

The Impact of Self-Efficacy on EFL Performance: Self-Regulated Learning as a Mediator among Chinese Undergraduates

Dong Murong¹, Zuwati Hasim^{1*}

¹ Faculty of Education, Universiti Malaya, Kuala Lumpur, Malaysia

* Corresponding Author: zuwati_hasim@um.edu.my

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Abstract: *Despite the recognized importance of self-efficacy and self-regulated learning (SRL) in EFL learning, few studies have explored the interactions among self-efficacy, SRL, and EFL performance within Asian learning contexts, which are often characterized by teacher-centered instructional approaches. Given this gap, the purpose of this study is to examine the mediating effect of SRL on the relationship between self-efficacy and EFL performance among Chinese undergraduates. Using Likert-scale questionnaires, data were collected from 464 participants enrolled in public universities in Hangzhou, China. Structural equation modeling (SEM) results indicate that SRL significantly mediates the relationship between self-efficacy and EFL performance. However, the findings also reveal that the mediating effect of SRL ranges from weak to moderate, highlighting the complexity of the EFL learning process and suggesting the need to consider additional factors for a deeper understanding. Finally, the study discusses the pedagogical implications derived from these findings.*

Keywords: EFL learning, self-efficacy, self-regulated learning, EFL performance, Chinese students

1. Introduction

Learning English as a foreign language (EFL) is a critical component of education in many Asian contexts. In addition to the great emphasis on EFL proficiency, a common pattern observed in university classrooms across countries such as China, South Korea, and Japan is the prevalence of a teacher-centered approach within an exam-oriented EFL education system (Komatsu et al., 2021; Lee & Boo, 2022; Li, 2022). While this approach can be advantageous in promoting structured learning and academic discipline, one concern is its potential impact on students' self-efficacy, defined as their belief in their own ability to successfully complete specific tasks (Blackmore et al., 2021). As students in such systems are often accustomed to relying heavily on teacher guidance and thus have passive learning styles (Chen & Yu, 2019), their self-efficacy may be underdeveloped. Despite this, self-efficacy plays a crucial role in EFL success, as it can influence students' motivation and persistence in language learning (Cui et al., 2021). Given the task-specific nature of self-efficacy (Eccles & Wigfield, 2020), it is important to explore its impact on EFL performance within the context of Asian countries to better understand how it shapes students' language learning outcomes.

Self-regulated learning (SRL) is also considered a critical factor for EFL success. Specifically, SRL is a process through which learners actively regulate their various language learning strategies to achieve learning goals (Blackmore et al., 2021). Given its definition, SRL can be

seen as a direct contributor to EFL performance, as it is a goal-oriented process that motivates learners to adjust their strategies based on their progress and learning needs. Exploring how students' SRL impacts EFL performance in some Asian countries is particularly important due to the prevalence of exam-oriented and teacher-centered educational systems, which may limit opportunities for students to develop autonomous learning skills (Tian et al., 2022). Understanding the role of SRL in such contexts can provide valuable insights into how fostering self-regulated learning strategies may enhance language learning outcomes (Bai, 2020).

Exploring the interactions between self-efficacy, SRL, and EFL performance can be complex. As suggested by social cognitive theory, students' beliefs and thought processes directly influence their learning behaviors, which, in turn, affect their learning outcomes (Bandura, 2001). Given this, it is likely that high self-efficacy motivates students to actively engage in SRL strategies, thereby enhancing their EFL performance (Agustiani et al., 2016). While previous studies have examined the relationships between self-efficacy and EFL performance (Cui et al., 2021), SRL and EFL performance (Shen & Bai, 2024), and self-efficacy and SRL (Teng, 2021), few have explored the mediating effect of SRL on the relationship between self-efficacy and EFL performance, particularly in Asian contexts.

Given the importance of understanding these dynamics, this study aims to investigate the mediating role of SRL in the relationship between self-efficacy and EFL performance, focusing on undergraduates in China as a representative Asian context. By doing so, the findings may offer insights that can inform EFL teaching practices in other Asian countries with similar educational systems.

