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The effect of using self-regulated learning strategy on self-efficacy and academic writing performance of college students in Indonesia

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ABSTRACT

This study examined the correlation between self-efficacy and English academic writing performance among college students in Indonesia and assessed the effect of SRL strategy on EFL students' self-efficacy. The descriptive and correlation statistics were used to analyze the data. In this study, students were classified into three categories (high, moderate, and low) based on their rate of SRL in order to examine the relationships between SRL strategy usage, self-efficacy, and academic writing performance. The results indicated that overall SRL strategy and self-efficacy in academic writing were moderate. Students who were more frequently exposed to SRL strategies showed higher self-efficacy in academic English writing. A broader set of student characteristics could be useful in future research.

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1. INTRODUCTION

Higher education broadens the opportunity for individuals to have successful career. College grounds can be demanding and challenging for new students as students are required to have higher levels of initiative, determination, and self-monitoring. Previous researchers have identified the main factors that affect student performance by examining the correlations between a variety of cognitive and educational aspects. Several scholars have described and tested several models used to examine the relationships between variables that can affect students' educational achievement (Peterson et al., 2011; Dale H. Schunk, 1991). Education equips people with specific skills which allow them to carry out their work effectively. Having higher intellectual capability enables people to understand various events and direct their lives (Bandura, 2000). In addition, higher intellectual capability plays a key role on academic performance.

An important factor that can predict one's behavior is self-efficacy for it affects self-regulation. Hackett & Betz, (1989) and Bouffard-Bouchard et al. (1991) concluded that self-efficacy influences task selection and commitment, the energy expended to perform the task, and the level of performance. Self-efficacy affects social function through cognitive, motivational, emotional, and strategic decision processes (Benight & Bandura, 2004). Students' self- efficacy is sensitive to small modifications in their performance environment, to engage with self-regulated instructional strategies, and to relatively moderate their educational outcomes (Zimmerman, 2000b). Student retention is currently one of major challenges in addressing colleges and universities (P Pei H Hsieh et al., 2007). Therefore, students may need to acquire suitable strategies to facilitate and support their self-regulated

learning in order to solve various problems when studying academic writing (Kim et al., 2015; Oxford, 2011; Frank Pajares, 2003; D. H Schunk & Zimmerman, 2007; Yusoff, 2012).

Self-Regulated Learning (SRL) strategies refer to students' deliberate and goal- directed attempts to improve their language learning, such as goal-setting, planning, text generation, sentence combining, self-monitoring, revising, and dealing with feedback (R. Bai et al., 2014; Limpo & Alves, 2013; Oxford, 2016; Palermo & Thomson, 2018). Strategy- based writing interventions are one of the most widely used strategies in the literature to improve students' SRL strategy utilization (B. Bai, 2015; Steve Graham et al., 2012).

The strategy employed to organize the writing process is one crucial components that improves students' writing performance in both first language and EFL contexts (B. Bai, 2018; Chien, 2012; Steve Graham et al., 2017). Most of available studies concentrated on the using of SRL strategy and self-efficacy in L1 contexts. There has been little studies done from the perspective of English as a foreign language (EFL). Although self-efficacy is widely accepted as a primary indicator of SRL strategy (Bruning et al., 2013; Magogwe & Oliver, 2007; Frank Pajares, 2003; D. H Schunk & Zimmerman, 2007; Yusoff, 2012), a small number of evidence based studies have looked at how SRL strategies affect EFL college students' self-efficacy in EFL academic writing.

This research bridges a gap in the limited literature concerning the influence of Self-Regulated Learning (SRL) strategies on the self-efficacy of English as a Foreign Language (EFL) students in the academic context in Indonesia. Despite numerous studies focusing on factors affecting academic performance, particularly within the first language framework, this research emphasizes the EFL context, which remains relatively underexplored. Confronting the challenges of student retention, the development of strategies supporting self-regulated learning emerges as a crucial key to enhancing self-efficacy and, ultimately, academic achievement in English writing. Therefore, this study aims to investigate the impact of employing SRL strategies on the self-efficacy of EFL students and to comprehend the relationship between self-efficacy and academic writing achievement in English at the tertiary level in Indonesia.

This study was conducted to analyze the effects of using SRL strategy on EFL students' self-efficacy and examined the relationship between self-efficacy and English academic writing achievement among college students in Indonesia.

