

EFL Learners' Writing Performance and Perception in a Flipped Classroom Model with Self-Regulated Strategy Development Instructions

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Abstract

The use of the flipped classroom has increased in the context of learning English as a Foreign Language (EFL). However, only a few studies have reported on how to expand flipped classroom instructional strategies in EFL writing classes. Meanwhile, prior studies have examined the effect of self-regulated strategy development (SRSD) on improving students' writing performance by applying self-regulation procedures. This study proposes an extension of the classic flipped classroom model by combining it with SRSD. To investigate the effect of SRSD instruction on students' writing performance in a flipped classroom, we conducted an experimental design study with three classes involving 90 students across 13 weeks. The first group received flipped classroom model (FCM) with SRSD instruction, the second group received the FCM, and the control group received regular classroom writing activities. The results indicated that the first group demonstrated better writing performance and positive student perceptions. Findings suggested that a strong potential effectiveness of flipped classroom combined with SRSD instruction in cultivating students' writing performance.

Keywords: Flipped classroom; Higher education; Self-regulated strategy development; Writing performance

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Introduction

The FCM has been widely used in higher education to foster student-centered learning and active learning processes (Chen et al., 2025; Chen W., 2024). This instructional model has also been broadly implemented among undergraduate students across disciplines. The major advantages it offers are related to the development of students' deep understanding of the materials by providing them with more control and helping them strengthen their conceptual understanding (Al-Samarraie et al., 2020). The FCM is becoming increasingly popular in the field of English language teaching; indeed, a growing body of literature suggests its increased use in English Language Training of English as a Foreign Language (ELT/EFL) (Shahnama et al., 2021; Turan & Akdag-Cimen, 2019). The flipped classroom offers educational benefits that potentially affect the development of foreign language skills and support the implementation of communicative and student-centered learning environments in the EFL classroom (Mehring, 2016). For example, Öztürk & Çakıroğlu (2021) indicated that the flipped classroom could improve EFL skills such as speaking, reading, writing, and grammar test scores.

While promising, the FCM unfortunately may not always be effective in writing instruction, especially if it is not well-implemented into the course (Brewer & Movahedazarhouligh, 2018). Its design is not a replacement of lectures with video; rather, it requires a complete redesign of the student learning experience with a focus on student-centered learning processes that coherently link learning activities in pre- and in-class sessions (Chiang & Wu, 2021). Writing, in particular, is one of the most complex learning activities in EFL learning (Ruan, 2014; Teng et al., 2022). More research regarding design and implementation to examine its effectiveness and strengthen the theory underlying the flipped classroom in higher education is much needed (Chiang & Wu, 2021; Shahnama et al., 2021).

Another promising instructional strategy for improving students' writing performance is self-regulated strategy development (SRSD). SRSD was designed to improve students' English writing ability by incorporating writing strategies, knowledge or skill, and self-regulation procedures into writing instruction (Harris et al., 2013). Prior studies have evaluated the effectiveness of SRSD in writing and suggested that it benefits students in terms of writing length, elements, and quality (De La Paz & Graham, 2002; Harris et al., 2006, 2012; Wong et al., 2008). In addition, previous research in the FCM has shown that students' success in writing courses is connected to their self-regulated learning—a proactive process through purposeful goal setting, strategy execution and monitoring, and reflection to continuously improve learning (Zimmerman, 2002). Thus, it becomes essential to suggest a unique solution for enhance performance in writing through pre- and in-class sessions of the flipped classroom.

In the FCM, it is difficult for students to manage how and when they should study or how to evaluate their learning session (Zou et al., 2020). Therefore, teachers in the classroom potentially benefit more from SRSD (Öztürk & Çakıroğlu, 2021), and a model associating the SRSD and writing sub-skills is much needed to guide them (Li, 2025). Both pre- and in-class sessions of the FCM should be redesigned to support students' writing performance

through SRSD instruction. Although previous research has investigated the use of the FCM in EFL courses, the conditions under which SRSD strategies foster the students' performance in writing remain unclear (Cengiz & Ataş, 2025; Nouraei Yeganeh & Nemati, 2025; Öztürk & Çakıroğlu, 2021). Therefore, this paper aims to bridge this gap in the literature by investigating the effect of the FCM combined with SRSD on students' writing performance and perception. The following research questions guided this research:

1. How do students perceive the FCM combined with SRSD?
2. How does the writing performance of EFL students in the experimental condition compare with such performance for the control condition?

