



Flipped Learning with Google Classroom in Improving Learning Outcomes and Independent Attitudes

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Abstrak

Penerapan model pembelajaran flipped dapat meningkatkan hasil belajar siswa. Penelitian ini bertujuan untuk menganalisis efektivitas penerapan model pembelajaran flipped berbantuan media Google Classroom dalam meningkatkan hasil belajar dan kemandirian siswa dalam menyelesaikan soal-soal IPS. Penelitian ini merupakan penelitian kuantitatif dengan eksperimen semu. Populasi dalam penelitian ini adalah seluruh siswa sekolah dasar. Sedangkan sampel dalam penelitian ini adalah siswa kelas V di salah satu sekolah dasar yang berjumlah 40 orang. Instrumen penelitian yang digunakan adalah soal tes dan angket kemandirian siswa. Peneliti menggunakan uji validitas dan reliabilitas terhadap instrumen penelitian sebelum digunakan dalam penelitian. Hasil uji prasyarat menunjukkan bahwa data yang diperoleh berdistribusi normal dan homogen. Teknik analisis data yang digunakan adalah uji-t dependen dan uji Manova. Berdasarkan hasil analisis diperoleh: $t_{hitung} > t_{tabel}$ yaitu $4,918 > 1,685$, sehingga terdapat perbedaan penggunaan model pembelajaran flipped learning dengan bantuan Google Classroom dalam meningkatkan pembelajaran IPS siswa hasil; $t_{hitung} > t_{tabel}$ yaitu $6,972 > 1,685$, ada perbedaan yang signifikan sikap mandiri setelah diterapkan model flipped learning dengan bantuan google classroom dibandingkan sebelum diterapkan; nilai signifikansi $0,000 < 0,05$, terdapat perbedaan yang signifikan hasil belajar dan sikap mandiri setelah menerapkan model pembelajaran flipped dengan bantuan google classroom dibandingkan sebelum menerapkan.

Kata Kunci: Flipped Learning, Google classroom, Hasil Belajar, Sikap Mandiri

Abstract

The application of the flipped learning model can improve student learning outcomes. This study aims to analyze the effectiveness of the application of the flipped learning model assisted by Google Classroom media in improving student learning outcomes and independence in solving social studies questions. This research is quantitative research with quasi-experiments. The population in this study were all students of an elementary school. While the sample in this study were 40 students of class V at one of the elementary schools. The research instruments used were test questions and student independence questionnaires. Researchers used validity and reliability tests on research instruments before being used in research. The prerequisite test results show that the data obtained is normally distributed and homogeneous. The data analysis technique used is the dependent t-test and the Manova test. Based on the results of the analysis, it was obtained: $t\text{-count} > t\text{-table}$, namely $4,918 > 1,685$, so there is a difference in the use of the flipped learning model with the help of Google Classroom in improving student social studies learning outcomes; $t\text{-count} > t\text{-table}$, namely $6.972 > 1,685$, there is a significant difference in independent attitude after applying the model flipped learning with the help of google classroom compared to before implementing; a significance value of $0.000 < 0.05$, there is a significant difference in learning outcomes and independent attitudes after implementing the flipped learning model with the help of google classroom compared to before implementing.

Keywords: Flipped Learning, Google classroom, Learning Outcomes, Independent Attitude

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1. INTRODUCTION

The Covid-19 pandemic has had an impact in various fields of life. The Covid-19 pandemic has an impact on various fields, one of which is the field of education (Alfarimba et al., 2021; Lestari et al., 2021). According to previous study the Covid-19 pandemic has had a significant impact on learning activities in all parts of the world (Churiyah et al., 2020). The impact in the world of education is the existence of short-term impacts and long-term impacts. Parents is not yet familiar with the distance learning system (Laana, 2021;

Patrikakou, 2016). The psychological condition of students is also threatened during online learning because students in the learning process without being accompanied by a teacher directly. Students have more difficulty in implementing learning when Covid-19 pandemic. According to previous study long-term impact of the pandemic in the field of education is in the aspect of justice and the uneven improvement of education between community groups and between regions in Indonesia (Sugiarto, 2020).

