



Language Learning Strategies and Their Mediating Role between Motivation and English Learning Performance

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Abstract

Motivation is fundamentally defined as what drives individuals to take certain actions. It encompasses many factors, which makes it challenging to investigate all of them within a single study. This study focused on self-efficacy, task value, and test anxiety, which are widely regarded as key motivational constructs. Although motivation has been extensively studied, there has been limited research on the motivation of middle school students in Vietnam, making this study a valuable contribution to the field of second language motivation by examining this specific group. To collect data, this study gathered English as a Foreign Language mid-term exam score and survey responses from 365 middle school students in Vietnam. The survey was adapted from established instruments measuring motivated learning strategies and language-learning strategies. The data were analyzed using structural equation modeling and led to the conclusion that, except for test anxiety, self-efficacy and task value are key motivational variables. Additionally, learning strategies were found to strongly mediate the relationship between motivation and English learning performance.

1. Introduction

Vietnam, located in Southeast Asia, has an education system comprising five levels: pre-school, primary, lower secondary, upper secondary, and higher education. From grade three in primary school through grade 12 in upper secondary school, English is a compulsory subject (Sundkvist & Nguyen, 2020). According to Hoang (2010), by the time Vietnamese students finish upper secondary school, they typically have completed an average of 805 hours of English instruction. Clearly, English holds a place of significant importance as the primary foreign language taught in Vietnam.

Given the emphasis on English, extensive research in Vietnam has explored various aspects of English education, including the motivation to study the language. In applied linguistics, motivation is a well-researched topic and is defined as the drive behind completing a task (Ryan & Deci, 2017). It includes elements such as self-efficacy, task value, and test anxiety (Atkinson, 1964; Dörnyei & Ushioda, 2021; Schunk & Pajares, 2005). Additionally, motivation is closely linked to language learning strategies. The more motivation a student has in learning a language, the more strategies they will use to acquire that language (Schmidt & Watanabe, 2001).

Among the studies that research motivation in Vietnam, most of them have concentrated on university students (i.e., Vo et al., 2024), leaving a gap in research on other educational levels including middle school students. This focus may stem from the fact that research is uncommon among primary, secondary, and high school teachers, while university professors, who typically have training in research methods and easier access to university students,

conduct most of the research. As a result, this study stands as one of the first to examine motivation among middle school students.

2. Literature Review

Self-Efficacy, Task Value, and Test Anxiety

The word “motivation” derives from the Latin verb “movere” (Dörnyei & Ushioda, 2021; Schunk et al., 2014). Essentially, motivation concerns with what “moves” people to

perform certain actions (Ryan & Deci, 2017). However, it is difficult to define motivation clearly because it is a highly complex psychological phenomenon. Dörnyei and Ushioda (2021) asserted that motivation can be a state because a person can feel significantly or slightly motivated at a point in time. Motivation is also a stable personality trait as someone can be described to be a motivated and determined person.

According to Dörnyei and Ushioda (2021), it is impossible for researchers to examine all variables of motivation because it is composed of many factors. In this study, I chose to study self-efficacy, task value, and test anxiety because they have been considered constructs of motivation by many researchers (Atkinson, 1964; Dörnyei & Ushioda, 2021; Schunk & Pajares, 2005). Besides, self-efficacy, task value, and test anxiety can influence academic performance (Rosenzweig et al., 2019), which means that they may affect the performance of the specific test targeted in this study.

First, self-efficacy refers to “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (Bandura, 1986, p. 391). It is widely recognized as a central component of motivation (Pajares, 2008; Schunk & Pajares, 2005), shaping individuals’ choices, persistence, and emotional responses to tasks. In particular, self-efficacy influences how people think, act, and feel when facing challenges (Bandura, 1986; Bandura & Locke, 2003). When learners believe in their abilities, they are more likely to respond positively and achieve better outcomes (Pajares & Valiante, 2001).

Second, task value refers to “the quality of different achievement tasks and how those qualities influence the individual’s desire to do the task” (Wigfield & Eccles, 2020, p. 167). It is a core component of expectancy-value theory, which posits that motivation is shaped by both individuals’ expectations of success and the value they assign to a task (Dörnyei & Ushioda, 2021; Wigfield & Eccles, 2020). Within this framework, task value directly drives motivation by determining how worthwhile or important a task is perceived to be. As a result, learners are more likely to engage in and persist with tasks they find meaningful or useful. For this reason, task value is widely recognized as a key motivational construct (Raoofi & Maroofi, 2017).

Finally, test anxiety refers to “cognitive, affective, and behavioral reactions that accompany concern over possible negative consequences contingent upon performance in a test or evaluative situation” (Zeidner, 1998, p. 25). Test anxiety involves worry about failure, physiological arousal such as rapid heart rate, and behaviors including overstudying or procrastination. Test anxiety is a motivational variable because it reflects a failure-avoidance orientation. According to the achievement motivation theory (Atkinson, 1964), the worry central to test anxiety is similar to “fear of failure,” which drives efforts to avoid negative evaluation. Thus, highly anxious students are motivated to prevent failure and criticism, shaping how they prepare for and perform on tests (Hill & Wigfield, 1984). As a component of motivation, test anxiety has been shown to undermine academic performance (Metallidou & Vlachou, 2007).

