The Influence of Flipped Classroom and Learning Independence Models on Student Learning Outcomes of Class X Office Administration Vocational School

Lisna Harmaini
Universitas Negeri Padang, Padang, Indonesia, ✉ lisnaharmaini@yahoo.com

Abstract
The study aimed to determine and analyze the effect of flipped classroom learning models and learning independence on student learning outcomes of class X Office Administration of SMK Batusangkar. The population in this study is the tenth grade students at SMK Batusangkar in the 2018/2019 academic year. The sampling technique used was purposive random sampling, which determined class X AP3 as the experimental class and class X AP2 as the control class with the number of the two classes as many as 70 students. Testing the research hypothesis using a two-way Anova test. Data testing results show: (1). general administration learning outcomes of students who are taught with a flipped classroom learning model are significantly higher than students taught with conventional learning models, (2). general administration learning outcomes of students who have high learning independence are significantly higher than students who have low learning independence, and (3). There is no interaction between learning models and learning independence on student learning outcomes.
Keywords: flipped classroom learning model, learning independence and learning outcomes

Introduction

Today the rapid development of Science and Technology has had a major impact on various fields in human life, as well as in the field of education. The quality of education in general is an important factor that influences the quality of learning, this requires education actors, especially teachers to be more creative and innovative in the learning process in the classroom. According to Hamalik (2007:29) learning is not a goal, but is a process to achieve goals.

But in reality, not all the goals that have been set can be realized, this can be seen from the vocational high school graduates who have not been able to meet the demands of employment according to their specialization. This is because there is a gap between the skills possessed by SMK graduates and the skills needed in the world of work. In addition to skills, vocational school students have not fully had job readiness, because there are still many vocational school graduates who are still unemployed. The fact of the Central Statistics Agency (BPS) in 2011 showed that the highest unemployment rate of total unemployment was at the level of high school and vocational high school respectively 10.66% and 10.43%. Phenomenon explained that vocational education such as vocational schools had not been able to adjust well to changes and developments in the world of work, this was due to the low quality of learning outcomes possessed by students in the learning process.

The results of the initial observation of the author at the students of SMK Batusangkar on the learning outcomes of the subjects of basic communication skills of the Office Administration study program were seen to be still not optimal and out of expectation. This can be seen from the results of the odd semester daily tests in the table below.

Based on Table 1.1, it can be seen that the learning outcomes of applying basic communication skills in class X of SMK Batusangkar are still low from the limit of the minimum completeness criteria (KKM) of 75. Of the 3 classes available, class XAP3 is the highest grade of passing grade that is as much as 63% and class XAP1 and XAP2 have the highest percentage of non-graduation values of KKM, namely 66% and 56%. This fact indicates that the students' understanding of the basic communication skills learning material is still low, resulting in low results and student achievement in school.

Table 1.1. Percentage of Daily Examination and Middle Semester General Administration Subject Class X Office Administration 2018/2019

No	Class	The number of students	KKM	Completeness		Percentage	
				Completed	Not completed	Completed	Not completed
1.	X AP1	36 People	75	16 People	20 People	44 %	56 %
2.	X AP2	35 People	75	12 People	23 People	34 %	66 %
3.	X AP3	35 People	75	22 People	13 People	63 %	37 %

Source: Primary Data Processing, 2018

There are many factors that influence the quality and quantity of student learning outcomes in school. Dalyono (2007: 55-60) suggests "factors that affect learning outcomes in general can be divided into two, namely internal and external factors. Internal factors are factors that come from within the student, which consists of: health, intelligence, talent (independence), interests, motivation and ways of learning. While the external factors that come from outside the students consist of: family, school, community and surrounding environment.

The findings of previous studies, such as Pierce and Fox (2012) and Suhyaya (2014), the findings of their study concluded that there were differences in learning outcomes of students who used flipped classroom learning strategies with those using conventional learning strategies in other words the use of learning strategies using a flipped classroom approach. improve learning performance that is good for students. While the research of Murtiyasa and Ulfa (2015), his findings showed that the flipped classroom learning model was not found to have an effect on improving students abilities and learning outcomes. Furthermore, the results of the research by Sari (2010) and Rosyidah (2010), their findings concluded that there was a significant influence of learning independence on student learning outcomes.

