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Contribution of Flipped Classroom Model on University Students' Writing Performance, Writing Self-Efficacy, and Writing Self-Regulation

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Abstract: Contribution of Flipped Classroom Model on University Students' Writing Performance, Writing Self-Efficacy, and Writing Self-Regulation. Objectives: After the pandemic ended, education experts recommended the flipped classroom model as an alternative learning model teachers could use. This model combines class activities and at home to make learning more effective and efficient. This study aims to explore the impact of the flipped classroom model on improving writing performance, writing self-efficacy, and writing self-regulation for students. **Methods**: The researcher used a quasi-experimental pretest-posttest design involving 58 students in the Islamic Economics Study Program, UIN Sultan Maulana Hasanuddin Banten, Indonesia. Data was collected using four main instruments: writing tests, writing performance assessment rubrics, writing self-efficacy questionnaires, and writing self-regulation questionnaires. Researchers ran a paired sample t-test and one-way ANCOVA to analyze the data. **Findings**: The results showed that the flipped classroom model positively affected students' writing performance, writing self-efficacy, and writing self-regulation. **Conclusion**: Based on these findings, the researchers recommend that teachers use the flipped classroom model in teaching academic writing, especially in dealing with learning in the post-pandemic era.

Keywords: flipped classroom, writing performance, writing self-efficacy, and writing self-regulation.

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INTRODUCTION

The flipped classroom strategy is a learning model widely applied by teachers and has increased in popularity in recent years. One of the factors driving the widespread use of this method is the existence of technological advances and changing times which have led to changes in the profiles of students and teachers (Gonzalez-Gomez et al., 2019). Thus, the flipped classroom is a form of active learning approach that emerged due to the search for new methods that can serve the changing times and needs of the current generation.

The flipped classroom model was developed based on several aspects that build it, namely learning methods that are outcome-based, student-centred learning, and cooperative learning (Rodriguez et al., 2019). The flipped classroom model is a practical form of constructivism philosophy. Based on the most general

understanding, the flipped classroom model is an educational method that positions homework and teaching in the classroom in exchange (Karabulut-Ilgu et al., 2018; O'Flaherty & Philips, 2015). In other words, In a reverse classroom, new information is transferred to students while they are at home using videos, power points, and other learning media. Furthermore, students are involved in activities and hands-on practice in class with the guidance of teachers (Chen-Hsieh et al., 2017).

The flipped classroom model has been developed in teaching various subjects, including language learning (Thinh, 2021; Tunca et al., 2015; Turan & Akdag-Cimen, 2019; Wu et al., 2017). In addition, several other studies claim that the flipped classroom model proves to be more effective when compared to conventional models in language learning, both for writing, reading, speaking, and listening skills (Ahmad, 2016; Boyraz & Ocak, 2017; Melendez & Iza, 2017; Yu & Wang, 2016). Specifically, the flipped classroom model can increase: (a) student involvement in learning, (b) speaking skills, (c) motivation, (d) interaction between students, (e) higher-order thinking skills, (f) ICT skills, (g) grammar, and others (Alsuwat, 2016; Cetin-Koroglu & Cakir, 2017; Ekmekci, 2017; Huang & Hong, 2016; Kang, 2015; Webb & Doman, 2016).

Concerning learning to write, the flipped model also needs to be considered for use by teachers. Writing is a very complex physical and mental activity with a higher level of difficulty when compared to the other three language skills (Helaluddin et al., 2023; Thinh, 2021). Students need more activities to support the achievement of writing performance. Using the flipped classroom model, students can carry out pre-writing activities by watching tutorials on YouTube and other learning media (Iyitoglu & Erisen, 2017; Webb & Doman, 2016).

In achieving the learning objectives of writing, several other important factors also influence and must receive attention from teachers. One is the knowledge factor about student behaviour and beliefs in learning the language, one of which is student self-efficacy writing. Some experts consider that these two aspects can encourage better student writing performance (Boykin et al., 2019; Chen et al., 2019; Su et al., 2018). That is, students who write independently can set their own goals, complete writing, and manage or choose their writing strategies (Csizer & Tanko, 2017; Fathi et al., 2021).

