



## THE EFFECT OF THE FLIPPED CLASSROOM LEARNING MODEL ON THE INDEPENDENT LEARNING OF STUDENTS OF CLASS X ACCOUNTING AT SMK NEGERI 48 JAKARTA DURING THE COVID-19 PANDEMIC

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### Abstract

This study aims to determine the effect of the *Flipped Classroom* learning model on the learning independence of class X Accounting students at SMK Negeri 48 Jakarta during the Covid-19 Pandemic Period. This research uses a quantitative approach with a quasi-experimental quasi-experimental method, and the research design uses a *Posttest Only Control Group Design*. The subjects in this study were students of class X Accounting 1 and 2, with 72 students. The sampling technique used is the *purposive sampling technique*. The data collection technique used a questionnaire instrument for student learning independence. Calculate the validity of the statement items using the *product-moment* formula and reliability using the *Cronbach Alfa* formula. The data analysis technique was carried out with prerequisite tests, first with normality test using Liliiefors test and homogeneity using Fisher's exact test. Then test the hypothesis by using the t-test. The results of the requirements analysis test stated that in the normality test, the two classes were normally distributed. The results of the homogeneity test of the variance data were homogeneous. Hypothesis testing using SPSS.v26 shows that a *p-value* of 0.020 is obtained with a significance of 0.05. Thus,  $p\text{-value} < t\text{ table}$  ( $0.020 < 0.05$ ), so  $H_0$  is rejected and  $H_a$  is accepted, which means there is a significant influence in the *Flipped Classroom* learning model with the help of video learning on student learning independence in Basic Accounting Subjects for class X Accounting at SMK Negeri 48 Jakarta during the Covid-19 pandemic.

**Keywords:** *Flipped Classroom* Learning Model, Independent Learning

### INTRODUCTION

The *Coronavirus Disease* 2019 pandemic or better known as Covid-19, that has occurred to date has brought changes and policy reforms in various fields of life. Indonesia is one of the countries where, as of March 2, 2020, the first case of the spread of Covid-19 was detected. This situation makes Indonesia enter into a national emergency and is obliged to make changes and policy updates that will implement quickly and accurately. One of the changes made in education (Hastuti, 2020). According to the Circular of the Minister of Education and Culture Number 4 of 2020 concerning the Implementation of Educational Policies in the Emergency Period for the Spread of Coronavirus Disease (Covid-19), all levels of education must carry out learning through the Distance Learning Pattern.

Distance Learning (PJJ) is learning that is tried *online* where teachers and students do not meet face to face (Pohan, 2020). The PJJ needs to be done as a solution when the

government closes schools to reduce the spread of Covid-19. However, over time the distance learning process during the Covid-19 pandemic did not run optimally due to various limitations (La Ode Onde et al., 2021). For this reason, the government always strives to establish policies that follow the circumstances and needs of students.

The government then conveys the Limited Face-to-Face Learning (PTMT) policy through a Joint Decree of the Four Ministers of the Republic of Indonesia (Supriatna, 2021). PTMT is a face-to-face learning activity between teachers and students, limiting the number of students in the class using strict health protocols (La Ode Onde et al., 2021). Through the letter, school institutions can carry out limited face-to-face learning and distance learning if all education personnel has been vaccinated and adapted to the pandemic, namely PPKM levels 1, 2, and 3 (Sundari et al., 2022). With this policy, several schools carry out learning through PJJ and PTMT.

PTMT is different from face-to-face learning as is usually done because the meetings between teachers and students are very limited, so the process of teaching and learning activities does not run optimally. (Wiganda & Fatonah, 2019). This learning has an impact on students' difficulties in understanding the material. For this reason, students need independent learning to achieve their learning goals. Independent learning is a student-centered learning process that creates learning opportunities and experiences that enable students to become confident, motivated, and ready to learn. (Suciati, 2016). Students need Independent learning to build an understanding of the material being studied. So one of the things required for the learning process to succeed during the Covid-19 pandemic is learning independence (Sundari et al., 2022).

