



## **THE EFFECT OF FLIPPED CLASSROOM STRATEGY IN IMPROVING STUDENTS' SELF-REGULATION LEARNING**

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### **Abstract**

This study investigates the flipped classroom strategy that will be used by an English teacher to improve students' self-regulation. This study uses a quasi-experimental method. The data were collected using self-regulation measurement questionnaires. The questionnaires distributed to the students were adopted from ADPI of (1989) about self-regulation. The number of questionnaires is 28 statements consist of three aspects, namely, cognition, behavior and motivation. Moreover, the indicators consisting of seven aspects to measure, that is to say: 1) Rehearsal Strategy, 2) elaboration Strategy, 3) Self-Testing, 4) Assignment Prepare & Organization, 5) Time Management, 6) Schedule Planning, 7) Learning atmosphere. The research was conducted at SMK DARUL FIKRI North Bengkulu. The researcher found that the results of this study showed a statistically significant effect of the Flipped Classroom Model on self-regulation learning. The increase in student self-regulation was seen in the post-test average score of the experimental class of 95.03, higher than the post-test average value of the control class of 75.68. This found proof that the flipped classroom model had a significant effect on students' self-regulation learning.

**Keywords:** Flipped Classroom, Self-regulation

### **INTRODUCTION**

During the covid-19 pandemic, teachers confront significant difficulties in devising the best technique for ensuring that the teaching and learning process proceeds as planned. Furthermore, pupils must study independently during the pandemic. They study independently and complete their homework or assignments. This situation necessitates students' learning to be self-regulated. Students organize themselves in learning autonomously and actively by monitoring, regulating, motivating themselves toward tasks, establishing learning goals, and maintaining an environment favorable to learning using meta-cognitive abilities and excellent behavior research. (Zimmerman, 2002) define self-regulation as active participants in their learning process who are metacognitively, motivationally, and behaviorally active.

Self-regulation learning is crucial for kids since it can influence their behavior, critical thinking, creativity, and self-assurance. According to (Suhandi & Kurniasri, 2019), self-regulation is an endeavor to give pupils the freedom to gain information and knowledge that others do not have. At first glance, self-regulation appears to be the same as independent learning, but closer examination reveals that the two are distinct. Self-regulation differs from independent learning in that self-regulation necessitates independent learning. Students must be imaginative, resourceful, and self-assured.

The current issue is that many students still do not know how to learn independently. This case was demonstrated when the researcher conducted two-month pre-observations on Friday, April 4th, 2020. The student's grade was higher than the previous grade, based on the teacher's online learning experience. This worth, however, is not just based on their academic performance but also includes assistance from their parents, siblings and even duplicating their

friends' homework. Students also stated that they felt liberated while participating in the online teaching and learning process. Students do not devote enough time to studying; they are more likely to engage in non-studying activities such as playing video games or social media. According to the above statement, pupils have not grasped the need for self-regulation learning for themselves, and the teacher has not implemented self-regulation learning for students.

The involvement of a teacher in the teaching and learning process is critical, particularly in terms of excellent learning preparation and the use of teaching methods and models that are appropriate for the topic being taught. During the present pandemic, many schools in Indonesia, notably SMK IT Darul Fikri in Bengkulu, are employing a face-to-face learning group distribution strategy in schools. The school divides the timetable according to student absences for face-to-face study groups, with pupils whose serial numbers are absent even meeting face-to-face on Monday, Wednesday, and Friday. As a result of the techniques and models employed in the teaching and learning process, teachers might switch to more varied methods and models to improve students' knowledge. The researcher chooses the flipped learning model as a learning model that is considered appropriate for learning.

The correspondence course that kicks off the distance learning process is always evolving to meet changing learning needs. In the previous year, the flipped classroom strategy has become one of the most popular learning strategies, and it necessitates the use of technology. Although the flipped classroom (FC) concept is not a new educational strategy, it has gained popularity due to technology in education (Jensen, et al., 2015).

The flipped classroom technique will also teach kids self-regulation based on their skills, and educators' goal in schools is to maximize students' potential so that they can all learn the competencies required in the courses being taught. As a result, the teacher's role becomes increasingly important in developing the excellence values of every child in the country. At the same time, community guidance for quality education services encourages teachers to develop innovative and student-centered learning services based on religious values and increases students' self-regulation.

The above statement is supported by researchers who have successfully carried out previous research, namely: the first (Sahara & Sofya, 2020), "The Effect of Flipped Learning Model Application and Learning Motivation on Student Learning Outcomes." This study reveals the effect of learning models and learning motivation on student learning outcomes. This type of research uses a quantitative approach, especially quasi-experimental.