In summary, self-efficacy, task value, and test anxiety have been proven to be components of motivation, and they were the foci of this study along with language learning strategies.

Metacognitive, Cognitive, and Memory Strategies

The term “language learning strategy” is highly controversial, and the debate over its definition has been ongoing since the 1900s. According to Dörnyei (2010), the concept is problematic because it is impossible to distinguish between a language learning strategy and a

normal learning activity. Recently, Oxford (2017) analyzed the 33 definitions of the term since 1975 and came up with a long comprehensive definition, part of which was “L2 learning strategies are complex, dynamic thoughts and actions, selected and used by learners with some degree of consciousness in specific contexts in order to regulate multiple aspects of themselves (such as cognitive, emotional, and social)” (p. 48).

According to Oxford (1990), there are six strategies namely memory, cognitive, compensation, social, affective, and metacognitive strategies. Memory strategies, such as acting out vocabulary, help learners retain and recall new knowledge. Cognitive strategies, like taking notes, aid in understanding and producing language. Metacognitive strategies, such as paying attention in class, help learners regulate and organize their learning process.

Among the various language learning strategies previously mentioned, this study focused specifically on memory, cognitive, and metacognitive strategies. This is because the survey used to measure language learning strategies in this study was developed by Oxford (1990) and was quite long; it included 50 questions that measure all six language learning strategies. Additionally, this study used 18 items in the Pintrich et al. (1991) to evaluate self-efficacy, task value, and test anxiety. If all six strategies had been measured, the survey could have caused participants' fatigue. As a result, some strategies had to be excluded. Specifically, I chose to research metacognitive, cognitive, and memory strategies because motivation influences the use of cognitive and metacognitive strategies the most (Schmidt & Watanabe, 2001). Besides, O'Malley and Chamot (1990) believed that memory strategies belong to cognitive strategies; therefore, memory strategies were investigated in this study.

Relationships among Motivation, Language Learning Strategies, and English Learning Performance

Relationship between Motivation and Language Learning Strategies

Since the early 1900s, researchers have consistently recognized a strong connection between motivation and language learning strategies (MacIntyre & Noels, 1996; Schmidt & Watanabe, 2001). First, motivation is positively associated with the use of language learning strategies. This means that the more motivated a learner is, the greater the variety and number of strategies they employ to learn English (Rubin, 1975). Also, higher motivation leads to more frequent use of these strategies (Feng, 2010). Second, some researchers argue that there is a reciprocal relationship between motivation and language learning strategies (Yang, 1999). Highly motivated learners tend to use more strategies or use them more often, which enhances their success in acquiring the language. This success, in turn, fuels their motivation to continue studying the language.

Relationship between Language Learning Strategies and English Learning Performance

It is widely acknowledged that language learning strategies play a role in learners' academic outcomes, including their performance in English. Several studies (Domínguez et al., 2025; Tai & Zhao, 2022) have demonstrated a positive connection between the use of language learning strategies and English language achievement. For example, Tai and Zhao (2022) examined university students in Hong Kong and reported that learners' use of second language strategies significantly predicted their English proficiency measured by their IELTS scores. Similarly, Domínguez et al. (2025), in their research with Colombian high school students, found their use of language learning strategies can predict their performance on the SABER 11 exam, a standardized assessment that evaluates students' English communicative skills at the end of secondary school.

In addition to these findings, other studies have shown that not all strategies are equally effective. Some strategies appear to support English learning, while others may have little or negative impact. For instance, Abdul-Ghafour and Alrefaee (2019) investigated EFL university students in Yemen and found that strategies related to metacognition and compensation were positively associated with academic success, which was measured by students' GPA. In

contrast, memory, cognitive, affective and social strategies cannot predict their GPA. Additionally, Bećirović et al. (2021), studying high school students in Bosnia and Herzegovina, discovered that cognitive strategies were strong positive predictors of language achievement measured by GPA, while memory and affective strategies were negatively associated with GPA. Overall, these two studies show that specific types of language learning strategies can predict English language performance.

Research Questions

This study seeks to address two research questions below.

1. How do self-efficacy, task value, and test anxiety function as variables of motivation?
2. To what extent can language learning strategies mediate the relationship between motivation and English learning performance?

Essentially, this study tested the following model.

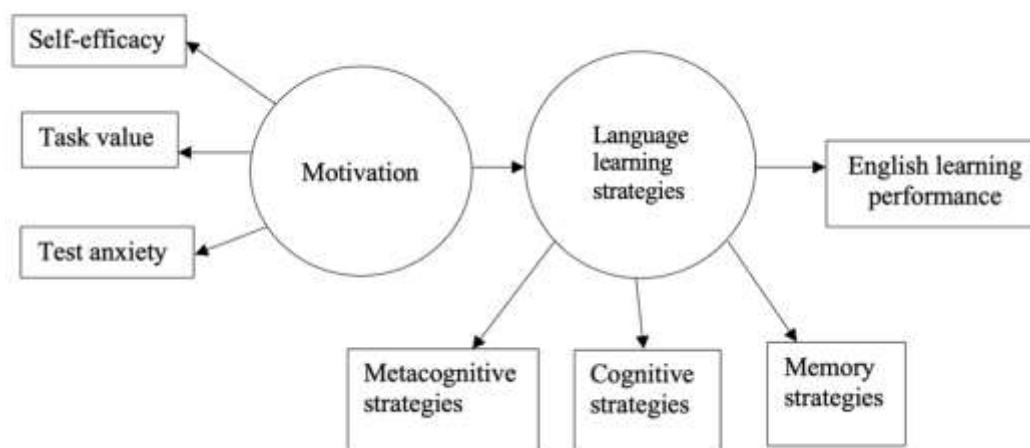


Figure 1. Model of the Study

3. Methods

Participants

Participants were 365 eighth-grade students from an urban middle school in Northern Vietnam, all of whom studied English as a compulsory subject. The sample included 184 females (50.4%), 175 males (47.9%), and 6 non-binary students (1.6%). Participants had a mean age of 13.05 and had studied English for an average of 7.66 years. Within the school, students learned English primarily through grammar, vocabulary, and reading, while writing and speaking received comparatively less attention.