2. Literature Review

The Impact of Self-efficacy on EFL Performance

In the EFL field, extensive studies have consistently highlighted the positive impact of self-efficacy on students' language learning performance (Yang et al., 2024). In particular, much of the research has primarily focused on specific English subskills, particularly English writing (Li, 2023; Shen & Bai, 2024; Zhou et al., 2022). For example, Teng and Wang (2023) conducted a study with 743 EFL students to explore the relationship between writing self-efficacy and EFL writing performance. The results revealed that students' self-efficacy significantly predicted their EFL writing performance. Similar findings have emerged in studies focused on EFL reading and listening (Payaprom, 2023; Zhou et al., 2022), which further emphasises the crucial role self-efficacy plays in overall EFL performance. Students with high self-confidence in various EFL tasks are more likely to engage in active learning, which can ultimately enhance their EFL achievement (Eccles & Wigfield, 2020).

Despite the rich body of research, a noticeable gap exists in that these studies often focus on individual EFL subskills. Consequently, there is limited examination of self-efficacy in the context of EFL learning as a comprehensive subject. It is important to recognize that English learning is a holistic process (Alam & Mohanty, 2024). A student's self-efficacy in areas like reading or writing may not fully reflect their overall self-efficacy in EFL learning. Therefore, there is a need to focus on students' self-efficacy regarding overall EFL learning and its broader impact on EFL performance. Given this, the study proposes the following hypothesis:

Research Hypothesis 1: Self-efficacy significantly affects EFL performance among Chinese undergraduates.

The Impact of Self-Efficacy on SRL

Self-regulated learning is defined by Bandura (2001) as a process where students conduct active engagement environmentally, personally, and behaviourally for achieving their learning goals. In the context of EFL, many scholars have agreed that the SRL process should be conceptualized through learning strategy use in four key dimensions: cognitive SRL, metacognitive SRL, social behavior of SRL, and motivational regulation of SRL (Teng, 2021; Xu, 2022). To specify, cognitive SRL refers to mental processes that students use to manage and acquire knowledge, such as organization while metacognitive SRL refers to the awareness and regulation of one's cognitive processes (Teng & Wang, 2023). Examples of metacognitive SRL are goal planning and self-evaluation. Social behavior of SRL refers to students' attempts to seek external resources, such as help from teachers and peers, to facilitate their learning. Motivational regulation of SRL is related to efforts to control and sustain motivation until a task is successfully completed. As suggested by Shen and Bai (2024), focusing on all four dimensions of SRL can help provide a more comprehensive understanding of students' learning processes. Given this, this study will also focus on exploring students' SRL processes across these four dimensions.

In the EFL field, a wealth of studies has examined the impact of self-efficacy on the SRL process (An et al., 2021; Bai et al., 2021). For example, previous research has shown that self-efficacy plays a key role in fostering effective SRL strategies. However, insufficient attention has been given to the impact of self-efficacy when SRL is conceptualized across all four dimensions of strategies. As noted by Cohen (2018), the way SRL strategy use is conceptualized can lead to different interpretations of students' SRL processes. For instance, in the Chinese context, students may rely more heavily on cognitive SRL due to the exam-oriented educational system, which encourages the development of strategies such as memorization and problem-solving (Chen & Yu, 2019). However, they might use social behavior of SRL less frequently, as a collectivist culture such as China usually discourages seeking help and bothering others (Mastracci & Adams, 2019). Based on these considerations, this study aims to explore the influence of self-efficacy on SRL strategy use conceptualized from the four dimensions. Therefore, the study proposes the following hypothesis:

Research Hypothesis 2: Self-efficacy significantly affects SRL strategies among Chinese undergraduates.