Independent learning in the current state of the Covid-19 pandemic, whether carried out by PJJ or PTMT, is very much needed by students to carry out the learning process to get maximum results. But in reality, not all students have good learning independence during learning during the Covid-19 pandemic, so teachers must be able to increase learning independence for students. (Hastuti, 2020). According to (Yasmin, 2021), The problem that arises in learning during the Covid-19 pandemic is that the learning process carried out by the teacher still tends to be monotonous, where the teacher only gives assignments to students after the tasks are completed and students submit their answers to the teacher. These activities are carried out continuously so that students feel bored and are often late in sending assignments.

Other learning independence problems also occurred during the PTMT implementation during the current Covid-19 pandemic. The problem that arises is the learning model applied by the teacher that does not make students active during learning, such as only giving assignments after learning activities are carried out. In addition, teachers are also required to fulfill their teaching hours and are expected to be able to make students understand all the material provided. However, students have not been able to receive all the material given properly (Hamid & Hadi, 2020). Other learning independence problems also occur in limited face-to-face learning, which occurs when the teacher is still applying the lecture method. With this method, the teacher explains the material while the students just listen and take notes (Waryana, 2021).

One of the learning models that can be applied during the Covid-19 pandemic and can be used to increase student learning independence is the *Flipped Classroom* learning model. (Mirlanda et al., 2019). *The flipped classroom* is a reverse learning model in which learning activities are usually carried out in class to be done by students at home and vice versa so that students can be independent in their learning activities. (Saputra & Mujib, 2018). This learning model is useful to train students' autonomous learning, where students will get used to learning independently at home as material when studying in class. In addition, learning activities in the classroom are more active, and students' understanding of the subject matter increases.

With the *Flipped Classroom* learning model, it is hoped to increase student activity in learning carried out in PTMT (Waryana, 2021). This reason is that with *Flipped Classroom*, students at home are not burdened with assignments from the teacher but only learn the material, while in-class students do tasks under the teacher's guidance. In addition, the *Flipped Classroom* learning model is also very appropriate to be applied during PTMT with reduced or limited lesson hours.

Research by (Al-Abdullatif, 2020) stated that as many as 64 respondents studied showed a good and high level of learning independence in the *Flipped Classroom* learning environment because *Flipped Classroom* learning was student-centered so that students could manage their knowledge. In addition, research by (Sari et al., 2020) also says that students who the *Flipped Classroom* learning model directs have better learning independence than students required to the conventional learning model. This study is because, in the *Flipped Classroom* learning model, students are not only assigned to watch learning videos but are also directed to solve closed problems. Furthermore, question and answer activities and discussions in class are carried out to solve open-ended problems. However, contrast research

by(Hava & Gelibolu, 2018) shows that the *flipped* classroom does not affect students' learning independence. This study is based on the pre and post-test results that there is no significant difference between the class in the experimental group and the class in the control group.

This study aimed to determine the effect of the *Flipped Classroom* learning model on the Independent Learning of Class X Accounting students at SMK Negeri 48 Jakarta on Basic Accounting Subjects during the Covid-19 pandemic.

## **THEORY REVIEW**

### **Theory of Independent Learning**

According to(Zimmerman & Schunk, 2001), learning independence is a student's effort to develop their thoughts, feelings, and behavior to achieve learning goals. Students' learning independence can be seen in determining their destiny, being creative and initiative, regulating behavior, taking responsibility, holding back, making their own decisions, and solving problems without help from others. (Desmita, 2009) .

### ***Flipped Classroom Learning Model Theory***

According to(Bergmann & Sams, 2012), the *Flipped Classroom* learning model concept is a reverse learning model, where the learning process is usually done in class at home. On the contrary, the learning process done at home is done in style. The application of the *Flipped Classroom* learning model includes watching and studying videos (*e-learning*), asking questions, discussing, and giving assignments or quizzes.

### **Expository Learning Model Theory**

The expository learning model is a learning model in which the learning process is communicated orally by the teacher to a group of students to help students master the material optimally. (Sidiq et al., 2019) . The steps for implementing this model include the preparation stage, the presentation stage, the connecting stage, the conclusion stage, and the implementing stage.