1.1. Research Context

The study was carried out in Indonesia, where Indonesian Language is the national language while English is an EFL. The ability to write in English is an important skill for EFL students, yet the results of previous showed writing as the most complex skill to master and that English language teachers need guidance in teaching writing (Wang et al., 2013). It is challenging for students to acquire strong writing skill, while English teachers require educational practice assistance to improve their English writing classroom instruction (Wang et al., 2013). Moreover, English instruction in Indonesia is frequently teacher-centered and teacher-directed, with a strong focus on curriculum observance and assessments. Students will learn through pre-planned exercises and must follow teacher instructions to complete tasks. Unfortunately, students are not too exposed to writing English outside the classroom. In Indonesia, English is not the formal academic language used in higher education institutions. These pedagogical practices are completely different from the Western approaches which emphasize the need for student-centered and contextualized classroom, life-long learning and education system that promotes self-regulation.

1.2. Self-Efficacy and SRL strategy

Self-efficacy is the belief in a personal ability to perform a certain task and achieve a goal (Zimmerman, 2000a). Based on this definition, individuals with strong self- efficacy are challenged to try new things and keep trying even when they find difficulties. On the other hand, individuals with a low level of self-efficacy easily give up. Based on the social cognitive theory, self-efficacy is the most significant factors affecting academic learning and achievement. By emphasizing the relationship between human motivation and the organizational environment, social cognitive theory offers a solid theoretical foundation for probable initial conditions (Bandura, 1977, 1999, 2012). Research by Shkullaku, (2013) showed a positive relationship among self-efficacy attitudes, competence implementation, and educational achievement. Individuals may fail in completing the assignments not because they are not skilled, but rather because the sudden loss confidence in their abilities. Hence, self-efficacy is viewed as an significant key indicator of work engagement (Stajkovic & Luthans, 1998) and work attitudes (Judge & Bono, 2001). Self-efficacy is believed as cultural traits that can be affected by changes in individual history, setting, and products. According to this perspective, students' effective learning practices, such as the use of SRL strategies, may have an effect on their self-efficacy. Students' self-monitoring and self-evaluation of their writing achievement, for example, can influence their actual writing self-efficacy (Bruning et al., 2013).

Self-Regulated Learning (SRL) is viewed as an ongoing and productive process in which students set learning objectives and then strive to regulate, constrain, and handle their intelligence, inspiration, and actions in

order to achieve their goals (Pintrich & Zusho, 2002). The self-regulation process is divided into three: planning, performance, and self- reflection (Zimmerman, 2000a). Many studies have shown that SRL strategies can have a major influence on learners' educational outcomes (Cohen, 2009; Kosnin, 2007; Santangelo et al., 2007; Schünemann et al., 2013; Teng & Zhang, 2018; Wang et al., 2013; Yusuf, 2011).

1.3. The relationship between SRL strategy and self-efficacy

Self-regulated learning (SRL) and self-efficacy are interrelated structures where self- efficacy is considered part of SRL strategies. Self-regulation reflects ones' efforts to change their reaction by blocking stimuli and direct it in different ways to gain the expected results. Therefore, people with strong self-control often have high self-efficacy (Luszczynska et al., 2005). Theoretically, self-efficacy affects students' learning characteristics, and learning behavior. For instance, learning strategies can influence the belief about self-efficacy (D. H Schunk & Zimmerman, 1997; Zimmerman & Schunk, 2011). When students use multiple methods to complete an assignment, they intellectually observe the educational process, demonstrate to themselves that they should be capable of learning which then improved their self-efficacy (D. H Schunk & Zimmerman, 1997). However, not all strategies are self-regulated learning (SRL) strategies. Research by Pintrich, (2004) identified four crucial aspects for SRL strategies:

(a) Learners actively construct meaning, set goals, and choose strategies; (b) Learners have control over their learning in the classroom; (c) The strategy is focused, not random; and (d) The strategies address the relationship between individual and contextual characteristics. As the first language in the field of English literature and science teaching, the relationship between self-efficacy, SRL strategies, and educational achievement has been extensively researched (Boekaerts & Cascallar, 2006; F Pajares & Valiante, 2002; Pape & Wang, 2003; Zimmerman & Martinez-Pons, 1990).

