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The Effect Of Implementing Flipped Classroom Models For Building Independence In Learning And Students' Collaborative Skills

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Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran flipped classroom terhadap kemampuan belajar mandiri dan kolaborasi mahasiswa di Program Studi Pendidikan Geografi. Jenis penelitian ini adalah kuantitatif dengan metode ex post facto. Teknik pengambilan sampel yang digunakan dalam penelitian ini adalah simple random sampling. Sampel dalam penelitian ini adalah 55 mahasiswa dari 215 mahasiswa. Pengumpulan data dilakukan melalui kuesioner. Data dianalisis dengan menggunakan uji regresi linier sederhana. Hasil dari penelitian ini adalah 1) Penerapan model flipped classroom (X) berpengaruh terhadap kemandirian belajar siswa (Y1) yang dibuktikan dengan nilai signifikansi sebesar 0,000 dimana nilai tersebut < 0,05 maka Ho ditolak dan Ha diterima dan berarti hipotesis diterima. Pengaruhnya signifikan, yang dibuktikan dengan nilai t hitung 4,313 > nilai t tabel 1,675 dengan nilai signifikansi 0,00 < 0,05. Sesuai dengan kriteria, jika t hitung > t tabel, maka Ho ditolak dan Ha diterima. Oleh karena itu, terdapat pengaruh yang positif dan signifikan terkait implementasi model flipped classroom terhadap kemandirian belajar, dan 2) Implementasi model flipped classroom (X) berpengaruh terhadap kemampuan bekerjasama (Y2) yang dibuktikan dengan nilai signifikansi sebesar 0,001, dimana nilai tersebut < 0,05, maka Ho ditolak dan Ha diterima dan berarti hipotesis diterima. Pengaruhnya signifikan, yang dibuktikan dengan nilai t hitung 4,313 > nilai t tabel 1,675 dengan nilai signifikansi 0,00 < 0,05. Sesuai dengan kriteria, jika t hitung > t tabel maka Ho ditolak dan Ha diterima. Oleh karena itu, terdapat pengaruh yang positif dan signifikan antara penerapan model pembelajaran flipped classroom terhadap kemampuan kolaborasi siswa.
Kata Kunci: Pembelajaran terpadu, Ruang Kelas Terbalik, Pembelajaran Mandiri, Keterampilan Kolaboratif

Abstract

This research aims to examine the Effect of the flipped classroom learning model on students' independent learning and collaborative skills at Geography Educatioan Study Program. The type of research is quantitative with ex post facto methods. The sampling technique used in this study was simple random sampling. The sample in this research was 55 students from 215 students. Data collection was carried out through questionnaire. Data were analyzed using simple linear regression test. The results of this research are 1) The implementation of the flipped classroom model (X) has an Effect on student learning independence (Y1) as evidenced by the significance value of 0.000 where the value is

<0.05 then Ho is rejected and Ha is accepted and it means the hypothesis is accepted. The Effect is significant, which is proven by the t-statistic value 4.313 > t-table value 1.675 with a significance value of 0.00 < 0.05. According with the criteria, if t-statistik > t-table, so Ho is rejected and Ha is accepted. Therefore, there is a positive and significant Effect related to implementation flipped classroom model for independent learning, and 2) The implementation of the flipped classroom model (X) has an Effect on collaborative skills (Y2) as evidenced by the significance value of 0.001, where the value is <0.05, so Ho is rejected and Ha accepted and it means the hypothesis is accepted. The Effect is significant, which is proven by the t-statistic value 4.313 > t-table value 1.675 with a significance value of 0.00 < 0.05. According with the criteria, if t-statistic > t-table then Ho is rejected and Ha accepted. Therefore, there is a positive and significant Effect regarding the implementation of the flipped classroom model on students' collaborative skills.

Keywords: Blended Learning, Flipped Classroom, Independent Learning, Collaborative Skills

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I.   INTRODUCTION

Simply put, 21st century learning is the implication of the development of human life. The rapid development of ICT forces learning activities to be able to adapt to these conditions. Some of its characteristics are the use of ICT in learning activities, students are no longer likened to empty glasses that are just waiting to be filled by their teachers, in 21st century learning students are given the freedom to build their own knowledge and skills that can be adjusted to their capacity and ability to think. The ability to collaborate with others and be able to take a role in a community is an important skill as a soft skill that needs to get stimulus from teachers (Santos, 2017). In this case, the teacher professionally designs learning, removes obstacles, as well as creates space (Kaput, 2018).