Distance learning can be applied to keep the learning process going even though it is not face-to-face in school. Previous study argue that the implementation of distance learning can affect students' interest in learning (Wulansari & Manoy, 2021). Strengthened by other study that online learning during the pandemic greatly affects students' interest in learning (Wardani, 2020). However, according to previous study it is possible that students will feel bored during distance learning activities (Baety & Munandar, 2021). A teacher has the responsibility to create creative and innovative learning to increase interest in learning and the continuity of the learning process (Fitriyani et al., 2020; Yulianingsih et al., 2020). The existence of a high interest in learning will affect student learning outcomes (Berutu & Tambunan, 2018). Currently, there are many various platforms that support online learning, one of which is Google Classroom. According to previous study supporting facilities for various platforms or media can be utilized as well as possible during the distance learning period (Gunawan & Suranti, 2020). An educator can utilize technology and information, especially hardware and software, to help improve students' skills in the learning process. Creating or utilizing learning media is the main key to achieving learning objectives (Lestari et al., 2021; Rosita et al., 2019).

Google Classroom is an application specifically for online learning media or the term is online classes so that it can make it easier for teachers to create, share and group each assignment during distance learning. The use of Google Classroom will make learning more effective, especially since teachers and students can meet face to face at any time through Google Classroom classes. According to previous study one advantages of Google classroom is that it can be used remotely so that students can learn, listen, read, send assignments, remotely (Diantari et al., 2021). Google classroom can be used as a learning helper medium, because it has various advantages in creating learning that is easy to use and for the delivery of tasks to be systematic (Jumadi et al., 2021; Utomo, 2020). In other research shows that the use of google classroom can increase student activity in online learning (Indrawati, 2021).

The role of a teacher in the learning and teaching process is to prepare learning well and the use of learning methods and models that are in accordance with the needs of the material being taught. The application of the right learning model can affect student learning outcomes and independence (Hamid & Hadi, 2020; Makruf et al., 2021; Puspitasari, 2016). According to previous study a new learning model is needed to streamline learning (Sari & Rusnilawati, 2022). This study conducted research on the learning model, namely the flipped learning model. In line with the opinion states that the flipped learning model is learning that the classroom does, switching to be done outside the classroom (Hamna et al., 2022). Flipped learning models focus students more on deeper learning activities.

The application of the flipped learning model can improve student learning outcomes. According to previous study states that with the flipped learning model, students have freedom and independence in carrying out learning outside the classroom (Waryana, 2021). As a learning strategy, flipped learning is feasible to apply because it can streamline time in its application (Sjafei, 2022; Wulandari et al., 2020). Learning with this flipped learning strategy makes time constraints resolved. Previous study argue that pad a traditional class, sometimes teachers are constrained by the amount of material to be taught, while the allocation of time is limited so that students can only obtain important material (Peranginangin et al., 2020). In the opinion of other study with flipped learning, students

already have the provision to understand the material and can be enriched or deepened through discussions and problem solving activities in class (Marchalot et al., 2018).

Based on the observations of one of the elementary schools in Grobogan Regency, it shows that learning outcomes in class V are still low in social studies subjects. Meanwhile, learning outcomes are used as a benchmark for the academic ability of students. In the classroom, students are less active in arguing to state the answers given by the teacher. This results in less meaningful learning. This happens because of the lack of effectiveness in learning as well as focused material explanations from one direction resulting in students not being able to solve the problem being experienced. The low attitude of independence in students also results in decreased learning outcomes.

Based on research conducted by previous study there is an influence of the flipped classroom model on student learning outcomes (Walidah et al., 2020). This model has the advantage that students can watch learning videos provided by teachers at home to find their own subject matter concepts according to their respective understandings. So that when in class, students have time to do assignments, practice questions, projects or discuss material from the videos studied. In the previous research was concluded that through the flipped classroom learning model, it can improve student cognitive outcomes, this is shown by increasing the average score of students (Chrismawati et al., 2021). This is reinforced by research stated that classes that apply the flipped classroom learning model have increased learning outcomes and are superior to classes using conventional learning models (Savitri & Meilana, 2022).

In addition to research on improving learning outcomes with flipped learning models, there have been previous studies on flipped learning models that have also influenced the improvement of students' independent attitudes. The application of the flipped learning model increases the attitude of student learning independence, this can be seen from students being better prepared to participate in learning, as well as active student involvement in the implementation of learning with problem solving to make students more independent in doing questions. The learning independence of learners shows in the high category in the class with a flipped classroom model (Marchalot et al., 2018; Widodo et al., 2021). Strengthened by the research of which concluded that the flipped classroom learning model has a significant influence on increasing students' learning independence ability compared to students who obtain scientific learning (Mirlanda et al., 2019). This shows that flipped classroom learning models are effective in improving students' learning independence.