1.4. SRL Strategies in Academic writing

Good English writers are characterized as self-regulated students who have a comprehensive set of writing skills at their disposal to deal with new issues and final writing tasks (B. Bai, 2014; Zimmerman & Kitsantas, 2002). Pre-writing organization, modification, peer assessment, explicit reflection on the assignment, and strategy use are the components of an instruction. Research by Lam, (2015) explored how clear and explicit direct instruction influenced students' metacognitive awareness and aided SRL progression in EFL writing. A 15-week practice writing class with a regard to specific writing and producing strategies, such as pre- writing, preparing, re-drafting, evaluating, revising, and editing was implemented in a cyclical writing process. Students developed their metacognitive awareness by organizing, reorganizing, and problem-solving strategies that will make them more competent and productive (Teng & Zhang, 2020). A study of young EFL students' on the use of SRL strategies in written form discovered that project plans, content strategies, and revising strategies all played a significant role in writing abilities, despite the heterogeneity of students' competence levels (high, middle, and low) (B. Bai, 2014).

1.5. Self-efficacy in EFL Academic writing

Various studies show how students use learning strategies to improve their academic performance (McKenzie et al., 2004; Pressiey et al., 1985; Rollnick et al., 2008; Yip & Chung, 2005). On research by Zimmerman et al., (1992) found that the effectiveness of self-efficacy directly and indirectly affect individual goals. Self-efficacy, in addition to goals, also affects the effectiveness of academic performance. In addition, learners' affective factors are also influenced by self-efficacy. It has been discovered that learners' attribution is influenced by their self-efficacy. Learners with high self-efficacy, for example, prefer to assign their language ability to personal attributes under their influence. Whereas learners with low self-efficacy assume that hard work does not contribute to their academic achievement for they perceive academic achievement is out of their influence and is affected by multiple conditions (Suzanne Graham, 2006; P. P. H Hsieh & Kang, 2010; P P H Hsieh & Schallert, 2008).

A framework proposed by Bruning et al. (2013) was used in this study because it is relatively structured, detailed, specific, and language-related. The three-dimensional framework of writing self-efficacy consists of ideation, conventions, and self-efficacy. Writing cognitions refer to students' self-efficacy in generating new ideas, such as self-efficacy in instrumentation content. Writing conferences are widely recognized standards for expressing ideas in writing, including language self-efficacy, grammatical structures, and organization. The content, organization, language, and grammar of EFL students' English compositions are typically assessed. The final aspect, self-efficacy, refers to writers' optimism in successfully organizing writing process, also known as self-efficacy in process. This study examined information about students' self-efficacy in English writing including language, organization, content, grammar, and process.

Furthermore, the SRL strategy has six recursive stages: background knowledge development and activation, discussion, modeling, memorizing, supporting, and independent performance (Teng & Zhang, 2020).

This method mainly facilitates students in mastering higher-order cognitive processes, developing autonomous, reflective, self-regulated use of effective writing strategies, increasing knowledge of the characteristics of good writing, and forming positive attitudes toward writing and themselves as writers (Santangelo et al., 2007). In sum, self-efficacy has been significantly affected L2 learning. However, only few studies have examined the change of EFL learners' self-efficacy in academic writing contexts and factors affecting learners' self- efficacy, particularly among EFL college students.

To provide effective classroom instruction at an early stage of college students' learning, it is critical to understand how EFL learners regulate their EFL academic writing. Therefore, it is necessary to investigate how EFL students' SRL strategy use affects their writing self- efficacy at different stages of the writing process. This study involved 170 students as samples in order to answer the research questions proposed as follows.

1. Do self-regulated learning strategies and self-efficacy affect the English Academic writing among EFL college students?
2. How does self-regulated learning strategy affect Indonesian College Students' self-efficacy and academic writing performance?

2. RESEARCH METHOD

2.1. Participants

This study was conducted at the secondary school teacher training program in Universitas Negeri Yogyakarta. Participants were 170 teachers and students enrolled in the academic writing course. 62% percent of students were female, while 48% of them were male. Their ages ranged from 18 to 26 years. All of the students had studied English in school for at least six years, where most of English instructions given to them emphasized on academic English writing rather than on communications skills.

2.2. Measures

Questionnaires were used to measure students' SRL strategies and the self-efficacy in EFL academic writing, which items examined how students employed self-regulated strategic instruction in EFL academic writing (planning, text generating, self-monitoring, revising, self-initiating).