Instruments

Instruments included a student survey and students' EFL midterm test scores. The student survey was adapted from Pintrich et al.'s (1991) Motivated Strategies for Learning Questionnaire (MSLQ) and Oxford's (1990) Strategy Inventory for Language Learning (SILL), both of which have well-established reliability. The MSLQ has demonstrated strong psychometric properties (Duncan & McKeachie, 2005), with Cronbach's alpha coefficients ranging from 0.52 to 0.93, which is quite high. The SILL is the most well-known instrument to measure language learning strategies (Dörnyei, 2010), and it has been used among 10,000 students worldwide (Oxford, 2011). From the MSLQ, 6, 8, and 5 items were selected to measure task value, self-efficacy, and test anxiety, respectively, with minor wording adjustments for the Vietnamese middle school context. From the SILL, items assessing memory, cognitive, and metacognitive strategies were included. Regarding scales, the original 5- and 7-point Likert scales in the MSLQ and SILL were unified into a 7-point scale because a 7-point scale tends to offer optimal reliability (Finn, 1972; Preston & Coleman, 2000; Ramsay, 1973). The final survey (see Appendix) consisted of three demographic questions, 18

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motivation items, and 27 strategy items. It was translated into Vietnamese and back-translated into English to ensure accuracy. Given the established reliability of the original instruments and minimal modifications, the survey was not piloted.

The second instrument was students' midterm English test scores from the first semester (November 2022). Developed by the school's English teachers, this standardized test was administered to all eighth-grade students and accounted for approximately 25% of the final grade. Thus, this test was chosen for this study because it could be a meaningful indicator of English learning performance. As the scores could affect their final grade in English, students might be more motivated and inclined to adopt various language learning strategies while preparing for it. This test was 45-minute and paper-based; it included 40 items assessing listening, phonology, vocabulary and grammar, reading, and writing. The questions were multiple-choice, true-false, or short written responses and there was no speaking component. Total scores ranged from 0 to 10.

Procedure

Data Collection

After obtaining approval from the university's IRB, I recruited a teacher with prior experience at the target school in Vietnam to assist with data collection. With this support in place, consent forms in Vietnamese were collected. The survey was then administered face-to-face among 365 students, who were given around 40 minutes to complete the survey. This happened in mid-October 2022, approximately two weeks before the mid-term English test.

Although the MSLQ and the SILL are considered highly trustworthy (Oxford, 2011; Pintrich et al., 1991), their reliability has not been confirmed in the studies that targeted middle school students. Their reliability could also be affected because of the translation process. As a result, I conducted some reliability tests via SPSS, and the results showed that the Cronbach's alphas of the six constructs in the survey namely self-efficacy, task value, test anxiety, memory, cognitive, and metacognitive strategies ranged from 0.71 to 0.88, which are considered high by Dörnyei (2007). These Cronbach's alphas are presented in Table 1 below.

Table 1. Cronbach's Alphas of Six Constructs in the Survey in the Current Study

Construct	Cronbach's alpha
Self-efficacy	0.88
Task value	0.82
Test anxiety	0.71
Memory strategies	0.80
Cognitive strategies	0.80
Metacognitive strategies	0.86

In terms of test scores, the test was graded by the English teachers at the target middle school, and students' total scores were collected in the last week of November 2022.

Data Analysis

Both test scores and surveys were analyzed via structural equation modeling (SEM) conducted on the software application Mplus version 8.5 (Muthén & Muthén, 2022). Within SEM, confirmatory factor analysis (CFA) was performed first to investigate the measurement of the model, which was evaluated based on the model fit. Regarding the model fit, the chi-square value or χ^2 , comparative fit index or CFI (Bentler, 1990), root mean square error of approximation or RMSEA (Steiger & Lind, 1980), and standard root mean square residual or SRMR (Bentler, 1995) were examined based on Weston and Gore's (2006) guidelines to find out if any changes should be made to create the best measurement model. The CFA also helped answer the first research question, "How do self-efficacy, task value, and test anxiety function as variables of motivation?" After CFA was implemented, and the measurement model that best fit the data was formed, the structure of the model was assessed via SEM. Within SEM, the parameter significance and strength, the amount of variance explained by the parameters,

and the model fit were studied. The model fit was judged based on the χ^2 value, CFI (Bentler, 1990), RMSEA (Steiger & Lind, 1980), and SRMR (Bentler, 1995) according to Weston and Gore's (2006) standards. The SEM helped address the second research question, "To what extent can language learning strategies mediate the relationship between motivation and English learning performance?"