The Impact of SRL on EFL Performance

While numerous studies have explored the relationship between SRL and EFL performance, the results are not consistent. Some studies, such as Bai and Wang (2021), found that SRL is a significant predictor of EFL performance, while Hung's (2022) study reported no relationship between SRL strategy use and EFL performance. Furthermore, Apridayani's (2022) study of 152 Thai undergraduates revealed a negative relationship. This inconsistency may be due to factors such as differences in cultural contexts, variations in SRL strategy effectiveness, or the quality of strategy implementation. For example, high-pressure environments and excessive self-regulation could lead to cognitive overload, which further negatively affects the outcomes of EFL tasks (Amadori et al., 2022). Given the inconsistent findings in the existing literature, this study aims to enrich the understanding of the SRL–EFL performance relationship. Typically, SRL is considered outcome-oriented, where students' efforts to self-regulate are expected to enhance EFL performance. Based on this, the study proposes:

Research Hypothesis 3: SRL strategies significantly affect EFL performance among Chinese undergraduates.

The Mediating Role of Self-Regulated Learning between Self-Efficacy and EFL Performance

Despite the interconnections identified above regarding the relationships between self-efficacy and EFL performance, self-efficacy and SRL, and SRL and EFL performance, few studies have explored the mediating role of SRL in the relationship between self-efficacy and EFL performance (Bai & Wang, 2021). According to social cognitive theory as discussed in the *Introduction*, it is likely that students who feel confident in their ability to complete English tasks are more likely to engage in active use of various SRL strategies, which can, in turn, enhance their EFL performance. Based on this, the study proposes:

Research Hypothesis 4: SRL strategies mediate the relationship between self-efficacy and EFL performance among Chinese undergraduates.

3. Conceptual Framework

Based on the research hypotheses, the conceptual framework is presented in Figure 1. As shown in the figure, self-efficacy is proposed as the exogenous variable, while EFL performance serves as the endogenous variable. SRL is conceptualized as a mediating variable, represented through four dimensions of strategy use: cognitive SRL, metacognitive SRL, social behavior of SRL, and motivational regulation of SRL.

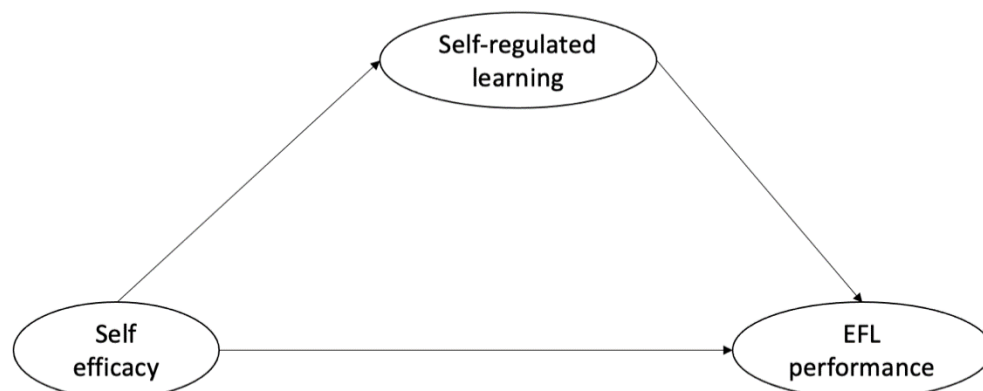


Figure 1: The Conceptual Framework of the Study

4. Measures

Research Settings and Participants

The research was conducted through a survey in public universities in Zhejiang Province, China. The questionnaire was distributed online using convenience sampling. Prior to participation, students were required to read a participant information sheet outlining the research objectives, procedures, and potential risks and benefits. Informed consent was obtained from those who agreed to participate. Data collection spanned two months, yielding 493 responses. After excluding 29 incomplete questionnaires, 464 valid responses were retained for the final analysis.

Among 464 participants, 238 were male (51.3%) and 226 were female (48.7%). The participants were distributed across different academic years: 62 first-year students (13.4%), 68 second-year students (14.7%), 54 third-year students (11.6%), and 54 fourth-year students (11.6%).