2.2.1. Measures of SRL strategies in EFL Academic writing

The self- regulated writing strategy questionnaire adapted from (B. Bai, 2014) was used to examine students' SRL, including five types of writing strategies that represent the whole cycle of the writing process. There were five main areas for each category of writing strategy: planning, self-initiating, text generation, self- monitoring, and revising. Planning strategies are defined as the process of establishing particular targets and determining the structure for completing a composition. The preparations that students made before writing, such as selecting for writing materials and reading model essays, are referred to as self-initiating. Text generating entails the creation of concepts, phrases, and sentences. Students used self-monitoring strategies to reorganize and evaluate their writing processes. The editing of their academic writing was done using the revising and memorizing strategies.

2.2.2. Measures of self-efficacy in EFL Academic writing

Most of the items in this questionnaire were adapted from (Bruning et al., 2013). Five-point rating scale was used to assess self- efficacy in academic English writing. Students' attitudes toward their abilities to use language, such as words or sentences (i.e., self-efficacy in language), organize writing ideas (i.e., self-efficacy in organization), use correct grammar (i.e., self-efficacy in grammar), write relevant content (i.e., self-efficacy in content), and complete the entire writing process (i.e., self-efficacy in process) were also examined.

2.3. Analysis

The binary logistic regression analysis was the main data analysis used in this study, which is an approach to making prediction models such as linear regression or commonly referred to as Ordinary Least Squares (OLS) regression. In logistic regression, the researcher predicts the dependent variable on a dichotomous scale, which is a nominal data scale with two categories, for example: yes and no, good and bad or high and low. The OLS assumes or involves that the error variance (residual) is normally distributed. This assumption is not required for this regression because it is based on a distribution function.

Data collection was conducted through the distribution of questionnaires to participants, consisting of 170 teachers and students enrolled in the academic writing course at Universitas Negeri Yogyakarta. The questionnaire was specifically designed to measure students' Self-Regulated Learning (SRL) strategies and self-efficacy in academic writing in English as a Foreign Language (EFL). The questionnaire's inquiries explored how students employ self-regulated strategic instruction in the context of EFL academic writing. Demographic data, such as gender, age, and the duration of English language study, were also gathered to provide a more comprehensive overview of the participants.

Thus, the data analysis utilizing binary logistic regression not only provides an understanding of the relationships between measured variables but also offers a deeper insight into the influence of SRL strategies and self-efficacy on academic achievement in English academic writing in the higher education setting at Universitas Negeri Yogyakarta.

3. RESULTS AND ANALYSIS

3.1. Results

3.1.1. Descriptive Statistics

Descriptive statistics is a preliminary data analysis technique that provides the overview of the variables being measured. Descriptive statistical analysis includes data concentration (mean, mode, median, etc.) and data distribution (standard deviation, variance, etc.). The average value and standard deviation of all variables in the study are presented in Table 1.

Table 1. Descriptive Statistics of the variable self regulated learning strategies

Variable	Cronbach's Alpha	Mean	SD
Planning	0.91	4.16	0.83
Text Generating	0.97	3.02	1.18
Self-Monitoring	0.95	3.57	0.80
Revising	0.94	2.93	0.92
Self-Initiating	0.95	3.25	0.96

Table 1 presents the mean and standard deviation of the self-regulated learning strategies in this study. The variables for self-regulated learning strategies were measured based on give indicators: planning, text generating, self-monitoring, revising, and self-initiating. The highest mean value of 4.16 was found in the planning, while the lowest one of 2.93 was found in the revising. Text generating obtained the largest standard deviation value of 1.18, while the lowest standard deviation was found in the self monitoring indicator of 0.80. Data reliability as reflected by the Cronbach's alpha value that is greater than 0.60 showed that all indicators were declared reliable.

Table 2. Descriptive Statistics of the self-efficacy variable

Variable	Cronbach's Alpha	Mean	SD
Language	0.80	3.27	0.53
Organization	0.66	3.17	0.46
Content	0.80	3.10	0.58
Grammar	0.92	3.62	0.83
Process	0.94	3.70	0.89

Table 2 shows the mean scores and standard deviation of the self-efficacy. In this study, self-efficacy was measured through 5 indicators, namely language, organization, content, grammar, and process. The highest mean score was obtained by the Process with an average of 3.70, while the lowest one was found in the Content with an average of 3.10. The largest standard deviation value of 0.89 was found in the Process, while the lowest of 0.46 was found in the Organization. The reliability was reflected in Cronbach's alpha value as shown in Table 2, showing that all indicators were declared reliable as the Cronbach's alpha value is greater than 0.60.