The inconsistency of the findings between the researchers made the authors feel that there needs to be a review to assess student learning outcomes by making learning independence by applying the flipped classroom cooperative learning model and conventional learning models. The following is the formulation of the problem:

1. Are students learning outcomes with a flipped classroom learning model higher than conventional learning models in class X Office Administration of SMK Batusangkar?
2. Do students who have high learning independence obtain higher learning outcomes than students who have low learning independence in class X Office Administration of SMK Batusangkar?
3. How is the interaction of learning models and learning independence towards learning outcomes in class X Office Administration of SMK Batusangkar?

According to Winkel (2007:21) learning outcomes are changes that result in people changing their attitudes and behavior. While Dimyati and Mudjiono (2009:3-4), also mention learning outcomes are the result of an interaction between learning and teaching. Whereas Harden (2002:153) learning outcomes are: "Learning outcomes can be specified in that way covering the range of competencies and emphasizing the integration of different competencies". Hamalik (2007:30) learning outcomes are evidence that someone has learned is the change in behavior in the person, for example from not knowing to knowing and not understanding to understanding.

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consist of: health, intelligence, talent (independence), interests, motivation and ways of learning. While the external factors that come from outside the students consist of: family, school, community and surrounding environment.

Cooperative learning is a learning model by grouping where in the group students will work together in constructing concepts, solving problems or inquiry. In this learning there are many kinds of cooperative learning models, one of which is the Flipped Classroom one of them. Johnson (2013) defines flipped classroom as a strategy that educators can provide by minimizing the amount of direct instruction in their teaching practices while maximizing interactions with one another. This strategy utilizes technology that provides additional support for learning material for students that can be accessed online. This frees up time in the class that was previously used for learning as a means to discuss the material being studied. Johnson (2013) further said that flipped classroom is a strategy that educators can provide by minimizing the amount of direct instruction in their teaching practices while maximizing interaction with each other.

Milman (2012), a flipped classroom strategy supports many benefits. Most seem to be a reasonable profit (eg increasing instruction time more interesting) especially to teach them in mixed settings consisting of several combinations of face to face and online instruction. Learning by using the flipped classroom method students will get initial knowledge about new material outside the classroom by viewing videos and using class time to assimilate the knowledge that has been learned by problem solving, discussion or debate.

The flipped classroom model is one of the innovative models which in its implementation has been proven to be able to improve student learning achievement. This is evidenced by the results of research at high school, which applies the flipped classroom model so that students' mathematics learning outcomes increase (Lambert, C: 2012).

According to Ali and Asrori (2005:114) independence is defined as an individual's internal strength and obtained through an individuation process, in the form of a process of realization of selfhood and the process towards perfection. Other figures such as Hamzah B. Uno (2008:77) define independence as the ability to direct and control themselves in thinking and acting, and not feeling dependent on others emotionally. Mujiman (2011:1-2) independent learning is an active learning activity, which is driven by a motive for mastering something of competence, and is built with the knowledge or competence that has been possessed. Surya (2003:114), Independent learning is the process of moving the strength or drive from within the individual who learns to move his potential to learn the object of learning without any foreign pressure or influence outside himself.

From the theoretical study above, it can be designed a conceptual framework of this research that will describe and explain the influence between the variables of this study.

Based on the study of the theory and conceptual framework that has been stated above, the research hypothesis can be proposed as follows:

1. Student learning outcomes that are taught with the flipped classroom learning model are significantly higher than student learning outcomes that are taught using conventional models in students of class X Office Administration SMK Batusangkar.
2. Learning outcomes of students who have high learning independence are higher than the learning outcomes of students who have low learning independence.

3. There is a significant interaction between the learning model and the learning independence of the learning outcomes of class X Office Administration of SMK Batusangkar.

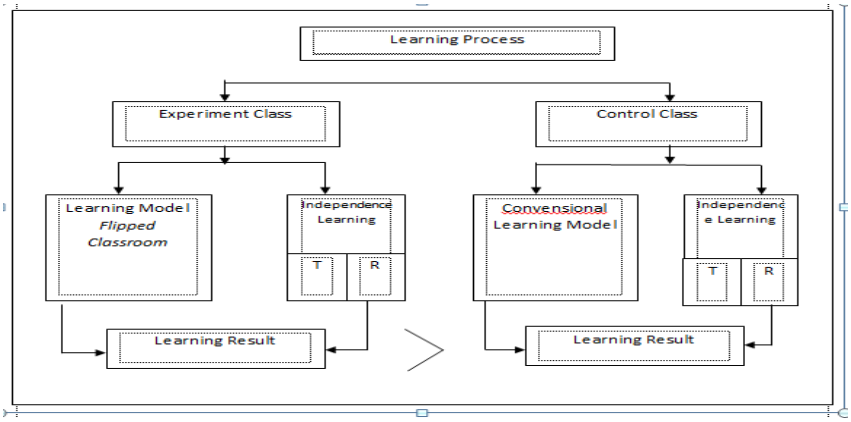

Figure 1 Conceptual framework

Methods

This study uses a quantitative approach in the type of Quasi Experimental Design. According to Sugiyono (2012:114) quasi-experiments are experiments that give treatment (treatment), impact measurements (outcome measures) and experimental units (experimental units) but do not use random placements. Quasi experiments usually have a control group to control external variables that affect the execution of experiments.