Demographic Information

The study designed demographic information aiming at collecting the gender, age, place of origin, and CET 4 from Chinese undergraduates.

Questionnaire for Self-efficacy

This study adapted the Expectancy-Value-Cost (EVT) scale developed by Kosovich et al. (2015) to measure students' self-efficacy. The scale was selected due to its extensive validation across educational studies. As the original EVT scale was not specifically designed for EFL learning, all three items were adapted to better fit the study's context. A sample item is: *"I know I can learn the material in my English class."* Participants rated each item on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Questionnaire for SRL in EFL Learning

This study adopted the SRL questionnaire for EFL learning developed by Wang and Bai (2017) for two reasons. First, the 64-item scale assesses nine specific SRL behaviors across four dimensions: cognitive, metacognitive, social behaviors, and motivational regulation, aligning with the study's focus. Second, it was specifically designed for EFL contexts, which fits the current research context. Specifically, metacognitive SRL includes strategies such as self-evaluation, record keeping and monitoring, self-consequences, and goal setting (12 items). Cognitive SRL consists of organization and transformation, rehearsal and memorization, review of records, and interpretation and guessing (37 items). Social behaviors of SRL cover seeking social assistance and seeking opportunities to practice (11 items), while motivational regulation of SRL focuses on persistence when faced with challenges (4 items).

Sample items of the scale include "I set a goal to study English" (metacognitive SRL), "I write an outline before writing English compositions" (cognitive SRL), "I consult teachers when I encounter difficulties in the process of studying English" (social behavior of SRL), and "I keep reading when I encounter difficulties in English reading" (motivational regulation). The participants need to score the total of 64 items on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

EFL Performance

Participants' EFL performance was measured using their self-reported CET-4 scores for two reasons. First, CET-4 is a mandatory English proficiency test for all Chinese undergraduates, which is widely validated by studies for its reliability in assessing English proficiency (Huang, 2023). Second, self-reporting CET-4 scores is time-efficient, as it eliminates the need to obtain official score reports from institutions, which can be time-consuming and logistically challenging, especially with a large sample size. To minimize potential biases or inaccuracies in self-reports, outlier detection and normality checks were conducted to ensure data validity (Hair et al., 2019).

Data Analysis

This study utilized SPSS 27 and SMART PLS 4 to assess the reliability and validity of the research instruments. Specifically, Cronbach's alpha, an indicator of internal consistency, was used to evaluate the reliability of the questionnaires (Pallant, 2020). While some scholars suggest that a Cronbach's alpha above 0.7 is satisfactory, others argue that a value above 0.6 is acceptable, particularly in social science research (Taber, 2018).

The validity of the instruments was assessed through indicator validity, convergent validity, and discriminant validity (Hair et al., 2019). According to Hair et al., (2019), indicator validity

was examined using outer loadings, with values above 0.7 considered satisfactory. Convergent validity was assessed using the average variance extracted (AVE), where values above 0.5 are generally acceptable. Discriminant validity was evaluated using the heterotrait-monotrait ratio (HTMT), with values below 0.85 indicating good discriminant validity.

When examining the validity of SRL, it is important to note that SRL is conceptualized across four dimensions, consisting of nine specific SRL strategies. Ideally, a second-order model would be used to comprehensively capture the construct of SRL. However, the complexity of such a model may lead to estimation uncertainties and unstable fit results (Wan Mustaffa et al., 2018). Consequently, SRL is simplified into a first-order model, with averaged scores from the four dimensions, helping to mitigate these issues by reducing model complexity and ensuring more stable and interpretable results.

To test the four research hypotheses, structural equation modeling (SEM) was conducted in SMART PLS 4. This analysis explored whether and how SRL mediates the relationship between self-efficacy and EFL performance among Chinese undergraduates.