Several references state the importance of writing self-efficacy and self-regulation in improving students' writing skills. Experts state that these two factors can build students' self-confidence so that they can improve their writing skills (Su et al., 2018; Zimmerman et al., 1992). hese two factors are also believed to be determining factors and can facilitate students in the writing learning process. Writers with self-efficacy are believed to have high motivation in writing assignments, have a positive attitude towards writing activities, and have little anxiety in writing (Pajares, 2003; Schunk & Zimmerman, 2007).

Several studies have explained the relationship between the flipped classroom model and learning to write. In language learning in general, the flipped classroom model is proven to influence the improvement of student learning outcomes (Chen-Hsieh et al., 2017; Han, 2015; Roux & Nagel, 2018). This means students' language performance increase significantly when using the flipped classroom model in writing, speaking, reading, and listening to language knowledge. For learning to write, several previous studies have also claimed evidence that the flipped classroom model has an impact on improving writing skills for both foreign and first languages (Emiliya Hidayat & Dzulfiqar Praseno,

2021; Fauzan & Ngabut, 2018; Sarani et al., 2020; Siswanto, 2021).

Regarding two aspects of students' behaviour and beliefs in learning language, two previous studies stated that the flipped classroom model positively impacted students' writing achievement and self-regulation (Altas & Mede, 2021; Fathi et al., 2021). Separately, the flipped classroom model also influences self-efficacy in learning language and learning to write (Abedi et al., 2019; Nourinezhad et al., 2022). From these studies, no researcher has used the flipped classroom model to simultaneously support these three essential aspects: writing performance, writing self-efficacy, and writing self-regulation for learning to write in the first language (Indonesian). Therefore, researchers are interested in exploring the influence of this model to obtain maximum learning outcomes (writing performance, writing self-efficacy, and writing self-regulation). Based on the description of the problem, this research question is, when compared to the conventional model, how is the effectiveness of the flipped classroom model in improving students' writing performance and writing self-efficacy?

METHOD

Research Design, Site, and Participants

This study aims to explore the impact of using the flipped classroom model on improving students' writing performance, writing self-efficacy, and writing self-regulation. The researcher used a quantitative approach with a quasi-experimental pretest-posttest design to achieve this goal. This design is widely used in teaching, which provides treatment between pretest and posttest sessions to compare the scores of the two (Delucchi, 2019; Seel, 2012). In this study, the treatment given to the control group of students was the conventional model, while the experimental group used the flipped classroom model.

For the experimental class, the learning treatment was carried out for 7 weeks with a time allocation of 60 minutes for each in-class session. Before participating in in-class learning, students must participate in online learning via the Schoology and WhatsApp applications for 30 to 40 minutes each. The researcher applied discussion and brainstorming methods to each student's writing results in the in-class session. The learning steps are presented in Table 1 in detail.

Research participants are 1st-semester students taking Indonesian language courses in the 2023/2024 academic year aged 18-23. There were 58 students from two study groups of the Department of Islamic Economics, Faculty of Islamic Economics and Business, UIN Sultan Maulana Hasanuddin Banten, Indonesia. The two groups were determined randomly from 5 existing groups, with an experimental group of 28 students and a control class of 30 students. The participants comprised 20 men and 38 women with writing skills at the lower middle level.

Instruments

In this study, the researcher used several research instruments, namely: (a) essay writing test, (2) essay writing assessment rubric, (3) writing self-efficacy questionnaire, and (4) self-regulation questionnaire. The following is a description of each of the instruments used.

Essay Writing Test

The researcher used an essay writing test instrument to determine how far the students' writing performance was. The essay writing test was carried out twice, namely at the beginning before the treatment started (pretest) and after students received treatment with the flipped model (posttest). The two groups of students were asked to write essays about the various obstacles faced by Islamic banks in Indonesia

during the industrial revolution 4.0 era. In addition, the recommended essay length in the pretest and posttest is between 400-500 words. This essay writing test adopts the essay structure by (Oshima & Hogue, 2006) , which consists of (a) an opening paragraph, (b) an essay body, and (c) a closing paragraph.