From the results of these studies, there has been no research on the effectiveness of flipped learning models with google classroom media to improve learning outcomes and students' independence abilities in social studies lessons especially grade V elementary school. This study will also test a significant correlation between the application of the flipped learning model assistedn media google classroom with learning outcomes and students' learning independence ability. This study aims to analyze the effectiveness of the application of the flipped learning model assisted by Google Classroom media in improving student learning outcomes and independence in solving social studies questions.

2. METHODS

This research is quantitative research with the aim of research to determine the effectiveness of the application of flipped learning models assisted by Google Classroom media to improve learning outcomes and student learning independence abilities. This research was carried out in the 2022/2023 academic year in class V of SD Negeri Genengsari 01 and SD Negeri Genengsari 02. This research method is anexperimental research with a pseudo-experimental research design. This study used two groups, namely SD Negeri

Genengsari 01 as an experimental group and SD Negeri Genengsari 02 as a control group. In the experimental group used model flipped learning while the control group used the contextual learning method.

The population of this study was all students of SD Negeri Genengsari. While the samples in this study were students V SD Negeri Genengsari 01 totaling 20 students and SD Negeri Genengsari 02 totaling 20 students. So that the entire sample in this study was 40 students. In this case, sampling is carried out using purposive sampling technique, which is a sampling technique carried out based on individual or researcher considerations. There are two variables used in this study, namely free variables and related variables. The free variable in this study is the use of flipped learning models with the help of Google Classroom. The bound variables in this study are learning outcomes and students' learning independence. The learning outcomes measured in this study are student learning outcomes in doing social studies questions, while student independence in this study is related to self-management, self-direction (self governance), and personal control.

The research instruments used are test questions and questionnaires. The tests used in this study were pretest and posttest questions in the form of multiple-choice questions. Multiple-choice questions are used to measure student learning outcomes, while questionnaires are used to measure students' learning independence ability. The number of questions in this study was 20 questions for multiple-choice questions and a learning independence questionnaire of 30 questions. Students' learning independence questionnaires are based on indicators, namely: 1) responsible, 2) confident, 3) initiative and creativity, 4) not relying on others, 5) persistent in trying, 6) being able to complete one's own time, 7) being steady in making your own decisions. The grid of test question instruments in this study is based on the Competency Achievement Indicators (GPA) presented in [Table 2](#).

Table 2. Preliminary Data on Learning Outcomes of Social Studies Subjects

Basic Competencies	Competency Achievement Indicators	Cognitive Level
Identifying forms of human interaction with the environment and their influence on the social, cultural, and economic development of Indonesian society	Understand the various forms of human interaction with the environment and their influence on the social, cultural, and economic development of Indonesian society.	C2
	Discovering various forms of human interaction with the environment and their influence on the social, cultural, and economic development of Indonesian society.	C3
	Analyze various forms of human interaction with the environment and their influence on the social, cultural, and economic development of Indonesian society.	C4

Before the test questions and independence questionnaires were used for research, the researchers first conducted validity and reliability tests carried out at SD Negeri Genengsari 03 as many as 22 students. It is used to obtain valid and reliable test questions. After the validity and reliability test, a prerequisite test is then carried out before hypothesis testing. The prerequisite tests used are normality tests and homogeneity tests. The normality test uses the Kolmogorov-Smirnov test with the aim of finding out whether the data is normally distributed. Meanwhile, the homogeneity test is used to find out whether the data is homogeneous. After the prerequisite test is carried out, a hypothesis test is carried out, namely by using the dependent t-test and the manova test.

3. RESULTS AND DISCUSSION

Result

Researchers conducted validity tests and reliability tests before conducting hypothesis tests. The validity and reliability tests were carried out at SD Negeri Genengsari 03 as many as 22 students. The validity test results showed that out of 20 pretest and posttest questions obtained, there were 15 valid questions. Then the researcher uses these 15 questions which will later be used for research. Furthermore, the researcher tested the reliability of the pretest and post-test questions, the reliability test results showed that r_{count} the pretest questions and posttest questions > 0.700 , namely for the pretest questions obtained $0.966 > 0.700$ and for the post test questions obtained $0.990 > 0.700$. This shows that both questions are reliable and can be used for research. Researchers conducted prerequisite tests before hypothesis tests were carried out using the t test, prerequisite tests in this study used normality tests and homogeneity tests. The following test results of normality values postes learning outcomes and critical thinking skills of students using the Kolmogorov-smirnov test are presented in Table 3.

