autonomous of learning in an online environment. The implication of the findings highlights the need for the instructor to foster and assist students in the process of learning via self-regulation learning strategies. The findings are directly in line with previous findings of DiFrancesca et. al. (2016) that there are significant correlations in self-regulation and students' performance in learning and recommended the instructor to re-design instruction. As such, the instructor can redesign learning tasks, at the same time facilitate and motivate students to improve their learning through self-regulating learning strategies. Therefore, the findings of this study will redound to the teaching and learning of second or foreign language, especially in considering motivation beliefs and self-regulation strategies in the process of instruction and learning. It will be important that future research investigate how the instructor influence students in their self-regulation learning.

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