Based on the results of preliminary observations, information was obtained that the learning conditions of first- and third-level students in the Geography Education Study Program, Siliwangi University, Tasikmalaya had several problems. The obvious problem is the low independence of student learning. Based on interviews with several students, they said that the assignments given by lecturers are usually done towards the end of the assignment collection period. This causes the collected tasks to be imperfect. On the other hand, they learn only while in the classroom with the lecturer. This has an impact, namely students seem less ready to complete work with their groups. This condition can cause a lack of student ability to face challenges in the real world of work (Safarini, 2019). In fact, the role of an individual in the completion of a project in the real world of work is required to collaborate Effectively and efficiently in contributing his ideas and ideas.

One of learning model that is considered suitable to be able to stimulate student learning independence and collaborative skills is to use the flipped classroom model. In traditional learning, lecturers deliver material in class and then give students homework. Flipped classroom reverses traditional learning where lecturers provide material first before class starts in the form of videos and other materials with the help of technological devices. Furthermore, learning activities in the classroom are carried out with activities that involve collaboration and interaction between students (Mok, 2014). The term flipped classroom first appeared in an international conference on learning and teaching by J Wesley Baker with the title of the article "the classroom flip, using web course management tools to become the guide by the side" (Yildirim & Kiray, 2017). The millennial generation is different from the previous generation, the current generation is very attached to technology. This condition can be utilized through the use of flipped classrooms to create a learning environment so that existing technology can be used Effectively. Basically everyone has a mobile phone device with android OS. The existence of this device is a smooth way to use the flipped classroom, so that every student can learn and access the learning provided by lecturers anywhere and anytime.

Research on the flipped classroom model began to be carried out, especially during the Covid 19 pandemic. Research on the flipped classroom model conducted by shows that the blended learning model through the flipped classroom model / type provides opportunities for students to collaborate and interact which is beneficial in mastering collaborative problem solving skills. Research by Syahrul et al., (2022) supports previous research stating that the implementation of the flipped learning model can lead students to achieve learning independence but must be supported by high self-regulation and optimization of parental supervision. Research by Wahid et al., (2022) confirms that students have high learning using the flipped learning model, which is 81% in the good category.

When viewed from previous studies, researchers have not found a study that examines comprehensively between the Effect of flipped classroom on the variable of learning independence which is jointly studied with collaborative skills. Previous research still assessed these variables

partially. In fact, researchers see that between the variability of learning independence and the variable of collaborative skills is an interrelated component. Based on the description above, the author is interested in researching "The Effect of the Flipped Classroom Model on Student Learning Independence and Collaborative Skills". The purpose of this study is to determine the effect of the implementation of flipped classroom on learning independence and collaborative skills of first and third-year students of the Geography Education Study Program, Siliwangi Tasikmalaya University.

II. RESEARCH METHODS

This research is a quantitative research with ex post facto methods in the form of causal relationships between two variables, namely independent variables (influencing variables), and dependent variables (Effected variables). According Sukardi in (Asmurti et al., 2017), ex post facto research is research related to variables that have occurred and does not need to treat the variables studied. The research design uses a quantitative approach because the results of the observations are converted into numbers which are then analysis using statistics. The population in this study is all level 1 and 3 students in the Department of Geography Education which amounted to 215 students. The sampling technique used in this study was simple random sampling. The sampling used in this study was based on theory of Arikunto (2019) is 25% or 55 students. Data collection is carried out using questionnaire techniques given to students after learning is completed through Google Form. Furthermore, researchers conduct instrument tests to determine the validity and reliability of questions before being used in research. The data analysis technique in this study used simple linear regression analysis.

RESULTS AND DISCUSSION

Result

The results of the study on the effect between independent variables and dependent variables in this study were divided into two, they are (1) the effect of the Implementation of the Flipped Classroom Model (X) on Learning Independence (Y1) and (2) The effect of the Implementation of the Flipped Classroom Model (X) on Collaborative Skills (Y2). A full description of the results of the study is presented at the points below.