Essay Writing Assessment Rubric

To get an overview of students' writing performance, the researcher used a writing assessment rubric which consisted of four main aspects, namely: (a) task achievement, (b) coherence & cohesion, (c) lexicon, and (d) grammatical accuracy (Helaluddin et al., 2023; Winarti et al., 2021; Wu et al., 2019). Students who fulfil all assessment indicators are given a score of 4; if they do not, they get a score of 1. Thus, the highest total score is 16, and the lowest is 4.

In addition, the researcher also measures the consistency of rubric scores to avoid subjectivity related to the validity and reliability of the instrument. Based on the inter-rater reliability test results, two lecturers randomly assessed ten student writings and showed a score of 0.86 (Conkin et al., 2020; Soemantri et al., 2021). Based on measurements using the Pearson product-moment, the research instrument used (essay writing assessment rubric) is stated to have a level of consistency that both assessors can accept.

Questionaire of Writing Self-Efficacy

In addition to the writing test and writing assessment rubric, the researcher used a writing self-efficacy questionnaire to measure students' self-efficacy in writing. This questionnaire was developed by Han & Hiver (2018) and consists of seven-item statements that are used to measure confidence and self-confidence in their ability to write essays. The instrument is a Likert scale questionnaire with five alternative answers with points 1 (strongly disagree), points 2 (disagree), points 3 (neutral), points 4 (agree), and 5 points (strongly agree). In addition, researchers measured the internal consistency of the questionnaire with Cronbach's Alpha, and the result was 0.91.

Questionaire of Writing Self-Regulation

Another instrument used in this research is the writing self-regulation scale. The instrument was previously used and developed by Han dan Hiver (2018), consisting of nine statement items used to measure students' strategies for planning, organizing, and managing their writing goals. This instrument is a 5-point Likert scale questionnaire with a weight of 1 (strongly disagree) to 5 (strongly agree). Thus, the total maximum score is 45, and the minimum score is 9. Before use, the researcher conducted an internal consistency test using Cronbach's Alpha, and the results showed a score of 0.85.

Data Analysis

The data that has been collected is then analyzed quantitatively using the SPSS version 22.00. The quantitative data were analyzed using paired sample t-test and one-way ANCOVA. First, the researcher conducted a paired sample t-test to explore the effect of the flipped classroom model on students' writing performance and writing self-efficacy. In this test, students' work results on two writing assignments (pretest-posttest) and the writing self-efficacy assessment rubric in the pretest and posttest sessions of the two groups were examined. Second, to compare the differences between the experimental and control groups in developing students' writing performance, writing self-efficacy and writing self-regulation, the researcher conducted a one-way analysis of covariance between groups (ANCOVA). One way ANCOVA test or analysis of covariance is a follow-up test of one-way ANOVA to include covariate variables that

are linearly related to the dependent variable. In other words, this test aims to determine the difference in the average between two or more groups that have been adjusted for covariate variables that can affect the value of the dependent variable.

Instruction Procedure

This research was conducted in the first semester of the 2023/2024 academic year with seven meetings (7 weeks) with an allotted time of 100 minutes per meeting. There were several materials taught to both groups (experimental & control), namely: (a) writing paragraphs, (b) unity and coherence, (c) writing essay opening paragraphs, (d) writing paragraphs in the body of the essay, and (e) write the closing paragraph of the essay. In detail, the stages of learning in the experimental class are described in Table 1.