The population in this study were class X students consisting of four classes in SMK Batusangkar. Sampling in this study uses purposive sampling technique, namely by selecting samples that are deliberately selected based on certain considerations. The selection of experimental class and control class is done randomly using lottery. so that class X AP3 is determined as the experimental class and class X AP2 as the control class.

Operational and Variable Measurement Definition of Research

1. Learning outcomes are a change in behavior experienced by students in learning activities including cognitive abilities, affective abilities and psychomotor abilities. In this study researchers examined the learning outcomes of the cognitive domain, the learning outcomes studied were taken from the test results after the learning was carried out. The size of the learning outcome variable is the value using numbers 0-100.
2. Flipped Classroom Model (X1) is a method of learning with the technique students learn in advance outside the classroom by studying material via the internet, videos, textbooks and worksheets students and students will record the difficulties they face. The notes will be discussed with the teacher and friends to find solutions or solutions to the problems used in the experimental class.
3. Conventional Learning Model is a learning model that implements one-way communication between teachers and students so that learning activities tend to be centered on the teacher, which results in students being passive because they only receive information provided by the teacher, this model is applied to the control class.
4. Learning independence (X2) is an ability and activity carried out to improve knowledge, interests, attitudes and skills and expand a material that is carried out responsibly by the students themselves, not dependent on others and having confidence.

Results and Discussion

Data analysis techniques in this study, using SPSS 16 program tools, both in calculating the frequency of the respondent's answer level (TCR), test the requirements of the analysis until the hypothesis testing. First, test Descriptive Analysis, this analysis aims to describe the data as it is collected from respondents. The variables described are all variables examined by calculating the percentage, standard deviation, median, mode and coefficient of variance for economic learning outcomes, while for interest in learning with a percentage analysis the weighted average with the formula Sudjana (2009:131). Furthermore, the requirements test includes normality test with Kolmogorov-Smirnov test and homogeneity test. Whereas to test the research hypothesis used two-way ANOVA test. Whereas to determine the acceptance or rejection of the research hypothesis can be seen from the existing significance value (Sig). If the significance value is generated <0.05, the hypothesis is accepted, but if the significance value (sig)> 0.05, the hypothesis is rejected.

1. Student learning outcomes that are taught with the flipped classroom learning model are significantly higher than student learning outcomes that are taught using conventional models. The following is a summary of the test results:

Table 4.1. The First Hypothesis Testing Results

Variable and Class		F	Sig	Summary
General Administration Learning Process	Experiment Class	8.479	0.005	Accepted Hipotesis
	Control Class			

Source: Data processing results, 2018

Based on the summary results of the two-way ANOVA test in table 4.1 above, it can be seen that the F value is 8.479 with a significant value of 0.005 this value is smaller than alpha of 0.05 or 0.005 <0.05. Therefore it can be stated that the economic learning outcomes of students who are taught using the flipped classroom cooperative learning model are significantly higher than the student learning outcomes taught by conventional learning models. In other words, the use of the flipped classroom cooperative learning model applied to the experimental class is far more effective in its success rate and has a significant impact on improving learning outcomes compared to the application of the achievement of the conventional model application in the control class.

This finding is supported by the theory stated by Mc. Leod (2012) that flipped classroom can "change traditional learning where passive students just sit down, listen and record into more active learning or student-centered learning". This is reinforced by the opinion of McCombs & Miller (2007: 5) that student-centered teaching describes teaching strategies in which the teacher facilitates rather than direct teaching. The results of this hypothesis are supported by the results of Byron's (2011) study of high school, getting an award in the field of mathematics because of applying the flipped classroom model so that students' mathematics learning outcomes increase (Lambert, C: 2012).