To evaluate the structure of the model, it was necessary to examine two models, the fully mediated one proposed by the study, and the partially mediated model. These two models were compared to see which one fit the data better. The model that had better fit indices was selected as the final model of this study.

4. Results

First, the data in this study had a normal distribution. According to Waternaux (1976), if the sample size of a study is larger than 200, the skewness and kurtosis of the data will not affect the data normality. Because this study involved 365 participants, the data were considered normally distributed. This was confirmed by the histograms and Q-Q plots of seven variables in the study including self-efficacy, task value, test anxiety, memory strategies, cognitive strategies, metacognitive strategies, and test scores produced by IBM SPSS Version 27. All the histograms and Q-Q plots suggested that the data had a normal distribution.

Next, a summary of descriptive statistics of the variables is presented in the table below.

Table 2. Descriptive Statistics of the Variables

Variable	N	M	SD	Minimum	Maximum
Age of the participant	365	13.05	0.26	12	14
Numbers of years studying English	365	7.66	0.76	5	12
Self-efficacy score	365	4.16	1.15	1.43	6.71
Task value score	365	4.93	1.17	1	7
Test anxiety score	365	4.56	1.25	1	7
Memory strategies score	365	3.91	1.11	1.22	6.89
Cognitive strategies score	365	4.22	1.12	1.67	6.78
Metacognitive strategies score	365	4.58	1.21	1.33	7
Mid-term score	365	7	1.54	3	10

From this table, it can be seen that self-efficacy scores averaged 4.16 ($SD = 1.15$), while task value scores averaged 4.93 ($SD = 1.17$). Test anxiety scores had a mean of 4.56 ($SD = 1.25$), and memory strategies scores averaged 3.91 ($SD = 1.11$). Cognitive strategies and metacognitive strategies scores were 4.22 ($SD = 1.12$) and 4.58 ($SD = 1.21$) on average, respectively. Lastly, participants' mid-term scores averaged 7.00 ($SD = 1.54$).

Regarding the model of the study (see Figure 1), it was tested via the Maximum Likelihood estimation. To examine this model, the first step was to determine whether the measurement model fit the data satisfactorily via CFA. The CFA model is shown in Figure 2 below.

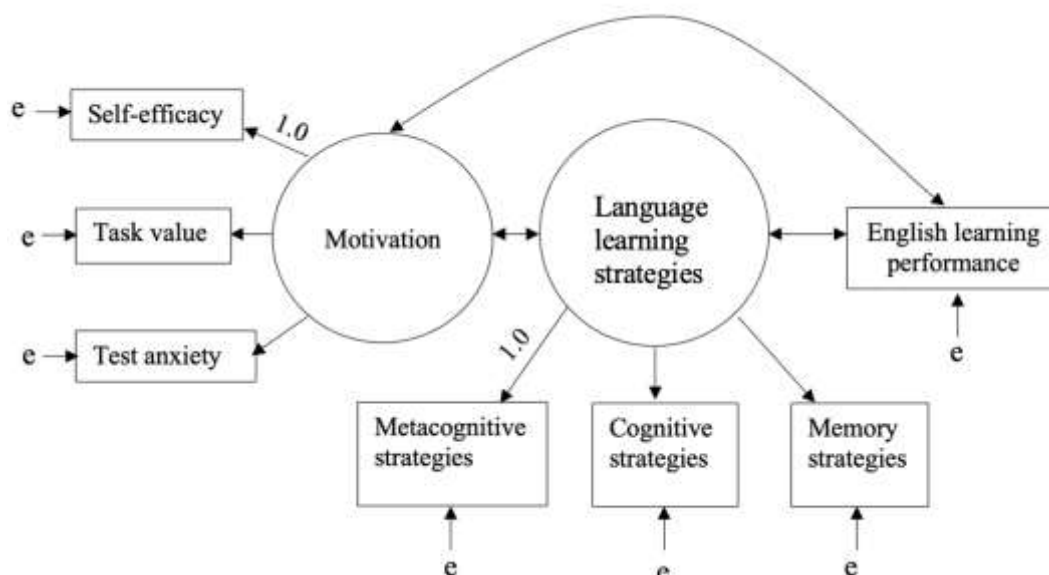


Figure 2. The CFA Model

In terms of CFA model, Weston and Gore (2006) indicated that a good fitting model has a non-significant X^2 value, CFI (Bentler, 1990) of at least 0.90, RMSEA (Steiger & Lind, 1980) less than 0.08 with a 90% confidence interval less than 0.10 in width. Also, SRMR should be below 0.08. The fit indices of this model suggested that the model fit the data well, $X^2(12, N = 365) = 30.98, p < 0.002$, CFI = 0.98, RMSEA = 0.07 (0.04 - 0.1), SRMR = 0.03. Although X^2 was significant at the p -level of 0.05, CFI was above 0.90, RMSEA was below 0.1 and the width of the 90% confidence interval was 0.06, which was less than 0.10. Moreover, SRMR was below 0.08.

With respect to factor loadings, self-efficacy and metacognitive strategies were fixed at 1.0 and not estimated due to the insights from the literature. Among self-efficacy, task value, and test anxiety, self-efficacy was considered the strongest indicator of motivation because numerous scholars (Bandura, 1986; Schunk & Pajares, 2005) have highlighted its central role in influencing motivation. Likewise, among metacognitive, cognitive, and memory strategies, metacognitive strategies were identified as the most representative indicator of language learning strategies. Schmidt and Watanabe (2001) argued that motivation influences the use of cognitive and metacognitive strategies the most, and Purpura (2014) found a strong correlation between metacognition and successful L2 learning.