Literature Review

Flipped Classroom and Student Perception

The traditional method of higher education usually involves lectures wherein students focus on basic thinking tasks such as recalling information (Anderson et al., 2001), while more complex cognitive tasks are done independently at home. However, in the FCM, students are provided with a pre-class session as preparatory material, allowing them to focus on more interactive and complex tasks such as problem-solving activities during the in-class session. Therefore, this instructional model shifts simple cognitive tasks to be completed outside class, leaving class time for deeper learning via analysis, evaluation, or creation with support from teachers and peers (Kwong et al., 2024; Zdravković et al., 2025). Studies suggested that the FCM enhances students' comprehension and engagement with higher-order thinking activities (DeRuisseau, 2016; McLaughlin et al., 2014), such as encouraging students to contribute to the generalizing and justifying of argumentation (Özcan & Zengin, 2024).

A systematic review of the literature on FCM based on an analysis of 34 published articles indicated that it not only improved students' academic performance but also developed their self-regulation, confidence, and higher-order thinking skills (Zou et al., 2020). Similarly, Turan & Akdag-Cimen (2019) also emphasized the advantages of the flipped classroom in EFL courses such as enhancing engagement, writing skills, reading comprehension, and as well as listening and speaking skills.

However, in regard to the satisfaction and learning outcomes, a previous study showed that the FCM effect is not as significant in general and there is a great variation in effect size between studies (van Alten et al., 2019). Several FCM in EFL indicated that the students performed the same or even worse than in a regular classroom (Al-Harbi & Alshumaimeri, 2016; Fraga & Harmon, 2014). This could be explained by the study of Turan & Akdag-Cimen (2019), where they found that challenges faced by the implementation of the FCM in English language teaching were extra workloads for both teachers and students as well as writing anxiety. Therefore, Shahnama et al. (2021) suggested about the implementation of FCM in the EFL field in which it has the potential to improve students' achievement if appropriately designed and implemented. In addition, the FCM is not simply

using videos to replace lectures; it requires an alignment between the learning activities in pre- and in-class sessions while focusing on the student-centered learning process. It is not a surprise that the continuous investigation of the design and implementation of the FCM helps examine its effectiveness and strengthens the theory underlying it (Chiang & Wu, 2021; Shahnama et al., 2021).

In recent years, the promising potential of the FCM has drawn the attention of some researchers interested in writing pedagogy (Rad et al., 2021). Writing is an essential ingredient for students to be academically, professionally, and socially successful. However, during the last decade, writing has reportedly been one of the most complex activities students deal with in the process of learning EFL. Although the challenges in improving EFL writing are multidimensional, researchers claimed that one reason may be the lack of writing strategies (Ruan, 2014; Teng et al., 2022).

Although the concept of the FCM has garnered considerable attention, further research is still needed to assess students' perception of learning (Roach, 2014). Since this paper is a first attempt at motivating the research of FCM implementation in the EFL Ma & Luo (2021) suggested the research should focus on the perceptions of students during the adoption of new teaching models.

Self-Regulated Strategy Development in Writing Instruction

One of the promising instructional strategies in improving students' writing performance is self-regulated strategy development (SRSD). SRSD aims to promote students' independent use of strategies for accomplishing targeted writing tasks, such as planning, revising, as well as the knowledge and self-regulation procedures that are needed to manage these strategies, processes, and behaviours (Harris & Graham, 2009; Sun et al., 2022). SRSD was designed to enhance students' English writing ability by integrating writing strategies, knowledge or skill, and self-regulation procedures into writing activities (Harris et al., 2013).

A large body of literature has evaluated the effectiveness of SRSD in writing and concluded that students benefited from its instruction in terms of writing length, elements, and quality. For example, De La Paz & Graham (2002) found that it helped students in the treatment group produce longer persuasive and informative writings than students in the comparison condition. Another example found that students included significantly more elements in stories, persuasive writing, or narrative writing than their counterparts in the control group did (Harris et al., 2006, 2012). In regard to the writing quality, Wong et al. (2008) found that after receiving a seven-week SRSD instruction, students in the treatment condition tended to produce clearer and more organized writing than students in the comparison group. Previous research regarding the FCM has shown that students' success is related to their self-regulated learning (SRL). The study conducted by Öztürk & Çakıroğlu (2021) examined the development of students' writing skills in a flipped classroom designed with self-regulated learning strategies. The findings demonstrated that the application of self-regulated learning strategies had a positive impact on the enhancement of writing skills within the context of a FCM. However, for generalization, further studies are needed to

investigate the flipped classroom designed with self-regulated learning strategies with specific instructional units about EFL (Öztürk & Çakıroğlu, 2021).

Method

Participants

This study was conducted at a public university in Indonesia. Participants were associate degree students who took an argumentative writing course in the 2022/2023 academic year. All participants were majoring in English. Student participants (N=90) were recruited from three intact classes in the argumentative writing course in State Polytechnic of Malang.