Table 1. Instructions procedures in experiment class by using flipped classroom model (Rad et al., 2021)

Week	Teaching method	
	Out-Class	**In-Class**
1.		- Essay writing pretest, filling out the WSE questionnaire, and the WSL questionnaire (100 minutes)
2.	- Watch videos, take quizzes, read sample paragraphs, and discuss with colleagues / lecturers using the Schoology App	- Discuss the material for the second meeting about writing paragraphs (60 minutes)
3.	- Watch videos, take quizzes, read sample paragraphs, and discuss with colleagues / lecturers via the WhatsApp Group	- Lecturer presents examples of paragraphs and discusses them (60 minutes)
4.	- Watch videos, take quizzes, read sample paragraphs, and discuss with colleagues / lecturers via the WhatsApp Group	- Write paragraphs with free themes (60 minutes)
5.	- Watch videos, take quizzes, read examples of paragraphs in the body of essays, and discuss with colleagues/lecturers through the Schoology App	- Lecturer gives feedback on student writing (60 minutes)
6.	- Watch videos, take quizzes, read examples of essay closing paragraphs, and discuss with colleagues/lecturers through the Schoology App	- Discuss the material for the third meeting about "unity and coherence" in paragraphs (60 minutes)
7.	- Watch videos, take quizzes, read sample paragraphs, and discuss with colleagues / lecturers using the Schoology App	- Lecturer presents examples of paragraphs and discusses them (60 minutes)

In addition, in the control class, researchers applied conventional methods with face-to-face learning designs. The subject matter was not different from the experimental class, with seven meetings. The teacher delivered material through power points and textbooks in this control class. The several stages at each meeting in the control class are: (a) the lecturer conveys the material with PPT or uses textbooks, (b) discusses the material, (c) writes texts, and (d) the lecturer provides feedback to student writing.

RESULT AND DISCUSSION

The data collected through essay writing tests, writing self-efficacy questionnaires, and writing self-regulation questionnaires were analyzed quantitatively with the help of the SPSS 22.00 program. Researchers ran two tests to answer the problem formulation in this study, namely the paired sample t-test and one-way ANCOVA. Table 2 below shows the results of descriptive statistics from the pre-test and post-test on the three aspects: writing performance, writing self-efficacy, and writing self-regulation.

Table 2. Descriptive statistics

	Group	Mean	N	Std. deviation	Std. error mean
Pre-Writing Performance (WP)	Flipped	7.64	28	1.162	.220
	Non-flipped	7.30	30	1.291	.236
Post-Writing Performance (WP)	Flipped	13.36	28	1.283	.242
	Non-flipped	9.67	30	1.028	.188
Pre-Writing Self-Efficacy (WSE)	Flipped	18.68	28	1.827	.345
	Non-flipped	19.23	30	1.406	.257
Post-Writing Self-Efficacy (WSE)	Flipped	39.00	28	2.449	.463
	Non-flipped	29.47	30	4.066	.742
Pre-Writing Self-Regulation (WSR)	Flipped	19.29	28	1.843	.348
	Non-flipped	18.73	30	1.660	.303
Post-Writing Self-Regulation (WSR)	Flipped	39.07	28	1.961	.371
	Non-flipped	29.53	30	3.082	.563

Table 2 shows a small difference between the average scores of students in the pre-test session of the experimental group with the flipped classroom model and the control group with the non-flipped classroom model. On the other hand, a significant average difference can be seen in the post-test results. At this stage, the researcher concluded that the two learning models (the flipped classroom and the non-flipped model) had the same influence on the three aspects (writing performance, writing self-efficacy, and writing self-regulation). However, one thing that needs to be emphasized is that the impact of the flipped classroom model is more significant than that of the non-flipped classroom.

The next step is to determine whether or not the difference is categorized as significant. The researcher conducted a paired t-test to check the effect of teaching using the flipped classroom model on writing performance, writing self-efficacy, and writing self-regulation. The results of the paired sample t-test are presented in Table 3 below. The table confirms that the change in the average score on the aspect of writing performance [t = 26.291, p <.00], the average score on the aspect of writing self-efficacy [t = -

60.214, p <.00], and the average score the mean on the aspect of writing self-regulation [t =-66.604, p <.00] is significant. This indicates that the three aspects in this study (writing performance, writing self-efficacy, and writing self-regulation) increase when viewed from pre-test to post-test scores.