Apart from self-efficacy and metacognitive strategies that were fixed to 1.0 and were not estimated, task value, cognitive strategies, and memory strategies were significant at the p -level of 0.001. However, test anxiety ($p < 0.43$) was not significant. Besides, no cross-loadings were suggested by the model modification indices.

In summary, CFA results concluded that self-efficacy and task value function successfully as motivational variables, but test anxiety is not a variable of motivation. As a result, test anxiety was eliminated in the structural model.

Regarding the structural model, the fully mediated model, where language learning strategies were the only mediator, was investigated first.

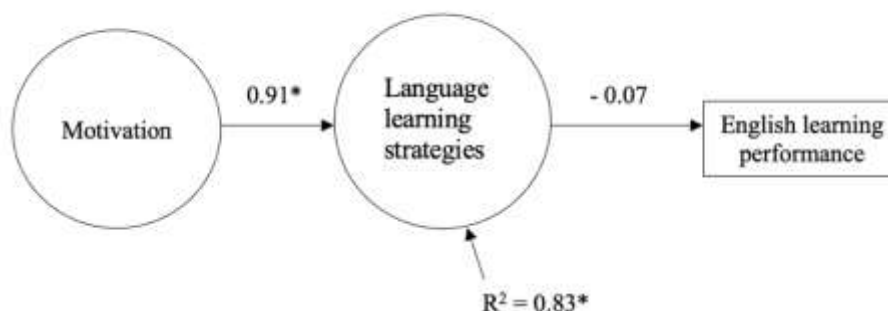


Figure 3. The Fully Mediated Model

For the parameter significance and strength of this model, motivation could strongly predict language learning strategies ($\beta = 0.91$, $p < 0.001$). However, language learning strategies could not predict English learning performance ($\beta = -0.07$, $p < 0.24$). Considering the amount of variance explained, 83% of the variance of language learning strategies could be explained by motivation, which was quite high. In terms of the overall model fit, the overall model fit the data well, $X^2(8, N = 365) = 10.93$, $p < 0.21$, CFI = 1.0, RMSEA = 0.03 (0.00 - 0.07), SRMR = 0.02. Clearly, X^2 was non-significant, CFI was above 0.90, RMSEA was below 0.1 and the width of the 90% confidence interval was 0.07, which was less than 0.10. Furthermore, SRMR was below 0.08.

Because the overall model fit and the amount of variance explained by the parameters were great, it was concluded that this model fit the data satisfactorily.

As the model above was fully mediated, it was necessary to test the partially mediated model and compare the fit indices. In the partially mediated model, language learning strategies were not the only mediator, and a direct path from motivation to English learning performance was added.

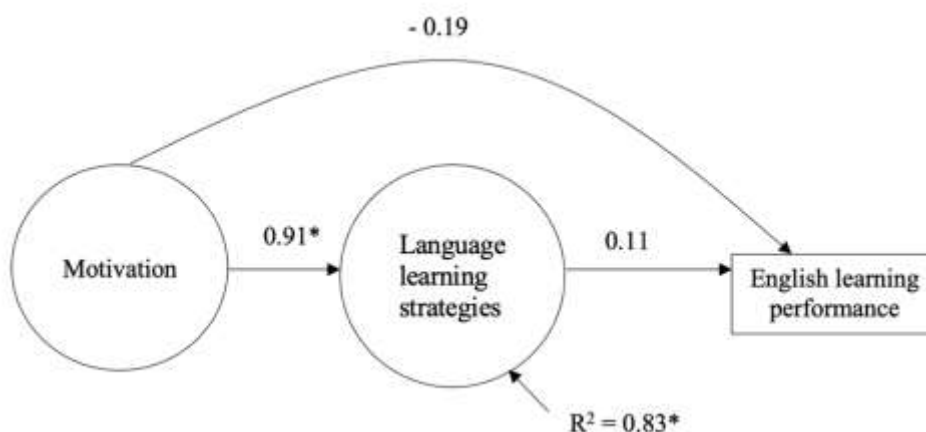


Figure 4. The Partially Mediated Model

Considering the parameter significance and strength of this model, motivation could strongly predict language learning strategies ($\beta = 0.91$, $p < 0.001$). However, language learning strategies could not predict English learning performance ($\beta = 0.11$, $p < 0.62$), and motivation could not predict English learning performance ($\beta = -0.19$, $p < 0.42$). Therefore, although one path was added to the fully mediated model to create this model, that path was not significant and did not improve the fully mediated model. Regarding the amount of variance explained by parameters, 83% of the variance of language learning strategies could be explained by motivation, which was quite high. Nevertheless, this was the same amount in the fully mediated model. Thus, adding another path to the fully mediated model did not improve the amount of variance explained by the parameters. In terms of the overall model fit, the overall model fit

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the data well, $X^2(7, N = 365) = 10.28, p < 0.17$, CFI = 1.0, RMSEA = 0.04 (0.00 - 0.08), SRMR = 0.01. It was clear that X^2 was non-significant, CFI was above 0.90, RMSEA was below 0.1 and the width of the 90% confidence interval was 0.08, which was less than 0.10. Furthermore, SRMR was below 0.08. In comparison with the fully mediated model, X^2 in both models were non-significant, and CFIs were both 1.0. RMSEA in the fully mediated model was slightly better, but the SRMR in the partially mediated model was somewhat better.