The Conceptual Framework of Flipped Classroom Combined with SRSD Instruction

Argumentative writing is a core module for the university's undergraduate students majoring in EFL. A FCM model combined with SRSD is aligned with the curriculum objective of developing students' writing skills. A FCM combined with SRSD is a modified flipped classroom model in which the learning stages in self-regulated strategy development are organized into pre-class and in-class sessions (see Figure 1).

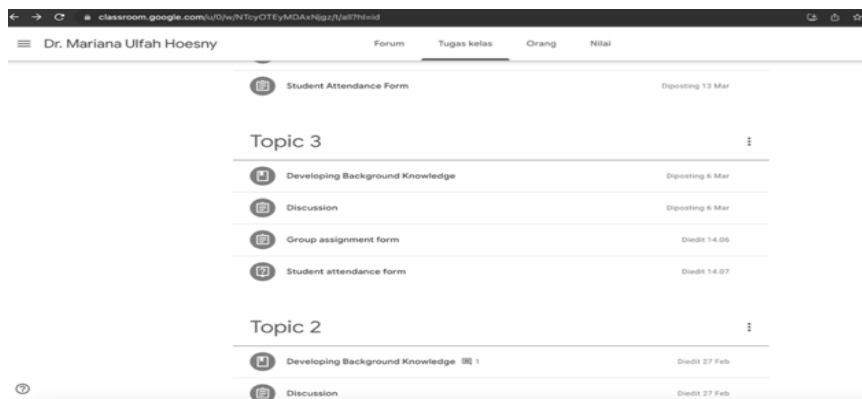
Figure 1

A Flipped Classroom Model with Self-Regulated Strategy Development Strategy



Figure 2

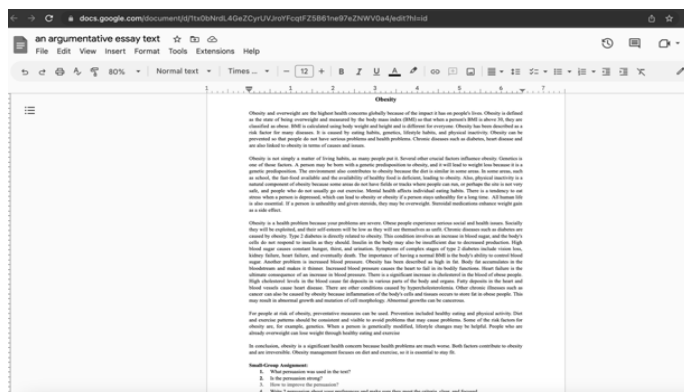
A screenshot of Pre-class Learning Activity



In the pre-class session, the first lesson began with an introduction of the general goals for each instruction, followed by an analysis of exemplar texts about argumentative essays to activate students' background knowledge. In this lesson, students watched videos and read course materials posted by teachers on virtual learning environments such as Google Classroom (see Figure 2). In the first learning activity, *Developed background knowledge*, by exploring the course materials activities may begin development of self-regulation and introduction goal setting. In the second activity, *discuss it*, teachers presented the questions for evaluating an argumentative essay text and guided students to focus on evaluating the comprehensiveness and quality of argumentative elements (see Figure 3). The students worked collaboratively in small groups in order to prepare the learning activity for the next classroom session. These activities could establish role of student effort and strategy use as well as self-regulation of help-seeking when each of the students within a group needed help.

Figure 3

A Screenshot of Discussion Activity in Pre-class Learning Activity



During the in-class session, the learning activity was divided into two parts. The first part was the performance phase and the second was the self-reflection phase. In the performance phase (see Figure 4), the teachers modelled making meaningful evaluations, such as evaluation of the students' work, to elicit from students' reflection on their work. Students used the evaluation question as guidance to identify and revise problems in the text and were encouraged to memorize it to monitor their use of the strategies.

In addition, individualized support was provided for students who were confronted with difficulties in reviewing exemplar text and answering the questions posed by the teacher. These activities may help to develop self-regulation strategies of organization, help-seeking, and feedback. In the self-reflection phase, students revised their written texts on their own in order to use writing and self-regulation strategies independently. However, the teachers' role is to monitor and support as necessary. These activities may help to develop self-regulation strategies of self-evaluation and feedback.

Figure 4

An Example of Performance Phase During In-Class Activity



Research Design

The research design was quasi-experimental with three (intact) conditions (Tuckman & Harper, 2012). Classrooms were randomly assigned to conditions: the control group and the experimental groups. In the control condition (n=30), the students received their regular writing activities (A). In one experimental condition (n=30), the students received writing activities through the FCM (B). In the other experimental condition (n=30), the students received writing activities through the FCM combined with SRSD (C).