Table 3. The correlation between self-regulated learning strategies and self-efficacy

No	Variable	1	2	3	4	5	6	7	8	9
1	PL	-								
2	TG	-0.08	-							
3	SM	0.21**	0.25**	-						
4	RE	0.16*	0.32**	-0.1*	-					
5	SI	-0.07	0.63**	0.33**	0.05	-				
6	LA	0.48**	-0.48**	-0.1	-0.07	-0.35	-			
7	ORT	0.40**	-0.06	0.36**	-0.34**	0.02	0.34**	-		
8	CO	0.26**	-0.08	0.57**	0.04	0.05	-0.07	0.08	-	
9	GR	0.28**	-0.20**	0.45**	0.23**	-0.05	-0.04	-0.06	0.81*	-
10	PR	-0.17*	0.41**	0.39**	-0.06	0.77**	-0.45**	-0.07	0.17*	0.13

The planning (PL) indicator has a fairly strong and significant correlation with the language (LA), organization (ORT), content (CO), grammar (GR), and process (PR). Similarly, the text generating (TG) has a fairly strong and significant correlation with the self efficacy variable indicators, namely language (LA), grammar (GR), and process (PR). The self-monitoring (SM) strongly and significantly correlates with organization (ORT), content (CO), grammar (GR), and process (PR), while revising (RE) correlates significantly with organization (ORT) and grammar (GR). Whereas, self-initiating (SI) indicator shares strong and significant correlation with process (PR).

Seen from the descriptive statistics and the correlations among all indicators in this study, multiple ANOVA analysis of self-regulated learning strategies variables was performed. There variables are categorized into low, moderate, and high as shown in Table 4.

Table 4. Multiple ANOVA Test

Strategy	Level	n	LA	OR	CO	GR	PR
PL	High	128	3.38	3.24	3.15	3.74	3.61
	Moderate	36	3.05	3.01	2.92	3.34	3.97
	Low	6	2.42	2.50	2.29	2.60	3.87
	F (168,2)		3.703*	3.668*	1.848*	1.677*	0.873
TG	High	45	2.93	3.17	3.51	4.14	4.20
	Moderate	77	3.28	3.16	2.57	2.82	3.70
	Low	48	3.59	3.17	3.47	4.41	3.23
	F (168,2)		9.232*	4.788*	42.994*	78.545*	7.451*
SM	High	54	3.16	3.42	3.64	4.26	4.15
	Moderate	116	3.33	3.05	2.81	3.32	3.49
	F (168,2)		6.456*	8.419*	19.707*	10.910*	9.412*
RE	High	25	3.16	3.20	3.61	4.39	4.00
	Moderate	113	3.30	3.06	2.76	3.23	3.49
	Low	32	3.26	3.51	3.75	4.40	4.21
	F (168,2)		5.807*	25.934*	47.818*	174.151*	3.661*
SI	High	46	3.13	3.36	3.53	4.15	4.51
	Moderate	89	3.21	3.08	2.71	3.05	3.66
	Low	35	3.63	3.11	3.38	4.36	2.72
	F (168,2)		4.523*	5.964*	25.447*	27.869*	25.489*

The planning (PL) is classified into 3 levels: high, moderate, and low. Students with high level obtain higher average scores in LA, OR, CO, and GR than those in the lower levels. Whereas, PR indicator has the highest average value for students in the moderate level. The gaps in the average scores of all self-efficacy indicators need to be further analyzed to see the significance. Meanwhile, PR shows insignificant differences.

In the text generating (TG), strategies are divided also into 3 levels, where students with in high level category obtain higher average scores than students with moderate and low levels on the self-efficacy variables namely OR, CO, and PR. Meanwhile, the LA and GR have the highest average scores for students with low levels. Furthermore, the gaps in the LA, OR, CO, PR, and GR scores show significant differences.

The results of the self-monitoring (SM) strategies, which are divided into two levels (high and moderate), indicate that students with high levels of SM have higher average scores in the self-efficacy variables OR, CO, GR, and PR compared to those with moderate levels. However, students with moderate levels of SM had a higher average score in the LA indicator. Further analysis was performed to determine the significance of the difference in average scores between the two groups for all self-efficacy indicators. The results showed significant differences in the LA, OR, CO, PR, and GR indicators between high and moderate levels of SM.