## **Theoretical Framework and Hypothesis Development**

### **Theoretical framework**

Student independence in learning is one of the most important factors in determining a student's success in education, so students who want to succeed in knowledge need to have an attitude of learning independence. One external factor that affects student learning independence is teaching and learning activities in schools. In cultivating an independent learning attitude in students, teachers need to apply the right learning model (Ririn et al., 2021). In line with (Ahmad et al., 2019), the attitude of student learning independence can pursue through a learning model that leads to a philosophy of freedom.

(Mirlanda et al., 2019) said that the *Flipped Classroom* learning model can be used to increase student learning independence. In the *Flipped Classroom* learning model, students carry out individual learning activities before class regarding subjects using various teaching materials provided by the teacher before the lesson. In the process, independent learning is used. So it can say that learning independence is related to the *Flipped Classroom* model (Orakci, 2020).

Based on the literature review and explanation above, the following hypothesis can propose: "Are there any differences in Independent Learning between the *Flipped Classroom* Learning Model and the Expository Learning Model in Basic Accounting subjects during the Covid-19 pandemic?"

## RESEARCH METHODS

The research done at SMK Negeri 48 Jakarta, located at Jalan Raden Inten II No.3, Duren Sawit, East Jakarta, in the even semester of the 2021/2022 academic year. This research uses a quantitative approach with a quasi-experimental method and a post-test-only control design. The population in this study were all students of class X AKL SMK Negeri 48 Jakarta. Sampling was carried out using the *purposive sampling* technique by taking two classes, namely class X AKL 1 and X AKL 2, with as many as 72 students.

The research design can be seen in the following table.

Table 1 Research Design *Posttest Only Control Design*

Kelompok	Treatment (Perlakuan)	Posttest
Eksperimen	X (model pembelajaran <i>Flipped Classroom</i> )	O <sub>1</sub>
Kontrol	-	O <sub>2</sub>

Information:

Experimental Group : Groups using the *Flipped Classroom* learning model

Control Group : The group using the Expository learning model

X : Basic Accounting Learning with *Flipped Classroom Learning Model*

The data analysis techniques used in this research are descriptive statistical techniques and inferential statistics. The descriptive statistical method is a frequency distribution in tabular data presentation. Data collection techniques in this study used a questionnaire (questionnaire). The instrument used in this study is a *Google Form link* with a *Likert scale* containing indicators of student learning independence. Meanwhile, the inferential statistical method uses the *Independent Sample t-test*. Before conducting the *Independent Sample t-test*, the analysis prerequisite test was carried out, namely the normality test and homogeneity test using the SPSS.v26 program.

**RESULTS AND DISCUSSION**

Based on the learning independence data that has been obtained from the experimental class who received treatment using the *Flipped Classroom* learning model assisted by learning videos, there are several research findings. The results obtained from the calculation of SPSS.v26 are as follows.

Table 2  
 Descriptive Statistics of Student Learning Independence in Experiment Class  
 ( *Flipped Classroom Learning Model* )

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	mean	Std. Deviation
Independent Learning Experiment Class	36	123	188	161.53	16.284
Valid N (listwise)	36				

Based on the descriptive statistics of student learning independence in table 2 above, it is found that N is the number of respondents totaling 36 students in the experimental class. Furthermore, the lowest score (*minimum*) is 123, and the highest (*maximum*) is 188. Then, the *mean* or average score of learning independence is 161.53, and the standard deviation is 16,284. Furthermore, a description of the frequency distribution of the experimental class learning independence data is presented in the following table.

Furthermore, based on learning independence data that has been obtained from the control class using the expository learning model with the lecture, question and answer and demonstration methods. Based on the research results resulting from the calculation of SPSS.v26 as follows.