This study was approved by the Health Research Ethics Committee Faculty of Medicine at Brawijaya University (No. 263/EC/KEPK/12/2022). We strictly followed the ethics guidelines for data collection and analysis, such as anonymity and voluntary participation. Prior to the study, we informed the students about the research design and obtained consent from all the participants, and that they could opt out of the study at any time during the process.

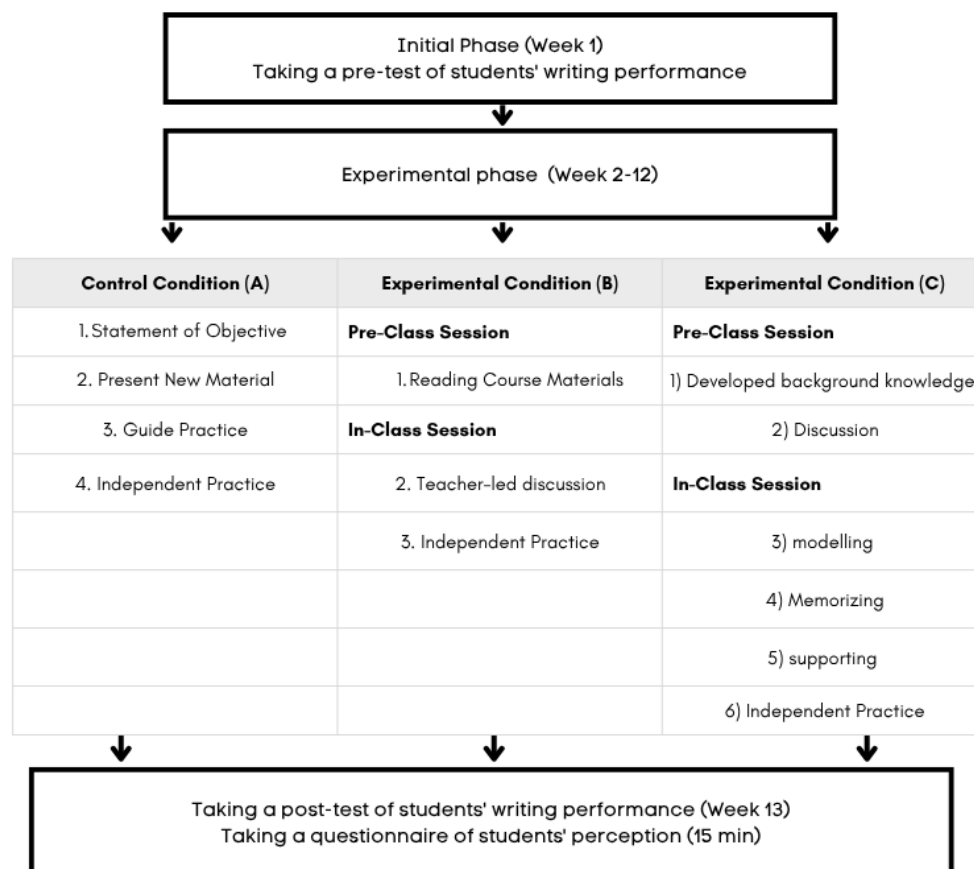
Learning Procedures

The primary instructional design of the 13-week writing activities was followed by three intact classes. The quasi-experimental design was structured into two phases (see Figure 5). The first week was designed as an initiation where the experimenter administrated the writing performance across the control group (A), experimental group (B), and the other experimental group (C). An administration of pre-test writing performance took 90 minutes.

During the control group (A) students participated in the regular writing classroom activities (direct instructions) led by a teacher with a doctorate in English Language Education and an average of five years of teaching experience, as seen in Figure 5. First, the teacher clearly communicated the learning objectives for the argumentative writing course; second, they introduced the new concepts, skills, and examples about the argumentative writing course; and third, they observed students' performance closely and provided feedback as needed. Lastly, they allowed students to practice the skills independently.

In the experimental group (B), students participated in the FCM which consisted of two-phase learning sessions and was led by a teacher with a doctorate in English Language Education and an average of two years of teaching experience in a flipped classroom. The first activity was students reading course materials that were posed by the teacher in an online learning platform (e.g., Google classroom). The second activity was a teacher-led discussion, in which students raised questions and made comments regarding the course material that was posted in the pre-class session. Students were then allowed to practice the skill independently, as seen in Figure 5.