Tabel 3. Normality Test

	Learning Outcomes		Independent
	Pretest	Posttest	Attitude
N	40	40	40
Std. Deviation	10.12	10.55	4.85
Test Statistics	0.133	0.131	0.099

Based on the normality test using the Kolmogorov-smirnov test presented in Table 3, it shows that the value of Sig. > 0.05 from the pretest and posttest of learning outcomes and independent attitudes. Thus, it can be concluded that the pretest and post test scores of learning outcomes as well as the ability of students' independent attitudes from each application of the normally distributed learning model.

The researcher then conducts a homogeneity test to find out whether the data obtained have the same variance or are homogeneous. The homogeneity test criterion in this study is if the sig value. > 0.05 , the data obtained from the research results are homogeneous. The following homogeneity test results are presented in Table 4.

Tabel 4. Homogeneity Test

	Levene Statistics	df1	df2	Sig.
Learning outcomes	0.002	1	38	0.961
Independent Attitude	0.518	1	38	0.476

Based on Table 4, it is known that the value of sig. The homogeneity test using Levene's test at a real level of 5% showed a sig value. 0.961 for learning outcomes and sig scores 0.790 for students' independent attitudes. The results showed that both sig values. > 0.05 , it can be concluded that the data obtained are homogeneous.

Researchers further tested the hypothesis using the t-test and the manova test. The t-test is used to determine the effectiveness of the flipped learning model with google classroom media on student learning out comes and learning independence, while the simple correlation test is used to determine the correlation of flipped learning learning models with google classroom media to results and independence student learning. Here are the results of the first hypothesis t test presented in Table 5.

Tabel 5. Hypothesis Test 1

	F	Sig.	t_{count}	t_{table}	Df	Sig. (2-tailed)
Learning outcomes	0.002	0.961	4.918	1.685	38	0.000

Table 5 shows that $t_{\text{counts}} > t_{\text{table}}$ is $4,918 > 1.685$. Thus then H_0 is rejected or H_a is accepted. Researchers can conclude that there are significant differences in student learning outcomes after applying the flipped learning model with the help of google classroom in conjunction with before applying. The results t test of the second hypothesis is presented in Table 6.

Tabel 6. Hypothesis Test 2

	F	Sig.	t_{count}	t_{table}	Df	Sig. (2-tailed)
Independent Attitude	0.518	0.476	6.972	1.685	38	0.000

The results of the t test presented in Table 6, see that $t_{\text{count}} > t_{\text{table}}$ is $6.972 > 1.685$. Then H_0 is rejected or H_a is accepted. Thus, it can be concluded that there is a significant difference in independent attitudes after applying the flipped learning model with the help of Google Classroom compared to before applying.

Researchers used the manova test (Multivariate Analysis of Variance) to test the third hypothesis, following which the results of the simple correlation test are presented in Table 7.

Tabel 7. Hypothesis Test 3

	Dependent Variable	Df	Mean Square	F	Sig.
Learning Model	Learning Outcomes	1	1689.87	24.184	0.000
	Independent Attitude	1	515.88	48.606	0.000

Based on Table 7, it can be seen that the significance value between learning outcomes and independent attitudes is $0.00 < 0.05$. Then it can be concluded that H_0 is rejected or H_a is accepted. Thus, there are significant differences in learning outcomes and independent attitudes after applying the flipped learning model with the help of Google Classroom compared to before applying.

Discussion

The Effect of Flipped Learning Models on Student Learning Outcomes

This study obtained the result that there was a significant difference in student learning outcomes after applying the flipped learning model with the help of google classroom in contrast to before applying. This is shown from the results of the hypothesis test obtained that $t_{\text{count}} > t_{\text{table}}$ is $4,918 > 1.685$ and the average score of student learning outcomes has increased from 70.67 increased to 83.67. This is in line with previous study that the state flipped classroom learning model is able to increase student learning outcomes from an average of 72.50 to 80.63 (Waryana, 2021). The use of flipped learning models on student learning outcomes has a greater influence than conventional learning models. Meanwhile, in the other research the flipped classroom learning model of completeness of student learning values has increased in the content of social studies lessons, namely from 68% to 95% of students who scored above the grade average (Ramadhani et al., 2019).

There are several factors that cause the learning outcomes of students who get flipped classroom learning to be better than other learning. This can be explained by paying attention to the stages contained in flipped learning. According to previous study on flipped learning the learning process behind its application (Septian et al., 2022). Material delivery activities in the classroom are diverted to do exercises and discussions. Meanwhile, homework activities in the form of question exercises that are usually done outside the classroom (home) are replaced by reading teaching materials and watching videos to understand the material for the upcoming meeting. In flipped classroom learning, the teacher gives the learner the freedom to consult the problems he finds while learning concepts independently (Marzuki et al., 2019; Siahaan et al., 2022).