Since the two models were nested within each other, they were compared in Table 2 below.

Table 3. A Comparison between the Fully Mediated and Partially Mediated Model

Model	X^2	CFI	RMSEA (90% CI)	ΔX^2
Fully mediated	(8, $N = 365$) = 10.93, $p < 0.21$	1.0	0.03 (0.00 - 0.07)	
Partially mediated	(7, $N = 365$) = 10.28, $p < 0.17$	1.0	0.04 (0.00 - 0.08)	(1, $N = 365$) = 0.65, $p < 0.90$

From this table, ΔX^2 was non-significant, $\Delta X^2(1, N = 365) = 0.65, p < 0.90$, which means that changing the model from fully mediated to partially mediated did not result in a significant improvement in fit. In conclusion, adding a path to the fully mediated model did not yield a significant increase in fit. Moreover, that path was non-significant, did not better the amount of variance explained by the parameters, and did not create much change in the overall model fit. Therefore, the model that fit the data better was the fully mediated model. Regarding the second research question, the SEM results suggested that language learning strategies can strongly mediate the relationship between motivation and English learning performance.

Thus, the final model was presented as below.

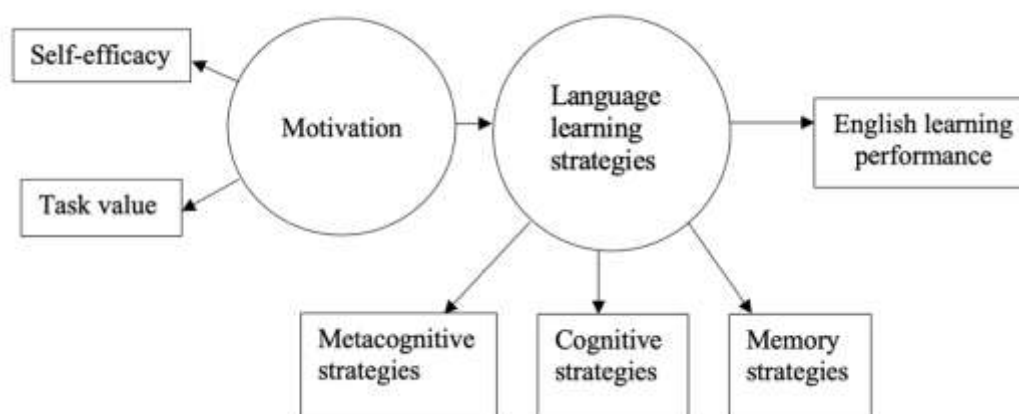


Figure 5. The Final Model

5. Discussion

Motivation and Self-Efficacy, Task Value, and Test Anxiety

In the final model of this study, self-efficacy and task value are variables of motivation, but test anxiety is not. The results of self-efficacy and task value being part of the motivation construct align with previous research. Schunk and Pajares (2005) indicated that self-efficacy is a critical component of motivation that affects people's actions and determination. Bandura (1977) posited that students' self-efficacy has more power in predicting their academic performance than their actual knowledge and skills. Ahn and Bong (2019) also stated that self-efficacy is the strongest predictor of academic achievement among various motivational constructs. This has been reinstated by this study because in the final model, self-efficacy functions effectively as the variable that represents motivation.

The result of task value being a motivation variable also corroborates previous studies (e.g., Dörnyei & Ushioda, 2021; Wigfield & Eccles, 2020). Dörnyei and Ushioda (2021) explained that the motivation to implement a task is influenced by the expectancy to succeed in completing the task and the perceived task value. Wigfield and Eccles (2020) proposed the

expectancy-value theory framework that specifies different factors that can influence students' motivation, and one of those factors is task value.

Next, the finding that test anxiety was not a motivational variable contrasts with prior research linking it to motivation (Putwain & Aveyard, 2018), highlighting the complexity of this relationship. One possible explanation is that students did not perceive the exam as highly consequential as test anxiety can vary depending on the stakes of the assessment (Wu & Lee, 2017). Although the text accounted for nearly 25% of the final grade, students may have viewed national or entrance exams as more important, which made a school-based test seem less significant. Moreover, Vietnamese students are usually exposed to similar test content during in-class practice, which may reduce anxiety and limit its impact on motivation. In short, the finding suggests that, unlike self-efficacy and task value, test anxiety may not consistently function as a motivational construct and should be interpreted in relation to contextual factors such as test stakes.

Motivation, Language Learning Strategies, and English Learning Performance

The final model shows that motivation can strongly predict language learning strategies, which has been documented by the literature on motivation. According to Schmidt and Watanabe (2001), motivation can affect students' selection and use of different language learning strategies in the classroom. If a student is highly motivated to study for a test, he or she may try various strategies to study for it, or use the strategies perceived as most effective to him or her.