In the other experimental group (C), students worked in the FCM combined with SRSD activities led by a teacher with a doctorate in English Language Education and an average of two years of teaching experience in a flipped classroom. In addition, the teacher in Group C was trained by the researcher in one week to understand the implementation of SRSD instruction in the flipped classroom. In the first activity—the pre-class session,—students developed background knowledge and discussed the argumentative essay posed by the teacher in Google Classroom, as seen in Figure 3. For the development of background knowledge, students watched videos related to the course of argumentative writing, as seen in Figure 6. After watching the videos, the teacher separated the students into small groups and asked them to actively discuss the argumentative essay text posed by the teachers, including how the author managed to meet the writing evaluation criteria. Students were then directed to complete the questions below the texts, as seen in Figure 3. SRL strategies for the forethought phase such as goal setting, self-efficacy, and help-seeking, were embedded in the pre-class session. In the second activity—the in-class session—students received modelling in making meaningful evaluations, encouraging students to memorized the learning content, and support them when they face challenges. Students should revise their written texts independently and teachers should monitor and support as necessary, see Table 1. Therefore, The implementation of SRL strategies during in-class learning activities are as follows: performance phase and self-reflection phase.

Figure 5*The Research Procedures*

In the final phase, the post-test was administered by two researchers assisted by teachers in week 13. Initially, the students were provided with information about the test rules, after which they had 90 minutes to write an essay on the topic of sex education for early childhood. The researchers also administered students' perception of their experience after the implementation of flipped classroom with SRSD.

Table 1*The Procedures of Learning Activity*

Conditions	Instructional Model	Learning Activities		
		Pre-class Session	In-class session	After-class session
Experimental (C)	A FCM combined with SRSD Instruction	Developing Background Knowledge: student quired the knowledge and skill needed to	Model it: Teacher demonstrated the use of self-regulation strategies.	None

		<p>apply strategy for writing through videos and textbook.</p> <p>Discuss it: students discuss how the author manage to meet the writing evaluation criteria</p> <p>Student complete the questions in the essay text.</p>	<p>Memorize it: Teacher provide prompts for students to use evaluation criteria.</p> <p>Support it: Teacher scaffold students' use of self-regulation strategies and provide individualized support.</p> <p>Independent performance: Students revise independently without support from teachers.</p>	
Experimental (B)	A Flipped Classroom Model	<p>Student learn basic knowledge from video and textbook individualized.</p> <p>Student complete the resume Quiz.</p>	<p>Students clarify any misunderstandings concerning the topics in the videos and textbook and discuss it with teachers and peers.</p>	None
Control (A)	Regular Writing Classroom	None	<p>State objectives.</p> <p>Introduction of new materials.</p> <p>Students practice on writing. activities guided by the teacher.</p>	<p>Students practice the skills independently (e.g., writing an essay).</p>

First, the teacher clearly communicated the learning objectives for the argumentative writing course. Second, they introduced the new concepts, skills, and examples about the argumentative writing course. Third, they observed the student's performance closely and provided feedback as needed. Lastly, they allow students to practice the skills independently.

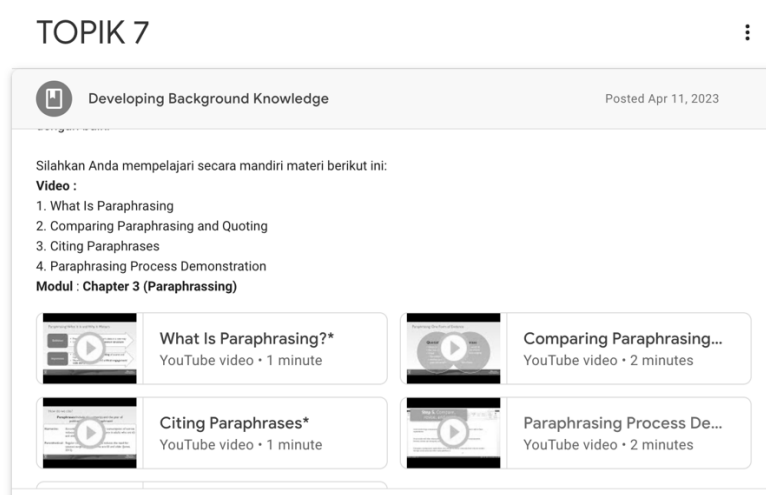
Instruments

A 10-item questionnaire, which was adopted from the questionnaires of McNally et al., (2017), was used in this study. The questionnaire captured students' perceptions of their

learning experiences in the flipped classroom with SRSD. The questionnaire is comprised of two parts. The first part consisted of four questions for the pre-class learning session and the second part consisted of six questions for the in-class learning session. These questions were scored on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire had been piloted on 40 EFL students in the English department from the same university who had similar characteristics to the main sample. Reliability estimates (Chronbach's alpha) were calculated for two parts (pre- and in-class) and it showed that there were satisfactory results for the pre-class ($\alpha=0.75$) and in-class ($\alpha=0.81$).