The results of the revision (RE), which are divided into three levels (high, moderate, and low), reveal that students with low RE levels have a higher average score on self-efficacy variables LA, OR, CO, GR, and PR compared to those with moderate and high levels. Further analysis was conducted to determine the significance of the differences in average scores among the three groups in all self-efficacy indicators. The results showed that the difference between high, moderate, and low levels of RE in the LA, OR, CO, PR, and GR indicators was significant.

The results of the self-initiating (SI) strategies, which are divided into three levels (high, moderate, and low), indicate that students with high levels of SI have higher average scores on self-efficacy variables: OR, CO,

and PR compared to those with moderate and low levels. However, students with low levels of SI had higher average scores in the LA and GR indicators. Further analysis was performed to determine the significance of the differences in average scores between the three groups for all self-efficacy indicators. The results showed significant differences in the LA, OR, CO, PR, and GR indicators between high, moderate, and low levels of SI.

A model of the indicators of self-regulated learning strategies and self-efficacy was then proposed using the Structural Equation Modeling (SEM) method with the following results.

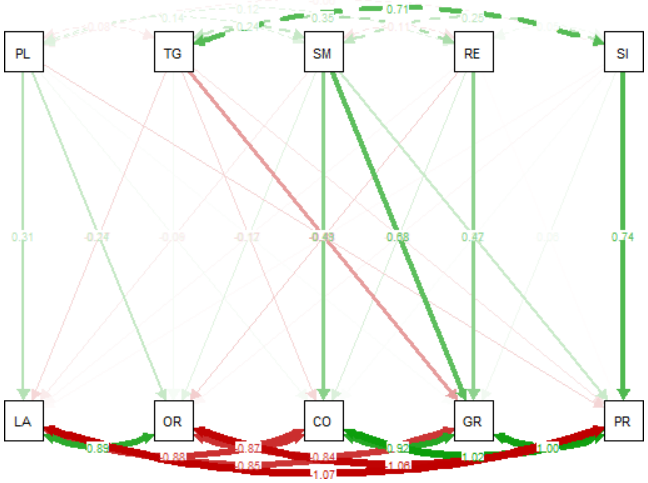

Figure 1. SEM Modeling

The modeling results show that the correlation coefficient of PL on LA is 0.31, TG on LA is 0.24, and SM on LA is 0.09. Then PL to OR is 0.24, SM to OR is 0.12, and RE to OR is 0.43. Then the TG to CO is 0.17, SM to CO is 0.43, and RE is to OR is 0.08. Then the TG to GR is 0.43, SM is 0.68, and RE is 0.47. Furthermore, PL to PR is 0.43, SM to PR is 0.32, and SI to PR is 0.74.

Table 5. Goodness of Fit in First Model

Goodness of Fit Index	*Cut Off Value*	First Model	Model Decision
Chi-Square	Expected small	305,118	Rejected
P-value ≥	0,05	0,000	Rejected

As seen in the Table, the chi-square value of the SEM (First Model) model is greater than 91.67 (X2 table). Therefore, the SEM model is not yet statistically acceptable. Further analysis was performed in order to gain a FIT model.

Table 6. Goodness of Fit in First Model TLI and CFI

Goodness of Fit Index	*Cut Off Value*	First Model	Model Decision
TLI	≥ 0,90	1,602	Model can be accepted
CFI	≥ 0,90	1,785	Model can be accepted

The TLI and CFI values are 1.602 and 1.785, respectively, that are greater than the Cut Off Value. Thus, the SEM model is statistically acceptable. The evaluation of the advanced model can be seen in Table 7.

Table 7. Goodness of Fit in First Model RMSEA and SRMR

Goodness of Fit Index	*Cut Off Value*	First Model	First Model Decision
RMSEA	≤ 0,08	0,059	Model can be accepted
SRMR	≤ 0,05	0,030	Model can be accepted

Based on the table, the Root Mean Square Error (RMSE) and Standardized Root Mean Square Residual (SRMR) values are below the Cut Off Value, meaning that the Structural Equation Model (SEM) is statistically acceptable. The SEM model was also evaluated using the Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and SRMR, and all results indicated that the SEM model is feasible and suitable for use in modeling.