As indicated in the final model, language learning strategies can predict test scores even though the direct path from language learning strategies to test scores was not significant in either fully or partially mediated models. This results from the fact that a model cannot be evaluated simply based on the significance of paths, and other factors such as the amount of variance explained by parameters and the overall model fit need to be taken into consideration. The fact that language learning strategies can predict test scores in the final model echoes the results of many previous studies. Several researchers (Hsiao & Oxford, 2002) have found that the use of language learning strategies is correlated with improved proficiency and learning success. Cohen (2011) stated that language learning strategies can boost the performance of general second language learning and specific tasks to improve the second language.

The final model further demonstrated that motivation did not directly predict test scores, despite being widely recognized as a strong predictor of L2 learning success (Lee & Shin, 2019). This suggests that the relationship between motivation and test performance may be more complex and context-dependent (Wu & Lee, 2017). Although the test accounted for nearly 25% of the course grade, students may not have perceived it as highly consequential, which weakens the link between motivation and performance. This interpretation is supported by the relatively moderate levels of motivation observed in this study, with mean scores of 4.16 for self-efficacy, 4.93 for task value, and 4.56 for test anxiety on a 7-point scale. Additionally, because teachers in Vietnam often review test content in advance, students' familiarity with the test format and material may have reduced their motivation to study for the test.

The final model of this study indicates that metacognitive, cognitive, and memory strategies are all components of language learning strategies, providing some support for Oxford's (1990) classification of language learning strategies. Additionally, this study used part of Oxford's (1990) SILL without making any changes to that part, so the result demonstrated that the scales used to evaluate metacognitive, cognitive, and memory strategies in the SILL worked sufficiently. These findings are in direct contrast with Dörnyei's (2010) claim that language learning strategies cannot be assessed. At least, metacognitive, cognitive and memory strategies can be measured successfully based on SILL.

Language Learning Strategies and Their Mediating Role

The final model indicated that language learning strategies serve as a strong mediating factor in the relationship between motivation and test performance. When students are motivated to prepare for a test, they are more likely to employ a range of strategies such as

metacognitive, cognitive, and memory strategies, which, in turn, positively influence their test outcomes. This finding underscores that motivation by itself is not sufficient to improve performance; rather, it is the application of that motivation through effective language learning strategies that contributes to better test results.

Among the various strategies examined, metacognitive strategies emerged as the strongest mediating factor and served as the most significant link between motivation and test performance. As defined by Oxford (1990), metacognitive strategies involve managing the learning process through activities such as focusing attention, planning and organizing study efforts, and evaluating learning outcomes. In essence, these strategies encompass the self-regulation and strategic coordination of learning. For instance, a student preparing for a midterm exam may decide when and how long to study, assess whether their study methods are effective, and adjust their approach if they believe it is not conducive to achieving a high score. In this study, the final model suggests that students who are highly motivated are more likely to actively engage in these self-regulatory practices, which in turn enhances their likelihood of performing well on the test.

The second most influential mediating factor identified in the model is cognitive strategies. According to Oxford (1990), these strategies involve activities such as practicing as well as comprehending input and conveying responses. Cognitive strategies assist learners in processing and internalizing the material presented in class. These enable them to better understand and apply the content in exam settings. The model suggests that students with higher levels of motivation are more likely to engage in these strategies to enhance their academic performance. For instance, motivated students may complete additional practice exercises, listen attentively during lessons, and seek clarification from instructors when needed. This finding further emphasizes that motivation alone is not sufficient for academic success; rather, it must be accompanied by effective engagement with the learning materials in order to translate into improved test scores.

Finally, although memory strategies did not emerge as a strong mediator compared to metacognitive and cognitive strategies, they still played a meaningful role in linking motivation to test performance. Oxford (1990) defined memory strategies as techniques that involve forming associations, using images and sounds, engaging in physical movement, and repeatedly reviewing material. For instance, a student may draw or vocalize a word to aid retention, act out its meaning, or review it multiple times to ensure memorization. Since remembering vocabulary and structures is essential in language learning, memory strategies remain valuable. In this study, the final model suggests that motivated students are more likely to employ these strategies to retain key language elements, which in turn can contribute to higher test scores.

In summary, because language learning strategies including metacognitive, cognitive and memory strategies significantly mediate the relationship between motivation and test performance, it is essential to explicitly teach students how to use these strategies. Doing so enables them to effectively translate their motivation into concrete language learning techniques that can enhance their test outcomes.

6. Conclusion and Future Directions

This study found that self-efficacy and task value are variables of motivation, but test anxiety is not a motivational variable. Additionally, language learning strategies can strongly mediate the relationship between motivation and test scores, and there is no direct relationship between motivation and test scores.

This study has several limitations. First, the use of convenience sampling limits the generalizability of the findings and may make the final model sample-specific. Future studies involving participants from different demographic backgrounds, such as those who are not middle school students from Vietnam, could help examine the model's applicability across contexts. Second, relying on a single survey instrument may not fully capture complex

constructs such as self-efficacy, task value, test anxiety, and language learning strategies, especially given ongoing debates regarding their definitions and measurement (Dörnyei, 2010; Oxford, 1990). Future research could therefore incorporate qualitative methods, such as open-ended survey questions or interviews to provide a more comprehensive understanding of these constructs. Next, there may be some conceptual overlap between motivation and learning strategies. For example, metacognitive strategies, such as planning, monitoring, and regulating one's learning, are closely associated with motivational processes and may, in some cases, reflect learners' motivation to engage in and sustain learning. Therefore, the relationships specified in the model should be interpreted with caution, and there could be a potential reciprocal relationship between motivation and language learning strategies. Finally, although the survey was adapted from two highly reliable instruments, it was not piloted, which may have introduced validity concerns. Future studies should consider piloting revised survey instruments when appropriate.