Figure 6

A Screenshot of Developed Background Knowledge



In regard to the pre- and post- test of argumentative performance, steps were taken to secure topics likely to be of interest to participants. The argumentative writing instructors reviewed the list of the current topics and it was then distributed to all classes through Google Forms, a free online tool for data collection and analysis of surveys and to identify two topics that were of the greatest interest to them. Based on their responses, the topics with the most votes and the one with the second most votes, which the potential participants had enough background knowledge about and general interest in, were used in the pre-test (Should Kids be Social Media Influencers?) and post-test (Is Sex Education Necessary for Early Childhood Students?), respectively.

The scoring rubric was used to rate students' pre- and post-test of argumentative essay texts. The rubric was adopted from the Ozfidan & Mitchell (2022) which consisted of nine dimensions of argumentative writing (organization, thesis statement, integrating academic sources, finding evidence, writing counterclaims, writing refutation paragraphs, punctuation, grammar, and vocabulary) were rated on a five points scale for each dimension. All recorded students' performance of writing from pre-test and post-test were collected by the researcher and graded by the two instructors from the expert in argumentative writing. Initially, the researchers submitted students' grading to analyze the inter-rater reliability to increase the dependability of the data and both pre- and post-test essays were scored by two raters and inter-

rater reliability was computed. The results of the coefficients were .87 and .86 for the pre-test and post-test, respectively, suggesting that the reliability of measurement was robust.

Data Analysis

The data obtained from the questionnaires and the pre-test and post-test were analyzed using SPSS 26. Regarding the data questionnaires, the data was examined by descriptive statistics to explore mean and standard deviation. Regarding the data of the pre- and post-test, analysis of variance (ANOVA) was applied to analyze the differences in the three groups' writing performance as the distribution of scores in the pre-test and post-test did not violate measurement assumptions for normality and homogeneity variance and was followed by Tukey HSD post hoc analysis after significance. For effect size, we reported the d-statistic (Cohen, 1988) in which the findings were classified as follows: small for $d= 0.20$, medium for $d= 0.05$, and large for $d= 0.80$, respectively.

Results

Students' Perception of Their Learning Experiences

The results of the questionnaire are presented in Table 2 below. We combined 'strongly disagree' and 'disagree' as negative responses, and 'agree' and 'strongly agree' as positive responses. The data revealed that students show an overwhelmingly positive response toward the teaching approach of FCM with SRSD. Most students felt that the pre-class session was helpful to their learning and prepared them for the in-class session where they developed writing, learning, and studying skills, applied pre-class session knowledge, and improved their groupwork.

Table 2

Students' Experiences of Flipped Classroom Combined with SRSD Instruction

Items	(n=30)	
	<i>M</i>	<i>SD</i>
Pre-class activities in this course:		
Were helpful to my learning	4.50	0.50
Motivated me to learn more	4.33	0.71
Enabled me to learn at my own pace	4.20	0.76
Prepared me for in-class session	4.47	0.50
The in-class activities helped me:		
Clarify what I had learned in pre-class session	4.30	0.79
Apply what I had learned in pre-class session	4.47	0.62
Improve my group work skills	4.43	0.56
Develop writing skills	4.67	0.47
Improve my communication skills	4.30	0.79
Develop better learning and study skills	4.50	0.57

Students' Writing Performance

As the first step to check the normality of the data, a Shapiro-Wilk test was run, the results of which are shown below. Table 3 shows that the Sig. in this test for the pre-test in control condition (A), experimental condition (B), and the other experimental (C) equaled .14, .37, .16 and for the post-test in control condition (A), experimental condition (B), and the other experimental (C) equaled .07, .07, .09 respectively, and all three groups both in pre- and post-test were greater than 0.05, which shows the normality of the data in pre- and post-tests for all groups.

Table 3

Results of Test for Normality Data

	Scores	Groups	Shapiro-Wilk		
			statistic	df	Sig.
Writing performance	Pre-test	Control condition (A)	.94	30	.14
		Experimental condition (B)	.96	30	.37
		Experimental condition (C)	.94	30	.16
	Post-test	Control condition (A)	.93	30	.07
		Experimental condition (B)	.93	30	.07
		Experimental condition (C)	.94	30	.09

To check the variance homogeneity of the data, a Levene test was run, the results of which are shown below. Table 4 shows that the Sig. for the pre- and post-test equaled .92 and .96 respectively, and the Sig. values were greater than 0.05, which shows the variance homogeneity of the data in pre- and post-test.