The second (Pratiwi et al., 2017), "The Effect of the Flipped Classroom Model on Self-Confidence and Student Learning Outcomes of SMAN 8 PONTIANAK," This research uses a quasi-experiment with the Nonequivalent Control Group Design. Learning achievement tests, self-confidence questionnaires, observation sheets, and interview guidelines were used to collect data.

The third, (Sirakaya & Ozdemir, 2017) "The Effect of a Flipped Classroom Model on Academic Achievement, Self-Directed Learning Readiness, Motivation, and Retention." This study examines the flipped classroom model of student achievement, self-regulated and student motivation. T-test analysis, MANOVA, and ANCOVA were used to analyze the data collected.

The flipped classroom is the best technique for dealing with the current pandemic based on the findings. Because flipped classrooms have been shown to boost students' self-esteem, inspire them to learn, and improve their skills. As a result, the researcher attempted to apply the flipped classroom technique to promote students' self-regulation learning, which is expected to result in quality, innovative learning rather than a sole focus on classroom learning, particularly in English classes. In addition, due to a lack of inventiveness and teaching abilities in conveying material, it is necessary to motivate student self-regulation. To address the issues raised above, the researcher is planning a study on "method for increasing students' self-regulation while learning English as a Foreign Language."

## METHOD

This study used a non-equivalent control group design to determine the efficacy of combining a flipped classroom technique with an enriched virtual model in increasing the self-regulation of English students. This study used an experimental group to administer treatment and a control group to serve as a comparison group. It is an educational study with human participants that determines his type of quasi-experiment research. Humans are not all created equal, and they are prone to unpredictability. As a result, outside variables that affect the therapy cannot be controlled as carefully as anticipated in a pure experiment study.

This study has two groups: one that is given a pre-test and another that is not given a pre-test or a post-test before being treated using the flipped classroom model, and the other is not utilizing the flipped classroom model. The stages for creating a non-equivalent quasi-experimental control group design are as follows:

Table 3.1 Pretest posttest Design

Group	Pre-Test	Treatment	Post-Test
Experiments	O <sub>1</sub>	X	O <sub>2</sub>
Control	O <sub>3</sub>	X <sub>0</sub>	O <sub>4</sub>

(Fraenkel & Walen, 1993)

Note:

- O<sub>1</sub>: Pre-test of experiment class
- O<sub>2</sub>: Post-test of experiment class
- O<sub>3</sub>: Pre-test of control class
- O<sub>4</sub>: Post-tes of control class
- X : Treatment
- X<sub>0</sub>: No treatment

The research participants were divided into two groups: the experimental group, which learned the classroom flip strategy, and the control group, which learned the traditional technique. Both groups were given a pretest and a post-test. This study used a primary test method for implementing the program. To measure the student's self-regulation learning, a series of questions were asked. After utilizing the flipped classroom technique, the final test was done to measure the level of student self-regulation learning. The significance of differences in the mean post-test scores of the experimental and comparison groups was tested using the appropriate SPSS statistical method, such as t-test or ANOVA. Then, based on the data analysis results, develop conclusions.

The population of this study consisted of 134 Multimedia class X students at SMKIT Darul Fikri Bengkulu Utara. After being done and using the random sampling technique, finally, two classes were chosen for this study: X Multimedia A as the control class and X multimedia B as the experimental class. Both consist of 64 students with an average value in English subjects. This research has been conducted at SMK IT Darul Fikri class X Multimedia A and B. There are two reasons the researcher chose this school to be used as a research setting, namely: 1) The researcher, two can access the school) the researcher knows the situation and character of students.

In the data collection, of researcher used a questionnaire in the ADPI of the theory of Zimmerman (1989) about self-regulation and observing. This strategy helps students become aware of the strategies they use in learning English and helps teachers teach English to be more successful. In addition, the number of questionnaires is 28 statements consisting of three aspects,

namely, cognition, behavior, and motivation. As well as consisting of Indicator's team: 1) Rehearsal Strategy, 2) elaboration Strategy, 3) Self-Testing, 4) Assignment Prepare & Organization, 5) Time Management, 6) Schedule Planning, 7) Learning atmosphere.