5. Results

Validity and Reliability of the Research Instruments

Table 1 presents the indicators related to reliability, indicator validity, and convergent validity for self-efficacy and SRL. Specifically, for self-efficacy, the outer loadings of all items are 0.794, 0.729, and 0.814, all of which exceed the recommended threshold of 0.7, indicating satisfactory indicator validity. Additionally, the values for Cronbach's alpha (0.678) and AVE (0.608) for self-efficacy are both above the recommended thresholds in the section of data analysis, which confirmed the reliability and convergent validity of this construct.

Similarly, the SRL questionnaire for EFL learning demonstrates satisfactory indicator validity, with the outer loadings of the four SRL dimensions exceeding 0.7. The Cronbach's alpha for the SRL instrument is 0.944, and the AVE is 0.846, both of which are well above the recommended values, further supporting the reliability and convergent validity of the SRL measure.

Table 1: Outer Loadings, Cronbach's Alpha, and AVE for Self-efficacy and SRL Constructs

Constructs	Items	Outer loadings	Cronbach's alpha	AVE
Self-efficacy	SE1	0.794	0.678	0.608
	SE2	0.729		
	SE3	0.814		
Self-regulated learning	Cognitive SRL	0.943	0.944	0.846
	Metacognitive SRL	0.937		
	Social behaviour of SRL	0.924		
	Motivational regulation of SRL	0.874		

As this study aimed to explore the interactions between SRL, self-efficacy, and EFL performance, it is crucial to assess the discriminant validity of these three variables to ensure they are sufficiently distinct from one another. As indicated in Table 2, the HTMT values for the three constructs are 0.839, 0.299, and 0.312, all of which are lower than the recommended threshold of 0.85. This suggests that the three variables have adequate discriminant validity and are sufficiently distinct for further analysis.

Table 2: Heterotrait-Monotrait (HTMT) Ratios for Assessing Discriminant Validity of SRL, Self-Efficacy, and EFL Performance

	SRL	Self-efficacy	EFL performance
SRL			
Self-efficacy	0.839		
EFL performance	0.299	0.312	

SEM Results

Table 3 presents the explanatory power of the model using the indicators R^2 , f^2 , and Q^2 (Hair et al., 2019). The R^2 statistic measures the proportion of variance in the dependent variable explained by the independent variables. According to Cohen et al. (2017), an R^2 value of 0.26 or higher indicates substantial explanatory power. In this study, the R^2 value for self-efficacy's effect on SRL is 0.450, suggesting strong explanatory power. In contrast, the R^2 value for self-efficacy and SRL in predicting EFL performance is 0.100, indicating weak to moderate explanatory power. The f^2 statistic assesses the effect size of predictor variables on the outcome variable, with higher values reflecting a greater impact. The f^2 value for self-efficacy's effect on EFL performance is 0.008, indicating a negligible effect, while the f^2 value for SRL's effect on EFL performance is 0.027, representing a small effect size.

The Q^2 values reflect the predictive relevance of the model, with values above zero indicating predictive capability (Hair et al., 2019). The results show that Q^2 values for all endogenous constructs are above 0, confirming predictive relevance. Specifically, the Q^2 for self-efficacy and SRL in predicting EFL performance is 0.080, indicating modest predictive relevance, while the Q^2 for self-efficacy's effect on SRL is 0.386, suggesting strong predictive relevance.

Table 3: Coefficients of Determination (R^2), Effect Sizes (f^2), and Predictive Relevance (Q^2) for Relationships Among Self-Efficacy, SRL, and EFL Performance (n=464)

Predictor	Outcome(s)	R^2	f^2	Q^2
Self-efficacy	EFL performance	0.100	0.008	0.080
SRL			0.027	
Self-efficacy	SRL	0.450	0.832	0.386

Table 4 presents the direct, indirect, and total effects of self-efficacy and SRL on EFL performance. The direct effect of self-efficacy on EFL performance is 0.117 ($p < 0.05$), indicating a significant positive relationship, and thus research Hypothesis 1 is supported. The direct effect of self-efficacy on SRL is 0.674 ($p < 0.01$), showing a strong and significant relationship, supporting research Hypothesis 2. The direct effect of SRL on EFL performance is 0.211 ($p < 0.01$), which is also positively significant, supporting research Hypothesis 3.