Table 4

The Levene Statistic for Variance Homogeneity

	Scores			Levene		
			Statistic	df1	df2	Sig.
Writing performance	Pre-test	Based on mean	.075	2	87	.92
	Post-test	Based on mean	2.41	2	87	.96

In the next step, the pre-test results' descriptive statistics were evaluated to see the potential differences in the students' writing performance among the experimental and control groups before running the interventions. The results are presented in Table 5. The mean scores across the groups for the pre-test were the same, and standard deviations in the two groups were close. Thus, writing performances were almost identical across the groups, $F(2,87) = .57, p = .56$.

Table 5

The Descriptive Statistic and Results of ANOVA for Pre-test Scores

	Groups	Number	Mean	Std. deviation	ANOVA	
					F	Sig.
Writing performance	Control condition (A)	30	2.28	0.18	.575	.565
	Experimental condition (B)	30	2.33	0.19		
	Experimental condition (C)	30	2.32	0.20		

The post-test results' descriptive statistics were also evaluated to see the potential differences in the students' writing performance. The means and standard deviations are presented in Table 6 below. The result of the one-way analysis of variance for the post-test revealed a significant effect of the teaching and learning model on students' writing performance, $F(2,87) = 225.21, p = .00$. The effect size, eta squared, was 0.83, indicating a larger effect.

Table 6

The Descriptive Statistic and Results of ANOVA for Post-test Scores

	Groups	Number	Mean	Std. deviation	ANOVA			Post-hoc Tukey
					F	Sig.	η^2	
Writing performance	Control condition (A)	30	3.61	0.33	225.216	.000*	.83	(C) > (B)*, (C) > (A)*, (B) > (A)*
	Experimental condition (B)	30	5.30	0.47				
	Experimental condition (C)	30	5.64	0.36				

Note: Significance * $p < .05$.

Furthermore, to answer our second research question about how the writing performance of EFL students in the experimental condition compares with the control condition, a post-hoc Tukey HSD test was conducted. The results indicated that the group of experimental condition C was significantly higher in writing performance than both groups of experimental condition B ($p < 0.001$) and group of control condition A ($p < 0.001$). The group of experimental condition B

scored significantly higher in writing performance than the group of control condition A ($p < 0.001$).

Discussion

In this section, we offer a combined FCM with SRSD on students' perception and writing performance based on the components of flipped classroom model presented by (Strayer, 2017) and (Diningrat et al., 2023) and self-regulated strategy development presented by (Harris et al., 2013). In addressing this instructional model, we begin by discussing the first research question: how do students perceive the flipped classroom model with SRSD? Based on findings focusing on the second research question, we emphasized the necessity to use a FCM combined with SRSD in improving students' writing performance.

The first objective of this study was to explore the perception of FCM with SRSD by students of EFL in Indonesia by examining the mean and standard deviation in student ratings. The instructional model was well-received by students and we can conclude that the flipped classroom with SRSD has generally been characterized by participants as helpful to their learning and preparation for the in-class session. These positive results are consistent with the finding of Roach (2014), with most students stating that videos, discussion with classmates and ability to rewind the videos helped them learn. Meanwhile, in a traditional writing classroom, teachers often use a lecture strategy, therefore students may not have to prepare anything for the class.

The participants also perceived that the in-class session could develop writing skills, be used to apply what they had learned in pre-class session and develop better learning and study skill as well as improve their group work skills. These results are consistent with the finding of McNally et al. (2017), who suggested that FCM have higher expectations to participate actively in class discussions, for the instructor to employ new, unusual class activities, teaching techniques, and assignments, and to interact with other students in class and be reliant on other students to succeed in the class. In accordance to the study of (Chiang & Wu, 2021), participants could perceive improvements in their communication and collaboration skills in the flipped classroom model due to the curriculum design, which in this study, emphasized group work.

So, in conclusion, it is reasonable to say that the utilization of the FCM with SRSD can develop positive perception about the learning process for classroom writing because it is based on the robust theoretical framework of SRSD. It was supported by Shahnama et al. (2021) who stated that using the FCM in the EFL field has the potential to improve and develop positive attitudes toward the learning process when it designed and implemented appropriately.

The second objective of this study was to explore the effect of the FCM with SRSD on the writing performance of students of EFL in Indonesia. The present study found that stronger writing performance for the experimental condition compared with the control group. As for the students' writing performance across conditions demonstrated a statistically significant difference. However, no difference was found between the two experimental conditions. The absence of difference between the two experimental conditions may be due to the comparable activities across them. An important and shared foundation in both approaches is the presence of pre- and in-class learning activities that can provide the opportunity for students to actively

construct knowledge by themselves rather than receiving the information passively in the classroom (Khojasteh et al., 2021). The FCM can cultivate interactive class time for teachers and enable them to invest more in academic practice in writing, instead of asking students to spend a substantial amount of time each week. These findings are in line with the results of the study conducted by Turan & Akdag-Cimen (2019), who found that the flexible nature of the FCM allows diverse needs in the classroom to be met by providing students with extra time out of the classroom and helping teachers understand the aspects of writing in which their students needed further reinforcement.