Furthermore, we also ran a one-way ANCOVA to investigate differences between the experimental and control groups by controlling

Table 3. Paired samples t-test

		Mean	Std. deviation	Std. Error Mean	*T*	Df	*p*
Flipped Classroom	Pre- and Post WP	-5.714	1.150	.217	-26.291	27	.000
	Pre- and Post WSE	-20.231	1.786	.337	-60.214	27	.000
	Pre- and Post WSR	-19.786	1.572	.297	-66.604	27	.000
Non-flipped	Pre- and Post WP	-2.367	.850	.155	-15.245	29	.000
	Pre- and Post WSE	-10.233	3.298	.602	-16.997	29	.000
	Pre- and Post WSR	-10.800	2.369	.433	-24.966	29	.000

for covariates (i.e. pre-test). First, a one-way ANCOVA was conducted to examine the differences between the groups with the flipped classroom model and the non-flipped classroom group in improving students' writing performance. The test results are presented in Table 4. Based on this table, it can be concluded that there is a significant difference between groups of students using flipped classrooms and non-flipped classrooms in improving student writing performance [F (1, 64) = .877, p = .356, partial eta squared = .025]. In other words, the value of students in the experimental group using the flipped classroom model is greater than that of students from the control group in improving their writing performance.

Table 4. One way ANCOVA test results (Investigating differences between the two groups on aspects of writing performance)

Source	Type III Sum of Squares	df	Mean Square	F	*P*	Partial eta squared
Group	1.422[a]	1	1.422	.877	.356	.025

After testing the writing performance aspect, the researcher also measured the second aspect, namely writing self-efficacy, by applying the one-way ANCOVA test. Table 5 below shows the results of a one-way ANCOVA, which states that there is a significant difference between the two groups (experiments with a flipped classroom model and controls with a non-flipped classroom model) in increasing writing self-efficacy [F (1, 64) =. 694, p = .411, partial eta squared = .020]. The table also provides information that aspects of writing self-efficacy in students in classes using flipped classrooms outperform groups of students using non-flipped classrooms.

Finally, the researcher examined the differences between the experimental and control groups in improving writing self-regulation by running a one-way ANCOVA. Table 6 below is the result of the one-way ANCOVA. The table

Table 5. Results of one way ANCOVA test (Exploring the differences between the two groups on the aspect of writing self-efficacy)

Source	Type III SS	*df*	Mean Square	*F*	*P*	Partial eta squared
Group	1.606[a]	1	1.606	.694	.411	.020

shows a significant difference between the experimental and control classes in improving the third aspect, namely writing self-regulation. The level of significance can be seen from the measurement results, which show an increase in aspects of writing self-regulation [F (1, 64) = 5.234, p = .028, partial eta squared = .028]. These results indicate that learning to write using the flipped classroom model is more effective and efficient than the control group in improving students' writing self-regulation.

Concerning improving writing performance, the findings of this study are consistent with several previous findings. Sarani et al. (2020) tested 48

Table 6. One way ANCOVA test results (Explore the differences between the two groups in the aspect of writing self-regulation)

Source	Type III SS	*df*	Mean Square	*F*	*P*	Partial eta squared
Group	15.606[a]	1	15.606	5.234	.028	.028

high school students in Iran using a treatment in the form of a flipped classroom model in the experimental class. The study's findings stated that the experimental class with the flipped classroom model outperformed the achievement of student learning outcomes from the control group using the conventional model. The advantages of the experimental class occurred in three main aspects of writing performance, namely aspects of content, organization, and vocabulary. Similar to these findings, Fathi & Rahimi (2022) also stated the results of their research, which proved that the flipped classroom model positively impacted writing skills in terms of complexity, accuracy, and fluency.

The flipped classroom model is the suitable alternative to improve language performance, especially in academic writing. One of the reasons is that flipped classroom-based teaching is very suitable for the needs of students, which includes four main pillars: a flexible environment, learning culture, carefully designed content, and professional educators (FLN, 2014). The FC model can create situations and learning environments that are independent and flexible for students. Outside the classroom, lecturers send study materials and ask students to access, download, and study content without being limited by space and time. In the classroom, lecturers organize various learning activities so that writing activities can help students become active and involved in learning (Aljarrah et al., 2018; Fauzan & Ngabut, 2018; Moraros et al., 2015). Various learning activities that can be applied in the classroom include writing in groups, writing independently, group discussions, brainstorming, and presenting their writing (Gross et al., 2015; Roux & Nagel, 2018).