The Effect of Implementation Flipped Classroom Model (X) on Learning Independence (Y1)

The results of the study related to the effect of the independent variable of the Implementation of the flipped classroom model (X) on the dependent variable of learning independence (Y1) based on the results of the analysis through the t test are presented in Table 3.1 below.

Table 3.1 Variable t-Test Results of the Implementation of the Flipped Classroom Model to Learning Independence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.737	7.489		3.170	.003
	Implementing of Flipped Classroom	.602	.140	.510	4.313	.000

a. Dependent Variable: Learning Independence
Source: SPSS Test

From the table above, it is known that the significance value is 0.000 where the value is < 0.05, it means Ho is rejected and Ha is accepted. It means that there is an effect of the independent variable (X), namely the implementation of the flipped classroom model to learning independence (Y1). In addition, in the table above is also known that the t statistic value, 4.313 is greater than t table value, 1.675 with a significance value of 0.00 < 0.05. According the criteria, if t statistic > t table then Ho is rejected and Ha is accepted. It means that there is a positive and significant effect implementation of the flipped classroom model to learning independence.

3.1.2 The Effect of Implementation Flipped Classroom Model (X) on Students' Collaborative Skills (Y2)

The results of the study related to the effect of the independent variable of applying the flipped classroom model (X) on the variable bound to student collaborative skills (Y2) based on the results of the analysis through the t test are presented in Table 3.2 below.

Table 3.2 Variable t-Test Results of Flipped Classroom Implementation to Collaborative Skills

		Coefficients[a]				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	Model	B	Std. Error	Beta		
1	(Constant)	31.821	8.786		3.622	.001
	Implementing of Flipped Classroom	.576	.164	.435	3.514	.001

a. Dependent Variable: Collaborative Skills

Sumber: Uji SPSS

From the table above it is known that the significance value is 0.001 where the value is < 0.05, it means Ho is rejected and Ha is accepted. It means that there is an effect on the implementation of the flipped classroom model to ability of students' collaborative skills. In addition, in the table above, it is also known that t statistic value, 3.514 is greater than t table value, 1.675 with a significance value of 0.00 < 0.05 According the criteria, if t statistic > t table then Ho is rejected and Ha is accepted. It means that there is a positive and significant effect implementation of the flipped classroom model to the collaborative appearance of students.

Discussion

Based on the results of the t-test research on the effect of the implementation of the flipped classroom model to student learning independence, it shows that there is an Effect of the implementation of the flipped classroom model on student learning independence. The implementation of the flipped classroom model (X) has an effect to student learning independence (Y1) as evidenced by a significance value of 0.000 where the value is < 0.05, it means Ho is rejected and Ha is accepted. The effect given is significant, as evidenced by t statistic value, 4.313 > t table value, 1.675 with a significance value of 0.00 < 0.05. According with the criteria, if t statistic > t table, it means Ho is rejected and Ha is accepted. Therefore, there is a positive and significant effect related to the implementation of the flipped classroom model to learning independence. Pigaet's Constructivism learning theory is very relevant to the flipped classroom learning model (Eppard & Rochdi, 2017), where students are given the opportunity to explore their own knowledge before entering the classroom so that they are better prepared before class takes place. In building their knowledge, it is not only sourced from what is presented by the lecturer, but independently looking for supporting references.

In this study, the author combines various platforms such as you tube, scientific articles that can be accessed online, and online learning platforms to attract student learning at home. As a result, students independently study the material provided and complete assignments on time with satisfactory results. Research conducted by Suryawan et al., (2021) shows that the use of flipped classrooms assisted by e-learning is proven to be highly effective in improving student learning outcomes. In the future, technology-based learning will be the future of learning in the classroom (Sze Yean, 2019).