The mediation analysis shows the significant impact of self-efficacy on EFL performance through the mediation of SRL. Specially, the direct effect of self-efficacy on EFL performance is significant ($\beta = 0.117$, $p < 0.01$) and the indirect effect through SRL is also significant ($\beta = 0.142$, $p < 0.01$). This indicates that SRL had a complementary mediating effect on the effect of self-efficacy on EFL performance, supporting the research hypothesis 4.

Table 4: Indirect effect, direct effect, and total effect (n=464)

Hypotheses	Path	Direct Effect	Indirect Effect	Total Effect	Decision
RH1	SE->EFL performance	0.117*			H1 supported
RH2	SE->SRL	0.674**			H2 supported

RH3	SRL->EFL performance	0.211**			H3 supported
RH4	SE->SRL->EFL performance	0.117*	0.142**	0.260**	H4 supported

* $p < 0.05$; ** $p < 0.01$.

6. Discussion

Self-efficacy has a particularly strong influence on SRL strategy use, which is consistent with previous studies such as Agustiani et al. (2016) and Teng (2021). Furthermore, this finding offers empirical support for Bandura's (2001) social cognitive theory, which posits that self-efficacy is a central determinant in human agency because it shapes individuals' beliefs in their capability to manage tasks effectively. The results suggest that students with high self-efficacy are more likely to use SRL strategies across four dimensions: cognitive SRL, metacognitive SRL, social behaviors of SRL, and motivational regulation of SRL in their EFL learning process. These insights highlight that evidently, self-efficacy positively fosters students' learning behaviors by actively deploying their SRL strategies (Eccles & Wigfield, 2020).

Both self-efficacy and SRL have significant predictive effects on students' EFL performance. This indicates that the way students perceive their self-confidence level in completing tasks and the actions they take responsibility for their own learning can directly impact their language learning effectiveness. These findings mirror the past studies regarding the positive relationships between self-efficacy and EFL performance (Payaprom, 2023; Teng & Wang, 2023), and SRL and EFL performance (Shen & Bai, 2024). Furthermore, these findings offer empirical support for the statement that high self-efficacy and high SRL are prerequisites for foreign language development (Teng, 2021). If students have high self-efficacy and can conduct various SRL strategies actively, they are more likely to achieve EFL success.

Furthermore, this study offers new insights by revealing that the SRL can significantly mediate the relationship between self-efficacy and EFL performance. This finding offers empirical support for social cognitive theory that believes students' beliefs and thoughts can directly affect their behaviour, which further improves their learning outcomes (Abdullah, 2019; Bandura, 2001). However, despite SRL's role as a mediator, its explanatory effect is relatively weak. This is somewhat surprising, given that SRL, as a goal-oriented learning process, is generally expected to exert a stronger influence on academic performance by promoting effective SRL learning strategies.

One reason for this weak mediating effect is the limited direct impact of self-efficacy on EFL performance. Although self-efficacy significantly influences learning behaviors, its predictive power for language performance may vary depending on other factors. This aligns with studies such as Zhou et al. (2022), who suggest that while self-efficacy correlates with learning efforts, its direct influence on outcomes is not always consistent. Additionally, environmental factors in the Chinese educational context may contribute to this weak effect. The exam-oriented system emphasizes rote memorization and test-taking strategies over autonomous learning (Tian et al., 2022); this might limit the role of SRL strategies especially in the three dimensions (i.e. metacognitive SRL, social behaviour of SRL, and motivational regulation of SRL) in mediating self-efficacy and EFL performance. Furthermore, in the teacher-centered Chinese EFL learning context, students may rely more on external structures than on SRL, which reduces SRL's mediating impact. Given this, additional research attention could be paid to examining Chinese undergraduates' EFL performance to better understand the interplay between self-efficacy, SRL, and contextual factors.