The Influence of Flipped Learning Models on Students' Independent Attitudes

In this study, it was also found that there was a significant difference in independent attitudes after applying the flipped learning model with the help of Google Classroom compared before applying. Student independence in learning and doing questions can be said to be better through the flipped classroom learning model based on the conventional learning model. In line with the research obtained the conclusion that the learning independence of class VIII students using flipped learning patterns is on average in the high category (Thalib et al., 2022). Strengthened by research that found students show learning independence after obtaining flipped classroom learning, this is seen from the average response to student learning independence, which shows as much as 76.10% of students showed independence (Septian et al., 2022).

Flipped learning model requires students to be able to manage learning time both at home and at school (Muhajir & Syahrul, 2022; Widodo et al., 2021). Student learning independence in this study is based on indicators of being responsible, confident, initiative and creative, able to solve problems on their own, and persistent in trying. Based on the first indicator, namely being responsible, data was obtained that the average student had collected assignments on time and always studied at home without having to do homework. This is in line with previous study which states that students' independence in collecting assignments on time is in a good category if using a flipped classroom learning model (Hastuti, 2020). This research obtained the results that students' self-confidence has increased, namely students are independent in learning without being bullied by parents and doing assignments according to their abilities. There is a difference in confidence between participants who are taught using the flipped classroom learning model

The flipped learning model fosters a sense of initiative and creativity of students, this is shown by students having the initiative in learning the material to be taught and active ask about the unknown. In line with the research that student initiatives are shown by studying the material taught and compiling a summary of the learning material (Mirlanda et al., 2019). Students tend to check the final answer of the question given by the teacher as an indicator that the student has independence in being able to solve his own problems. Strengthened by the research which states that flipped learning makes students more careful in doing this problem as an indicator of student independence (Sa'adah & Sumartini, 2021).

The Effectiveness of the Google Classroom-Assisted Flipped Learning Model on Student Learning Outcomes and Independent Attitudes

The results of the manova test obtained significance values between learning outcomes and independent attitudes $0.000 < 0.05$ so that it was concluded that there were significant differences in learning outcomes and independent attitudes after applying The flipped learning model with the help of Google Classroom is compared to before applying. The results of this study are in line with the research that found there is a significant

difference between learning outcomes before and after learning using the flipped classroom model, and the flipped learning model (Hidayah & Sumbawati, 2019). It is said to be effective because it can improve self-regulated learning after learning. This can be seen from students becoming more independent and motivated to learn. Reinforced in the research that blended learning type flipped classroom is more effective against improving student learning outcomes and learning independence compared to convention learning (Nababan & Yugopuspito, 2022).

The effect of the effectiveness of the application of the Flipped Learning Model on improving learning outcomes and student independence in schools is observed to be supported by the stages of learning that have been carried out. With the initial steps of the teacher providing learning videos that have been creatively made by the teacher (Hamna et al., 2022; Mirlanda et al., 2019). The presence of this learning video is very interesting will help students in learning, with the advantage of being able to be watched repeatedly by students until students understand the material taught by the teacher through the mediation of the learning video provided. Student independence in watching learning videos is also an important part of improving students' understanding of the material taught so that in the end it makes it easier for students to complete their learning tasks. With the advancement of technology that can be used in the learning process, innovative and creative teacher teaching methods are needed, one of which is the flipped learning method as a strategy teaching that can be used to develop independence and student learning outcomes (Núñez et al., 2020; Sulistya, 2017).

This research is different from previous studies, in previous studies related to flipped learning on learning outcomes and student independence were limited to separate research. Based on the findings of this study it can be considered that the flipped learning model with the help of google classroom media can improve student learning outcomes and independence. This research can also be considered to further deepen the next research by replacing the subject matter with other material, the level of difficulty of the questions is more varied, replacing other variables, and a wider range of research areas, or the learning models and media used.

4. CONCLUSION

Based on the results and discussion in this study, conclusions can be drawn, namely: 1) there are significant differences in student learning outcomes after applying the flipped learning model with the help of Google Classroom pre-apply, 2) significant differences in student learning outcomes after applying the flipped learning model with the help of google classroom are contrasted with before applying, 3) There are significant differences in learning outcomes and independent attitudes after applying the flipped learning model with the help of Google Classroom compared to before applying.

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