Based on the results of the questionnaire, it shows that students learning independence is quite good. Students manage their study schedules independently, be available for independent study and always try to keep it. Flipped classrooms give you the freedom to learn at your own pace. This is in line with the Bishop & Verleger (2013) opinions, that states that everyone has a unique style. The alignment of learning experiences with specific learning styles can improve educational outcomes. In this case, students are given property rights to their own learning, in other words, they learn independently. Learning independence means self-awareness to do self-learning activities outside of the regular learning schedule in the classroom. According to Brookfield in (Kustandi et al., 2019) learning independence is an ability that a person has in conducting learning activities on his own initiation to achieve his goals. The results showed that the use of the flipped classroom method had a positive effect on student learning independence. The use of flipped classroom in samples is proven to foster student learning independence. In accordance with Lee Sze Yean's opinion in his article said "flipped classrooms have benefits that are not limited to one topic but foster student independence and active learning that is responsible for their own learning" (Sze Yean, 2019).

Furthermore, based on the results of the t-test for the effect of implementation of the flipped classroom model (X) to students' collaborative skills, it shows that there is an effect of the implementation flipped classroom model (X) to students' collaborative skills. This is evidenced by the significance value of 0.001 where the value is < 0.05, it means Ho is rejected and Ha is accepted. It means that the hypothesis is accepted. The Effect given is significant, as evidenced by t statistic value of 3.514 > the t table value of 1.675 with a significance value of 0.00 < 0.05. According with the criteria, if t statistic > t table, it means Ho is rejected and Ha is accepted. Therefore, there is a positive and significant effect related to the implementation of the flipped classroom model to students' collaborative skills. Flipped classroom is also in accordance with the theory of social constructivism (Collaborative Learning) meaning that in its learning activities, students are given the opportunity to interact with other students in the classroom such as in a discussion group.

The effect of flipped classroom on learning independence encourages student readiness to face synchronous learning carried out in group discussions. Based on the results of questionnaires and observations during learning in class, it shows that student participation in group learning activities is quite good. Students are actively involved in participating and collaborating in groups to find and provide answers to problems that are being worked on and discussed. This is accordance with the opinion Halili et al., (2014), he said that the flipped classroom can build strong social interaction between students in solving problems in teams, building interaction and collaboration with each other in discussing learning after learning outside the classroom. The use of flipped classrooms in the classroom shows positive collaboration between students. Team collaboration in a flipped classroom becomes more positive because the more diverse class activities, the greater the interaction between classmates, and social aspects to know colleagues in the group. Students' collaborative abilities are strengthened by a variety of knowledge, experiences and different points of view from each individual, obtained from independent learning carried out before entering the classroom (Cabi, 2018).

Flipped Classroom reinforces the traditional academic value of sharing and building knowledge collaboratively, supporting material exchange and facilitating community building. The

flipped classroom model encourages activities in the classroom to be more diverse, increases interaction, fosters creativity in adapting in collaboration with others (Gomez-lanier, 2018). The results of the questionnaire show that students feel more ready to learn with groups in class and become more ready to lead their groups in class. From the description above, it is very clear that the use of flipped classrooms in learning can affect the collaborative ability of students.

III.   CONCLUSION

Based on the results of the t-test research on the Effect of the implementation of the flipped classroom model to student learning independence, it shows that there is an effect of the implementation of the flipped classroom model on student learning independence. The implementation of the flipped classroom model (X) has an effect to student learning independence (Y1) as evidenced by a significance value of 0.000 where the value is < 0.05, it means Ho is rejected and Ha is accepted. The effect given is significant, as evidenced by t statistic value, 4.313 > t table value, 1.675 with a significance value of 0.00 < 0.05. According with the criteria, if t statistic > t table, it means Ho is rejected and Ha is accepted. Therefore, there is a positive and significant effect related to the implementation of the flipped classroom model to learning independence.

Furthermore, based on the results of the t-test for the effect of implementation of the flipped classroom model (X) to students' collaborative skills, it shows that there is an Effect of the implementation flipped classroom model (X) to students' collaborative skills. This is evidenced by the significance value of 0.001 where the value is < 0.05, it means Ho is rejected and Ha is accepted. It means that the hypothesis is accepted. The effect given is significant, as evidenced by t statistic value of 3.514 > the t table value of 1.675 with a significance value of 0.00 < 0.05. According with the criteria, if t statistic > t table, it means Ho is rejected and Ha is accepted. Therefore, there is a positive and significant effect related to the implementation of the flipped classroom model to students' collaborative skills.

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