7. Conclusion

This study grounds itself in social cognitive theory to explore the mediating effect of SRL strategy use on the relationship between self-efficacy and EFL performance among Chinese undergraduates. Our data reveal that self-efficacy can positively and directly affect SRL strategy use through dimensions of cognition, metacognition, social behaviour, and motivational regulation, which further contribute to the improvement of EFL performance. Thus, the research findings contribute to social cognitive theory by providing empirical evidence of the pivotal role that SRL strategies play in mediating the impact of self-efficacy on language learning outcomes.

However, the study also shows that the explanatory and predictive power of self-efficacy and SRL on EFL performance is only weak to moderate, suggesting the influence of additional factors in language learning. This is expected, given the complexity of EFL learning, which is shaped by a range of variables such as learning environment, language exposure, personal interest, motivation, and socio-cultural contexts (Ahmed, 2022). The diversity of learning experiences inside and outside the classroom further contributes to varied language acquisition outcomes. In sum, while fostering self-efficacy and SRL is important for enhancing EFL performance, especially in Asian contexts where academic pressure and cultural attitudes toward language learning vary, future research should explore other contributing factors. This would help develop a more comprehensive understanding of the EFL learning process, considering both individual learner differences and the socio-cultural environments that influence language acquisition.

Pedagogical Implications

The findings of this study have important pedagogical implications for enhancing EFL learning outcomes. First, given the significant role of self-efficacy in promoting SRL strategy use and improving EFL performance, educators should design instructional activities that build students' confidence in various EFL tasks. This can be achieved through step-by-step guidance, as Bandura (2001) suggests that mastery experiences are a key source of enhancing self-efficacy. Furthermore, since verbal persuasion can also significantly boost students' self-efficacy (Eccles & Wigfield, 2020), teachers should provide constructive feedback with encouragement to reinforce students' belief in their ability to complete EFL tasks successfully.

Second, integrating explicit instruction on SRL strategies into EFL classes is essential (Teng, 2021). To achieve this, teachers can provide targeted instruction on key strategies such as goal setting, self-monitoring, and rehearsal techniques to enhance students' use of cognitive and metacognitive SRL. For example, guiding students to set specific learning goals, monitor their progress through reflective checklists, and engage in repeated speaking or reading exercises can strengthen their ability to regulate their own learning processes effectively. Furthermore, incorporating collaborative activities such as role plays, group discussions, and mingling tasks can foster students' awareness of social behavior SRL strategies (Dewaele & Li, 2021). These activities encourage students to seek assistance from peers and teachers, promoting the development of help-seeking behaviors as a constructive part of their learning process. To support students' motivational regulation of SRL, teachers can implement activities that promote positive self-talk and self-reflection. For instance, having students record their learning progress at the end of each class, identify their achievements, and articulate strategies that helped them stay motivated can reinforce a growth-oriented mindset, which can increase learning effectiveness (Campbell et al., 2020).

Limitations

Two limitations of the study are identified. First, this study relied on self-reported questionnaires to assess self-efficacy, SRL, and EFL performance, which may not fully capture the complexity of these constructs due to potential biases. Given the weak to moderate explanatory power of self-efficacy and SRL on EFL performance found in this study, future research should incorporate qualitative methods, such as interviews, to explore additional factors influencing students' EFL outcomes.

Second, in this study, SRL was treated as a single construct, conceptualized through four dimensions: cognitive SRL, metacognitive SRL, social behavior SRL, and motivational regulation of SRL. However, the specific ways in which self-efficacy influences each of these dimensions were not thoroughly explored. This limits our understanding of the nuanced relationships between self-efficacy, the distinct components of SRL, and EFL performance. Future research could conduct more detailed analyses to examine how self-efficacy differentially affects each SRL dimension. This would help identify which strategies are most responsive to self-efficacy interventions, thereby offering more targeted pedagogical recommendations for enhancing EFL learning outcomes.

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