Table 3

Descriptive Statistics of Independent Learning Control Class (Expository Learning Model)

Descriptive Statistics					
	N	Minimum	Maximum	mean	Std. Deviation
Independent Learning Experiment Class	36	109	181	151.36	19.747
Valid N (listwise)	36				

Based on the descriptive statistics of learning independence in table 3 above, it is found that N is the number of respondents, namely 36 students in the control class. Furthermore, the lowest score (*minimum*) is known to be 109, and the highest score (*maximum*) is 181. Then the *mean* or average score of learning independence is 151.36, and the standard deviation is 19.747.

Before testing the hypothesis, the analysis prerequisite test is conducted, namely the normality test and homogeneity test. The data distribution was declared normal and homogeneous based on the normality and homogeneity test. Then, it continued by testing the hypothesis using the *Independent Samples t-test* with SPSS.v26. The *Independent Samples t-test* can be seen in the following table.

Table 4 Hypothesis Testing with *Independent Test t-test*

Independent Samples Test								
	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	T	df		Mean Difference	Std. Error Difference	95% Confidence

						Sig. (2- tailed)			Interval of th Difference	
									Lower	Upper
Independent Learning	Equal Variance Assumed	.977	.326	2.383	70	.020	10.167	4.266	1.659	18.67
	Equal Variances are not Assumed.			2.383	67.549	.020	10.167	4.266	1.659	18.68

Based on the t-test calculation process using SPSS.v26 in table 4 above, it can be seen in the *output table of the Independent Samples Test* in the *Equal Variances Assumed* row it is known that the value of *Sig. 2-tailed* is  $0.020 < 0.05$ . Therefore, according to the t-test criteria using SPSS.v26, it can conclude that  $H_0$  is rejected and  $H_1$  is accepted. It means a significant difference between the *Flipped Classroom* learning model and the Expository learning model on student learning independence in basic accounting subjects. Students at SMK Negeri 48 East Jakarta during the Covid-19 pandemic.

## DISCUSSION

The results of data analysis that have been carried out show that the learning independence of students in class X AKL 1, which is an experimental class using the *Flipped Classroom* learning model with the help of learning videos, is higher than the control class, namely X AKL 2 which uses the expository learning model. This result is indicated by the difference in the average score of learning independence between the experimental class and the control class, where the practical course has an average score of 161.53, and the control class is 151.36. The difference in student learning independence scores shows that the class with the *Flipped Classroom* learning model is higher than the class that uses the expository learning model.

Furthermore, the analysis results show a significant difference between the learning independence of students who use the *Flipped Classroom* learning model and students who use the Expository learning model. This result can be seen in the *Independent Samples t-test* table using SPSS.v26 obtained the value of *Sig. 2-tailed* =  $0.020 < 0.05$ . There is a



significant difference between the *Flipped Classroom* learning model and the Expository learning model on student learning independence.

The application of the *Flipped Classroom* learning model prioritizes student activity during learning activities. Students learn before class by watching learning videos or studying the material provided *online* at home. Then during the course, students complete practice questions, ask questions and discuss. With this learning model, students become more independent and active during learning. This learning is evident from students' activeness in asking questions, answering questions, and completing practice questions during the learning process.

The two learning models, both the *Flipped Classroom* learning model and the Expository learning model, provide different treatment to students for implementing the learning carried out. One of them with the *Flipped Classroom* model, the teacher flips the class where homework is an activity that is usually done in style, while class assignments are learning activities that are typically done at home. In addition, the *Flipped Classroom* model uses learning video-assisted media.

The results of this study are in line with the results of previous research conducted by (Mirlanda et al., 2019), where the results of the study show that there is a significant difference between the experimental class with the *Flipped Classroom* learning model and the control class with the scientific learning model. This learning is evident from the results of statistical tests on two groups before and after being given treatment, where the achievement of learning independence scores in the experimental class was 37.26% higher than the increase in scores in the control class by 29.92%. Furthermore, based on the two-way analysis of variance results, the  $F_o$  value of the learning model = 55.08 > 4.04 =  $F_{table}$ , meaning that there is a difference in increasing student learning independence between the *flipped classroom* and the scientific class.