3.2. Discussion

The study offers comprehensive insights into the utilization of self-regulated learning (SRL) strategies and its effect on self-efficacy among Indonesian college students in their English academic writing performance. The results showed that the use of SRL strategies and self-efficacy in academic English writing are moderate. Planning appears to be the most frequently used strategy, while self-initiating strategies were the least. This finding aligns with the research conducted by B. Bai, (2014) on writing strategies of Singapore students, who also reported that planning was the most commonly used strategy and self-initiating was the least popular.

A treatment program that focuses on self-regulated learning (SRL) writing strategies can significantly impact students' use of various types of SRL strategies, including planning and revising. This is supported by a large-scale writing project conducted by Purcell et al. (2013) in the United States, where the use of digital technologies increased revision and editing behaviors among 60% of college students.

Additionally, the results of the study demonstrate that effective teaching can support the development of learners' self-regulation. Emphasis on influence of their teaching on students' self-regulatory behaviors and capacities can help them determine the appropriate time to adopt different teaching roles. As a result of their active involvement in planning, monitoring, and evaluating their teaching, teachers become more self-regulatory.

The ANOVA results indicate the presence of significant statistical differences in the use of self-regulated learning (SRL) and language interpretation strategies between students with low efficacy beliefs and those with high/moderate efficacy beliefs. However, no significant differences were found in the use of SRL or language interpretation strategies among students with moderate and high self-efficacy. The 3-profile model showed good classification accuracy, but it is possible that the characteristics of moderate and high self-efficacy overlap. The lack of a significant difference in the use of SRL or language learning strategies between these two groups could be due to insufficient differentiation between their self-efficacy profiles. This study also confirms the presence of a significant difference in English proficiency (TOEIC) scores between the moderate and high self-efficacy groups. This supports Tragant and Victori (2012). It was found that language learning strategies are not used in a predictable manner across English proficiency levels.

In conclusion, the findings of this study provide useful information about the relationship between EFL learners' use of self-regulated learning strategies and their self-efficacy in academic English writing. However, the small sample size and limited student characteristics included in the study limit the generalizability of the results. Future research should include a larger and more diverse sample of participants and a wider range of student characteristics such as motivation, socioeconomic status, and parental involvement. Furthermore, Additionally, it is important to assess participants' English proficiency in order to fully understand the relationship between self-efficacy, self-regulated learning strategies, and academic English writing performance. Further investigation into ESL/EFL learners' proficiency across self-efficacy profiles might be necessary because self-efficacy correlates with perceived control or aims in the rule of individual performance (Frank Pajares, 2003).

In comparison to previous research, the current study contributes to the existing literature by focusing on the utilization of self-regulated learning (SRL) strategies and their impact on self-efficacy among Indonesian college students in the context of English academic writing. The findings align with (B. Bai, 2014) research on writing strategies among Singapore students, emphasizing that planning is the most commonly used strategy. However, a notable distinction arises as self-initiating strategies were identified as the least utilized in both studies. Additionally, the study echoes (Purcell et al., 2013) findings in the United States, indicating that a treatment program centered on SRL writing strategies significantly influences students' use of various SRL strategies, particularly in planning and revising.

Moreover, the study diverges from Tragant and Victori (2012) findings, which suggested that language learning strategies may not be used predictably across proficiency levels. In the current study, the ANOVA results indicate significant differences in the use of SRL and language interpretation strategies between students with low efficacy beliefs and those with high/moderate efficacy beliefs. However, no significant differences were observed in the use of SRL or language interpretation strategies among students with moderate and high self-efficacy. This nuanced contrast in findings suggests the importance of considering the interplay between self-regulated learning strategies, self-efficacy, and language proficiency in shaping academic performance among EFL learners. It underscores the need for a more comprehensive understanding of the complex relationships that influence language learning outcomes.

4. CONCLUSION

Self-regulated learning strategy positively affects students' self-efficacy in EFL academic writing. Teachers need to be aware of their roles in promoting the development of these strategies and to help students develop self-efficacy in their writing. The results highlight the significance of teaching planning, text generation, and self-monitoring strategies to students, as they have the most impact on their overall self-efficacy in academic writing. This opens up a new avenue for assessing students' self-efficacy and improving their writing abilities.

The limitations of this study involve a relatively small sample size and limited characteristics of the students, requiring careful interpretation of the results. Student demographics, such as motivation, socio-economic status, and parental involvement, were not included in this research. Therefore, future research could involve a larger and more diverse sample, considering additional factors to enhance the generalizability of the findings.

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