2. Learning outcomes of students who have high learning independence are higher than the learning outcomes of students who have low learning independence. The following is a summary of the two-way ANOVA test results in table 4.2

Two-way ANOVA test results in table 4.2, found an F value of 4.199 with a significant value of 0.008

Table 4.2. The Second Result of Hypothesis Test

Variable and Class		F	Sig	Summary
High and Class Learning Independence	Experiment Class	4.199	0.008	Accepted Hipotesis
	Control Class			

Source: Data processing results, 2018

this significant value is smaller than alpha or error reject data of 0.05 or 0.008 <0.05. This means that students who have high learning independence who are taught using a flipped classroom cooperative learning model are significantly higher than students who have low learning independence who are taught using conventional learning models. In other words, the use of flipped classroom learning models in the experimental class has a significantly higher impact on improving learning outcomes that are higher than the learning outcomes of students who are taught with the application of conventional models in the control class.

The results of this hypothesis are supported by theories developed by experts, as expressed by Pannen et al (2000), asserting that the main characteristic of independent learning is not the absence of teachers or fellow students, or the absence of face-to-face meetings in class. Parnell (2001), proves that "independent learning can make students successful. Thus it can be said that the learning independence of students will be able to improve learning outcomes.

The results of this study are in line and relevant to the results of research conducted by Prayuda, Thomas and Basri (2014), the effect of learning independence on student learning outcomes in economic subjects in high school, their findings found that there was a significant effect of learning independence on learning outcomes. Furthermore, the findings of Sari's study (2010) examined the influence of peer environment and learning independence on accounting learning practices for the cost of the 11th grade students of the accounting program of Depok State Vocational High School 2009/2010 academic year. The results showed that there was a positive and significant influence on learning independence on learning achievement in cost accounting.

3. There is a significant interaction between learning models with learning independence towards student learning outcomes

Furthermore, to test the third hypothesis, where the purpose of this hypothesis is to find out and analyze whether there is a significant interaction between the learning model and the learning independence of the learning outcomes of class X Office Administration of SMK Batusangkar. The following are two-way Anova test results:

Table 4.3. Test of Between-Subjects Effects

Source	F	Sig
Learning Model * Learning Independence Group	0.117	0.697

Source: Data Processing Results, 2018

Based on the results of the two-way ANOVA test, it can be seen that the F value of the interaction of the learning model with the learning independence group of students is 0.117 with a significance level of 0.697, where this significant value is greater than the error rejecting data of 0.05 or 0.697> 0.05. This result concludes that Ho is accepted means that there is no interaction between the learning model and the learning independence of the students towards the student learning outcomes in the two classes of research samples, namely the experimental class and the control class.

This result can also be concluded that there is no interaction between the learning model with the learning independence of the students, because between learning models with learning independence give effect or influence on learning outcomes partially or individually. There are times when in certain situations learning models that can influence learning outcomes and in other situations are sometimes learning independence that can also affect student learning outcomes. Spencer Kagan (Anita Lie: 2004: 59) "Cooperative model learning techniques provide opportunities for students to share ideas and consider the right answers". In addition cooperative learning models emphasize more on students to be active and

active in working together and exchanging opinions and can measure the extent to which students understand the material and develop their own mindset.

Conclusion

1. The economic learning outcomes of students who are taught with a flipped classroom learning model are significantly higher than students who are taught with conventional learning models in students of class X Office Administration of SMK Batusangkar.
2. Economic learning outcomes of students who have high learning independence are significantly higher than students who have low learning independence in students of class X Office Administration of SMK Batusangkar.
3. There is no interaction between learning models and learning independence on learning outcomes in students of class X Office Administration SMK Batusangkar. This is caused between the two factors that influence learning outcomes have a separate influence or partially in influencing learning outcomes.

The suggestions that can be expressed in this study are as follows:

1. For principals the findings of the study are expected to be one of the efforts in improving learning independence and student learning outcomes through training and implementing educational programs to teachers about innovative learning models, especially the flipped classroom cooperative learning model.
2. For the Teachers the results of this research hypothesis can be useful to be able to implement an interesting and innovative learning model such as a flipped classroom learning model so that it can improve learning independence and student learning outcomes. In addition, it can also increase knowledge related to the use of technology in e learning to foster self-reliance on learning and student learning outcomes.
3. For students, this learning model can foster students' ability to interact and develop themselves in teaching and learning activities will be more optimal to be able to improve learning independence and better learning outcomes in each process of teaching and learning activities.
4. For future researchers, the findings of this study are expected to be one of the literature in developing the next research model in the use of flipped classroom cooperative learning models in improving learning independence and learning outcomes by knowing what factors determine student success in learning apart from the model learning such as flipped classrooms such as learning motivation or school environment or other factors that are thought to have an influence on improving learning outcomes.

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