Reduction of self-regulated learning in the experimental type. Subsequent research conducted by (Sinaga, 2017) shows differences in learning independence between students in the Basic Chemistry course in the practical class using the *Flipped Classroom* learning model and the control class using the conventional learning model. This study is evident from the results of data analysis on the *Self-Regulated Learning* questionnaire obtained, where after being given a teaching method using the *Flipped Classroom*, it found that *the Self-Regulated Learning* experimental class had a higher value than the control class, which experienced a greater decrease in *self-regulated learning* than the control class. Based on the analysis of the *n-gain* data, it can see that the value of the *n-gain self-regulated learning* data in the

experimental class is -0.17 higher than the control class by -0.19. Then, based on the results of statistical inferential data testing using the *U Mann Withney Test* with a significance value of  $0.262 > 0.05$ , there is a difference in increasing learning independence between the experimental class and the control class.

Furthermore, research carried out by (Jdaitawi, 2019) showed an increase in student learning independence in the *Flipped Learning* group compared to students in the traditional group. This learning is evident from the average test scores, which show that the group of students in the *Flipped Learning* class is 3,660 higher than the group of students in the traditional style of 3,471. In addition, based on the results of the one-way ANOVA test showing  $p < 0.05$ , i.e.,  $0.005 < 0.05$ , it can be concluded that there is a difference in learning independence scores between the experimental class using the *flipped classroom* learning model and the control class using the conventional learning model.

Based on the description and the obtained results of hypothesis testing, it can conclude that the test results in this study are in the form of an analysis related to the effect of the *Flipped Classroom* learning model on student learning independence, as well as differences in learning independence in the application of the *Flipped Classroom* learning model and the Expository learning model in Basic Accounting subjects in class X. AKL at SMK Negeri 48 Jakarta for the 2021/2022 academic year. This study also obtained significant results about student learning independence by applying the two learning models. The average *post-test* results of learning independence in the class with the *Flipped Classroom* were 161.53 higher than the class with the Expository learning model of 151.36, and there was a difference of 9.87.

## CONCLUSION

Based on the results of research and overall data analysis on the Effect of the *Flipped Classroom* Learning Model on the Independent Learning of Class X Accounting Students at SMK Negeri 48 Jakarta in the 2021/2022 Academic Year in Basic Accounting Subjects during the Covid-19 Pandemic Period that has been described previously, it can be concluded, namely 1) There is a positive and significant effect between the application of the *Flipped Classroom* learning model on student learning independence in the material for adjusting journal entries for service companies for class X competence in Accounting and Institutional Finance at SMK Negeri 48 East Jakarta for the 2021/2022 academic year. So it can conclude that in this study, the use of the *Flipped Classroom* model was able to increase student

learning independence, 2) By using the experimental research method, it was possible to produce an experimental group that was treated with the *Flipped Classroom* learning model assisted by video learning which had a higher average score difference compared to the control class, which uses the expository learning model. This study is evident from the results of the *Independent Sample Test* in the *Equal Variances Assumed* section. It is known that the value of *Sig. (2 tailed)* is  $0.020 < 0.05$ . So, according to the t-test criteria using SPSS.v26, it can conclude that  $H_0$  is rejected and  $H_1$  is accepted, which means that there is a significant difference between the *Flipped Classroom* learning model and the Expository learning model on student learning independence in Basic Accounting subjects at SMK Negeri 48 Jakarta in the 2021/2022 school.

## RECOMMENDATION

Based on the conclusions and implications described above, the researcher provides several suggestions/recommendations for further research as follows:

1. For students, it is expected to increase learning independence during the teaching and learning process, either with the *Flipped Classroom* model, the Expository model, or other learning models so that they can foster activeness, understanding and responsibility during learning.
2. This research is expected to provide an alternative for teachers in implementing the *Flipped Classroom* learning model to adapt to current conditions. Teachers are expected to always be creative and innovative in choosing the learning model to increase student learning independence, especially in everyday needs.
3. For further researchers, it is hoped that they can develop this *Flipped Classroom* learning model with available learning technology/media to improve students' independent learning attitudes and make it easier for students to understand learning materials.

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