## FINDINGS AND DISCUSSION

### Findings

The results of the students' tests in increasing self-regulation learning for class X SMKIT Darul Fikri pupils are discussed in this chapter. Students' test scores were acquired from the pre-test and post-test in both the experimental and control classes. The pre-test was completed before the experimental class received the treatment, and the post-test was completed following the treatment. The results of this study were also obtained by data analysis, as described in Chapter III, and SPSS was used to test them. The following table are the results:

#### *The Description of Pre-test Scores and Post-test Scores of Experimental Class*

Table 1. Statistical Description of Pre-test and Post-test score in the Experimental Class

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
pretest	32	41	68	51.66	7.798
posttest	32	87	103	95.03	3.881
Valid N (listwise)	32				

Below is the description table of the distribution experimentalclass test results:

Table 2. The Distribution of Experimental Group Test Results

Interval score	category	Pretest		Posttest	
		Frequency (students)	Percentage	Frequency (students)	Percentage
100-112	Excellent	0	0%	5	15.6%
82-99	Good	0	0%	27	84.4%
64-81	Average	4	12.5%	0	0%
46- 63	Poor	21	65.6%	0	0%
28- 45	Very poor	7	21.9%	0	0%
Total		32	100%	32	100%

According to table 2, there were no students in the experimental class who scored in the good or excellent categories, 4 (12.5 percent) in the average category, 36.1 percent in the wrong category, 21 (65.6 percent) in the low category, and 7 (21.9 percent) in the very low category. Meanwhile, there were no students in the average, poor, or very poor categories in the post-test, 5 (15.6 percent) in the very good category, and 27 (84.4%) in the good group.

***The Description of Pre-test Scores and Post-test Scores of Control Class***

Table 3. Statistical Description of Pre-test and Post-test score in the Control Class

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
PRETEST	32	46	76	64.06	8.004
POSTTEST	32	63	90	77.81	9.998
Valid N (listwise)	32				

The distribution of pre-test and post-test scores in the control class can be seen in the table. .4 Below was the description table of the distribution Control class test results:

Table 4. The Distribution of Control Class Test Results

Interval score	Category	Pre-test		Post-test	
		Frequency (student)	Percentage	Frequency (student)	Percentage
100-112	Excellent	0	0%	0	0%
82-99	Good	0	0%	18	56.3%
64—81	Average	24	75%	12	37.%
46-63	Poor	8	25%	2	6.3%
28-45	Very poor	0	0%	0	0%
Total		32	100%	32	100%

Based on the data from table 4, it is known that in the pre-test there are 0 (0%) which are included in the excellent and good category, 24 students (75%), which is in the average category, 8 students (25%) are in the poor category, and 0 students (0%) are in the very poor category. Meanwhile, the post-test results found that there were 0 students (0%) in the excellent category, 18 students (56.3%) in the good category, 12 students (37%) in the average category, 2 students (6.3%) in the poor category. and 0 students (0%) in the very poor category.

***Normality Test***

The normality test has been carried out using the *Kolmogorov-Smirnov*.

Table 5. Test of normality  
**One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		32
Normal Parameters <sup>a,b</sup>	Mean	.000000
	Std. Deviation	3.74501269
Most Extreme Differences	Absolute	.116
	Positive	.116
	Negative	-.085
Kolmogorov-Smirnov Z		.657
Asymp. Sig. (2-tailed)		.780

a. Test distribution is Normal.

b. Calculated from data.

Based on the table above, it is known that the significance value of Asymp. Sig (2-tailed) of 0.780 is greater than 0.05. Then according to the basic decision making in the Kolmogorov-Smirnov normality test above, it can be concluded that the data is normally distributed. This is based on the basis of decision making in the K-S normality test, namely:

- a) If the significance value (Sig.) is greater than 0.05, then the data is normally distributed.
- b) On the other hand, if the significance value (Sig) is less than 0.05, the research data is not normally distributed.

### ***The Statistically Analysis Testing***

Statistically testing was carried out using the SPSS program. The researcher used the independent sample t-test in the SPSS program because there were two different groups in this research. Detailed of the statistically testing presented as follows:

Table 6. Statically tasting

#### **Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PRE-TEST - POST-TEST	-43.375	7.745	1.369	-46.167	-40.583	-31.681	31	.000

The researcher used a t-test to compare students who were taught utilizing a flipped classroom with an enriched virtual model and those who were not to prove that the technique was successful and had a significant effect. That sign was visible in the table above. The table above showed that sign. (2-tailed) = 0,000 < 0,05. This indicates that the pretest and posttest results are significantly different. It may be concluded that the flipped classroom paradigm has a substantial impact on improving self-regulation learning in EFL students.

### **Discussion**

The purpose of the research results in discussion is to explain and describe the study's findings. The discussion includes a review of research data to determine whether the flipped classroom impacts students' self-regulation.