In addition, students who study with the FC model can carry out various learning activities to improve their writing performance. Pavanelli (2018) states that the FC model provides opportunities for students to carry out various learning activities ranging from repeated writing

exercises, revising writing based on reflections from colleagues and lecturers, writing collaboratively, and reviewing writing activities. In line with this statement, other studies also emphasize that the FC model can encourage the development of writing performance because of the various learning activities carried out in class, such as discussions, question-and-answer activities, problem-solving, giving opinions to colleagues, and using technology products appropriately (Arthurs & Kreager, 2017; Clark & Mayer, 2021).

In addition, other studies claim that the flipped classroom is an instructional procedure that has advantages in developing students' academic writing skills (Ebadi & Rahimi, 2017). One thing that forms the basis of the advantages of the FC model is that students have homework to do before face-to-face activities. Another thing that supports that the FC model can develop writing performance is watching learning material through videos or other media. This means that students know what they need to learn at home before studying in class. This situation encourages students to watch as many videos as possible or read material that has been distributed before (Faulkner & Green, 2015; Leis et al., 2015).

Various learning activities in class can also stimulate students to learn how to write well. Evaluation from friends and lecturers can also contribute to compiling student writing. The number of interactions in the flipped class provides wider opportunities for students to interact with material, peers, and teachers. This interaction in learning has great potential to build students' communication skills, increase self-confidence, and encourage creative ideas in writing (Heidar, 2016; Ismail & Helaluddin, 2022; Talib & Cheung, 2017; Veramuthu & Md Shah, 2020).

Besides having an impact on improving students' writing performance, the FC model also has a positive effect on students' writing self-efficacy. Based on the test results, there is a difference in the average score, which indicates an increase from the pretest and posttest. The findings of this study support several previous studies which found similar facts. Nourinezhad et al. (2022) state that the FC model can allow students to explore topics more deeply and create conducive learning opportunities. In other words, the learning context presented in the FC model can create a strong attitude toward achieving success which ultimately has an impact on increasing student writing self-efficacy (Mitchell et al., 2017; Teng et al., 2018; Villalon et al., 2015; Zhang, 2018).

The results of this study are also in line with the findings of Samiee-Zafarghandi's study (2018). According to him, the average academic achievement and self-efficacy scores of participants who received the flipped learning mode were significantly greater than those who used the traditional model. The flipped classroom learning model is also more efficient in self-efficacy and student academic achievement. Su Ping et al. (2019) also found the same empirical evidence. They found that in this teaching model, most students had positive experiences such as a longer preparation time before face-to-face classes, increased practice in writing, good interaction between students and teachers, increased motivation in learning to write, direct feedback in face-to-face classes, and higher levels of writing self-efficacy after conducting face-to-face learning in class (Gasmi, 2018; Norazmi et al., 2017; Salem, 2018; Wu et al., 2019).

One of the advantages of implementing a flipped classroom in writing learning is an increase in student self-confidence. In writing learning, self-confidence is an essential factor that students must have. With self-confidence, students can express their ideas and creativity in writing activities independently (Gasmi, 2018; Helaluddin et al., 2023; Wu et al., 2019).

Related to the theory of writing self-efficacy proposed by Bandura (1997), writing learning is closely related to writing self-efficacy. Writing self-

efficacy is conceptualized as a form of student confidence in their ability to write that is specific to their context. Other literature states that writing self-efficacy is closely related to ideation, convention, and self-regulation (Pajares, 2003; Schunk & Zimmerman, 2007). Ideation is related to the ability of each individual to generate ideas in the early stages of writing. The convention aspect, which refers to students' ability to express ideas, is related to applying linguistic abilities. Finally, the self-regulation aspect is related to each student's self-management ability and the ability to assess the cognitive and linguistic features of the writing produced.