Although the FCM in the EFL field has the potential to improve students' achievements, including in writing performance, it requires appropriate course design and implementation. In this study, we found that the FCM with SRSD instruction had a significant effect on the students' writing performance compared to both the flipped classroom model and conventional method. The importance of SRSD instruction for writing performance is frequently highlighted in the literature (J. Chen et al., 2022; De La Paz & Graham, 2002; Graham & Harris, 2005; Harris et al., 2012; Harris & Graham, 2009; Wong et al., 2008). Briefly described, SRSD is an effective method for teaching writing strategies to students. The instruction is a powerful strategy for writing both across and within genres and purposively developing self-efficacy and motivation for writing, and attribution to strategy knowledge and effort (Harris et al., 2013).

These results are in line with findings from the few prior studies that investigate students' writing performance after the implementation of SRSD instruction. For example, Harris et al. (2006) found that after receiving the SRSD instruction, students in the treatment group tended to produce more persuasive and informative writing than students in the comparison condition. Wong et al. (2008) found that after receiving a seven-week SRSD instruction, students in the treatment condition tended to produce clearer and more organized writing than students in the comparison conditions. Washburn et al. (2016) found that after 11 weeks of SRSD instruction students made a significant and meaningful improvement in writing quality compared to students in the comparison group.

In summary, when SRSD instruction is integrated in the FCM, it could positively affect the development of foreign language skills (Öztürk & Çakıroğlu, 2021). As Öztürk & Çakıroğlu (2021) indicated, the group working with the FCM with SRSD outperformed in writing test scores because this instructional model can provide flexible access to learning resources and interactivity and support students in managing their own learning.

This study contributed to the literature in two ways: it adopted the under-researched area of FCM with SRSD instruction in writing courses and explored employing SRSD instruction in the FCM learning environment to develop students' writing performance, which has not been examined in an associate degree program.

Findings suggested that the effect of the FCM combined with SRSD instruction on students' writing performance were promising. Nevertheless, this study is not without limitations. We acknowledge that sample size in this study was limited to the associate degree and students in a single department. In addition, the number of participants was relatively small. In view of these limitations, the results of this study might not be able to be generalized.

Conclusion

To close, the research suggests that integration of the SRSD instruction into the FCM is a promising approach to enhance EFL students' writing performance in associate degree programs. The present study also suggests that students perceived that the FCM combined with SRSD instruction as helpful to their learning and prepared them for the in-class session. Thus, the in-class session could develop writing skills, used to apply what they had learned in pre-class session and develop better learning and study skills as well as improve their group work skills.

As the findings of the present study further the understanding of the FCM combined with SRSD, several practical implications can be drawn from pedagogical innovation effort in this research. Firstly, setting up a FCM combined with SRSD instruction has the potential to replace or complement the classic FCM, insofar as it can prove more effective in enhancing students' writing performance than the FCM and conventional method. Secondly, when implementing SRSD instruction into the FCM, the *Developed background knowledge* and *Discuss it* stages may be delivered in the pre-class activity in an online session with online support form teachers and peers. In this way, teachers can save time implementing writing activities such as *Model it*, *Memorize it*, and *Support it* during the in-class session by supporting their independent performance activities and providing feedback for students. Finally, a successful FCM combined with SRSD requires teachers and students to change their way of thinking. In a flipped classroom combined with SRSD, teachers should be well aware of the increasingly important role they play to raise questions and support the development of writing skills, while students should change their passive learning habits and actively participate instead.

It may be valuable for future studies in several areas. First, the FCM combined with SRSD instruction should be further examined in the future on a larger scale with other subject and topics. Second, future researchers should examine the utilization of an FCM with SRSD over a longer time period (e.g., one semester). Third, investigating social and collaborative learning: beyond individual self-regulation, future research could explore the impact of peer feedback, co-regulated learning, and collaborative writing tasks during the in-class sessions. This would provide a more holistic understanding of how learning is scaffolded in this environment. Fourth, employing qualitative/process-oriented methods: to gain deeper insights beyond quantitative outcomes, qualitative or mixed-methods designs could be used.

Declarations

Informed Consent of Participation

Informed consent of participation was obtained from each participant

Conflict of Interest

The authors declare that they have no conflict of interest. The authors certify that the submission is original work and is not under review at any other publication

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