In the academic year 2021/2022, this study was conducted on students in class X Multimedia at SMKIT Darul Fikri, using two classes: class X Multimedia A as a control class and class X Multimedia B as an experimental class. This study took place throughout two meetings. The experimental class and the control class were both taught the same content. On the other hand, the experimental class was given the treatment of learning English using the flipped classroom model, while the control class was given the treatment of learning English using the traditional paradigm.

Students' self-regulation was broken down into three categories in this study: cognition, motivation, and conduct. The self-regulation of experimental class pupils in learning English has enhanced after the therapy, according to the questionnaire results. According to the interviews, the availability of the material in the form of learning videos that require students to study it independently at home first causes the increase in self-regulation of students in the experimental class in learning English, which is higher than the control class. This allows students to understand the concept first, assessing their capacity to comprehend the content. If any material remains unclear, students can seek help from the teacher or friends. This strategy increases students'

interest in learning and makes it easier for them to study because they can learn in a relaxed environment to receive the material. According to Bergmann and Sams, teachers use the flipped classroom approach to limit the amount of direct instruction in learning so that the time spent in class is more efficient and focused on accomplishing assignments and debating content that has not been grasped (2012). Students gain confidence in learning after learning since they comprehend the content better than before. As a result, after treatment, the experimental class students had a higher percentage of self-regulation than the control class students.

The data were analyzed in three stages: normality testing, homogeneity testing, and hypothesis testing. The Kolmogorov-Smirnov test was used to determine normality, and the Asymp. Sig (2-tailed) value of 0.780 was greater than 0.05, indicating that both were normally distributed. The homogeneity test for the variance equation was performed using Levene's test, and the findings were homogeneous. The hypothesis was then tested using the independent sample t-test, which yielded the result  $ign.(2-tailed) = 0.000 < 0.05$ . After the exam was completed, the researcher discovered that the data revealed a substantial difference between the experimental and control classes' post-test mean scores. This suggests that students who are taught utilizing the flipped classroom technique have a different reading capacity in understanding descriptive texts than students who are not.

It can be concluded by looking at the findings of the previous hypothesis testing. It was discovered that the value of Sig. (2-tailed) was lower than the value of the t-test criteria, implying that  $H_0$  was rejected and  $H_a$  was accepted, based on independent t-test results. In addition, the statement compared the value of t-count with the value of the t-table. The t-count was discovered to be more than the t-table value.  $H_0$  has been rejected, but  $H_a$  has been accepted.

Based on the preceding, this study successfully demonstrated differences in self-regulation between students in the control and experimental classes. This research also shows that the flipped classroom learning paradigm helps students in class X Multimedia SMKIT Darul Fikri improve their self-regulation and learning results. Compared to the lecture technique, the flipped classroom learning model offers several advantages, including increased contact between teachers and students and between students and students, the more effective and efficient learning time in class, and more autonomous learning abilities. Students are more engaged in the lesson when using this strategy. The researcher found no difference in self-regulation learning between students who were taught utilizing a flipped classroom technique and those who were not. This finding demonstrated that the research question had been resolved.

## CONCLUSION

The researchers discovered that the results of this study demonstrated a statistically significant influence of the Flipped Classroom Model on self-regulation learning of students at SMKIT Darul Fikri in the academic year 2021/ 2022 after performing research, collecting data, and analyzing it. The experimental class's post-test average score of 95.03 is greater than the control class's post-test average score of 75.68, indicating that the students' self-regulation has improved. This demonstrates how the flipped classroom paradigm affects students' learning ability to self-regulate.

The Flipped Classroom Model has a considerable influence on increasing self-regulation in the experimental class for various reasons. Students in the experimental class were first placed in a position where they were required to participate in discovery activities before moving on to analysis and application. Second, the Flipped Classroom model was successful in assisting students in exploring their learning capacities through a stronger comprehension of concepts according to the material in the lesson plans during the therapy.

Furthermore, students become more engaged when the teacher conducts group conversations in class and on Whatsapp. While kids in the control group, who received traditional teacher-led tactics, did not gain substantial gains. Students in the control class received slightly

lower post-test results than those in the experimental class. Based on the hypothesis testing test, it can be seen that the value of sig. (2-tailed) = 0.000 < 0,05 means that the H<sub>0</sub> is rejected. This means a significant difference between the pre-test and post-test scores. Therefore, in this study, it can be concluded that the flipped classroom model can affect the self-regulation learning of class X Multimedia students at SMKIT Darul Fikri academic year 2021/2022.

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