Other findings in this study state that CFM has a positive effect on improving students' writing self-regulation. Using the flipped classroom model can help students improve their writing performance and writing self-regulation. This finding is similar to previous studies stating the same results (Cakiroglu & Ozturk, 2017; El-Senousy & Alquda, 2017; Hewitt et al., 2014). These three studies implicitly state that the flipped classroom model has a positive impact on improving student writing self-regulation.

Based on the literature, the technology-based FC model and audio-video media can strengthen learning outcomes, especially writing self-regulation (Lai & Hwang, 2016; Shyr & Chen, 2018). This has indeed been identified by previous researchers who stated that the existence of video media helps students learn their lecture material. In other words, studets currently find it challenging to learn by reading textbooks and prefer learning by finding lecture material by watching videos on the YouTube platform or other learning media (Bingen et al., 2019; Johnston et al., 2018; Todorovic et al., 2016). Chen et al. (2019) confirmed that student self-regulation increases when they use interactive video media, peer learning, and social management-based learning.

Another thing that causes why students like learning activities with the help of technology is the characteristics of generations Z and A. From various literature, the two generations included in the digital immigrant group were born and raised together with technological advances. This means that even in learning activities, these students like learning activities using other technology-based learning media (Nicholas, 2020; Polakova & Klimova, 2019; Santosa, 2017). Due to students' daily activities using digital technology, experts recommend implementing a student-centred learning model with the help of technology (Aslan, 2022; Plochocki, 2019; Vogelsang et al., 2018).

For that reason, the role of teachers during the video-based learning process before the class begins is very important. Teachers must be able to provide guidance and direction during the video viewing process. In other words, each lecturer must consider the level of student activity and the availability of technology that can support the learning process.

On the other hand, the findings in this study are contrary to two previous studies, which claimed no impact of the FC model on student self-regulation (Elakovich, 2018; Sun et al., 2017). One of the factors causing this insignificant difference is the level of student self-regulation related to the sampling characteristics. Alsancak-Sirakaya (2015) supports these findings by arguing that student self-regulation results may differ from other participants with average or below average scores. In other words, the already high pre-test self-regulation scores of students in both groups can lead to an insignificant increase in self-regulated learning after implementation.

■ CONCLUSION

In this research, we explore the impact of the flipped classroom model on writing performance, writing self-efficacy, and writing self-regulation. The results of the study show that the flipped classroom model has a positive impact on the development of these three variables significantly. Thus, this study's findings may

provide several benefits for interest makers, lecturers/researchers, and students to apply this model in writing, especially teaching the first language.

For policymakers, this research can provide teachers and students a supportive and comfortable learning context. Thus, policymakers must inform teachers how to implement the ideal flipped classroom model. For teachers, these findings can be used as a reference in implementing an ideal learning model after the Covid-19 pandemic. Teachers can direct students to look for supporting learning resources (videos or writing tutorials) before they practice writing in face-to-face classes. The more learning videos they watch, the more ready and confident they feel about writing.

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SUPPORTING INFORMATION:

Appendix A: Writing Self-Efficacy Scale

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	I feel confident about writing in Indonesian					
2.	I know how to write well in Indonesian					
3.	I write in Indonesian with an underlying logical organisation					
4.	If I put in the needed effort, I am sure I can become a good writer in Indonesian					
5.	I can write essays that are relevant and approriate to the assigment					
6.	I present my point of view or arguments accurately and effectively when writing in Indonesian					
7.	I am sure I can do well on writing courses even if they are difficult					

Appendix B: Writing Self-Regulation Scale

No.	Items	Never	Rarely	Sometimes	Often	Always
1.	I know how to reduce my stress from learning writing					
2.	I have special techniques to archieve my learning goals when learning writing					
3.	I feel satisfied with my own special methods for reducing the stress of writing in Indonesian					
4.	I have special techniques to keep my concentration focused when learning writing					

5.	I persist until I reach the goals that make for myself when learning writing	
6.	I believe I can achieve my goals more quickly than expected when leraning writing immeditely	
7.	I can cope with the stress from learnin writing in Indonesian immediately	
8.	When it comes to learning writing, I think my methods of controlling procrastination are effective	
9.	I know how to arrange the environment to make learning more efficient when learning writing	