7. Declaration of AI Use

During the preparation of this work, the author used ChatGPT (OpenAI, Model GPT 5.5) to improve the clarity and grammatical accuracy of the manuscript. After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

8. References

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9. Appendix

A SURVEY ON MOTIVATION AND LEARNING STRATEGIES

This study aims at understanding your motivation and learning strategies for your mid-term English test of the first semester. Please complete both part 1 and 2 of the survey. Remember that all of your answers are anonymous so please be honest. Thank you very much!

Part 1: Demographic information

Instruction: Circle the option that best describes you or fill in the blank

1. What is your gender? A. Male B. Female C. Others
2. How old are you? _____
3. How many years have you learnt English at school? _____

Part 2: Motivation and learning strategies

Instruction: This part asks you about your motivation and learning strategies for your mid-term English test of the first semester. Remember there is NO right or wrong answers, and all of your answers are anonymous. Circle the number that best describes you. Numbers 1 to 7 describe the level from low to high.

1. Never true of me
2. Almost never true of me
3. Usually not true of me
4. Somewhat true of me
5. Usually true of me
6. Almost always true of me
7. Always true of me

Part 2.1. Motivation

1	I believe I will receive an excellent grade in this course.	1	2	3	4	5	6	7
2	I'm confident I can understand the basic concepts taught in this course.	1	2	3	4	5	6	7
3	I'm confident I can understand the most complex materials (books, videos, games, quizzes, exercises, etc.) presented by the teacher in this course.	1	2	3	4	5	6	7
4	I'm confident I can do an excellent job on the assignments and tests in this course.	1	2	3	4	5	6	7
5	I expect to do well in this course.	1	2	3	4	5	6	7
6	I'm certain I can master the skills being taught in this course.	1	2	3	4	5	6	7
7	Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this course.	1	2	3	4	5	6	7
8	I think I will be able to use what I learn in this course in other courses.	1	2	3	4	5	6	7

9	It is important for me to learn the textbook and other materials in this class.	1	2	3	4	5	6	7
10	I'm very interested in the content area of this course.	1	2	3	4	5	6	7
11	I think the textbook and other materials in this class is useful for me to learn.	1	2	3	4	5	6	7
12	I like the subject matter of this course.	1	2	3	4	5	6	7
13	Understanding the subject matter of this course is very important to me.	1	2	3	4	5	6	7
14	When I take a test, I think about how poorly I am doing compared with other students.	1	2	3	4	5	6	7
15	When I take a test, I think about items or other parts of the test I can't answer.	1	2	3	4	5	6	7
16	When I take tests, I think of the consequences of failing.	1	2	3	4	5	6	7
17	I have an uneasy, upset feeling when I take an exam.	1	2	3	4	5	6	7
18	I feel my heart beating fast when I take an exam.	1	2	3	4	5	6	7

Part 2.2. Learning strategies

19	I think of relationships between what I already know and new things I learn in English.	1	2	3	4	5	6	7
20	I use new English words in a sentence so I can remember them.	1	2	3	4	5	6	7
21	I connect the sound of a new English word and an image or picture of the word to help me remember the word.	1	2	3	4	5	6	7
22	I remember a new English word by making a mental picture of a situation in which the word might be used.	1	2	3	4	5	6	7
23	I use rhymes to remember new English words.	1	2	3	4	5	6	7
24	I use flashcards to remember new English words.	1	2	3	4	5	6	7
25	I physically act out new English words.	1	2	3	4	5	6	7
26	I review English lessons often.	1	2	3	4	5	6	7
27	I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.	1	2	3	4	5	6	7
28	I say or write new English words several times.	1	2	3	4	5	6	7
29	I try to talk like native English speakers.	1	2	3	4	5	6	7
30	I practice the sounds of English.	1	2	3	4	5	6	7
31	I use the English words I know in different ways.	1	2	3	4	5	6	7
32	I start conversations in English.	1	2	3	4	5	6	7
33	I watch English language TV shows spoken in English or go to movies spoken in English.	1	2	3	4	5	6	7
34	I read for pleasure in English.	1	2	3	4	5	6	7
35	I write notes, messages, letters, or reports in English.	1	2	3	4	5	6	7
36	I first skim an English passage (read over the passage quickly) then go back and read carefully.	1	2	3	4	5	6	7
37	I try to find as many ways as I can to use my English.	1	2	3	4	5	6	7
38	I notice my English mistakes and use that information to help me do better.	1	2	3	4	5	6	7
39	I pay attention when someone is speaking English.	1	2	3	4	5	6	7
40	I try to find out how to be better learner of English.	1	2	3	4	5	6	7
41	I plan my schedule so I will have enough time to study English.	1	2	3	4	5	6	7
42	I look for people I can talk to in English.	1	2	3	4	5	6	7
43	I look for opportunities to read as much as possible in English.	1	2	3	4	5	6	7
44	I have clear goals for improving my English skills.	1	2	3	4	5	6	7
45	I think about my progress in learning English.	1	2	3	4	5	6	7

(Adapted from Pintrich et al., (1991) and Oxford (1990))

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