The Effectiveness of the Flipped Classroom Learning Model on Students' Critical Thinking Skills in Civics Subjects

Erma Mawaryanto [1]*, Anindita Trinura Novitasari [1], Bagus Imam Faisal [1]

[1]Pancasila and Citizenship Education Study Program, STKIP PGRI Bangkalan. Bangkalan, Indonesia.

Abstract

It is not enough for learners to be knowledgeable, but they must also have critical thinking skills. The problem in the research comes from the lack of critical thinking skills of class VIII-A students in Civics subjects at UPTD SMP Negeri 1 Kamal. Students tend to be passive, lack of understanding of the material, lack of courage in expressing opinions or questions about the subject matter taught. This problem requires a flipped classroom learning model that aims to test the effectiveness of the learning model on students' critical thinking. This type of research uses exploratory with a quantitative approach. The data analysis shows that the application of the flipped classroom model has a positive effect on students' critical thinking skills. The results of hypothesis testing in this study also resulted in H1 being accepted and obtained a value of 6.265> 2.042, so the t-count > t-table hypothesis formulated in this study is accepted, which means that the flipped classroom learning model is effective on students' critical thinking skills. The results in this study show the effectiveness of this learning model is supported by the flipped classroom learning model in Civics subjects can create learning in the classroom more actively and can encourage students to think critically optimally. In addition, it helps teachers in learning in the classroom more effectively so that it facilitates the process of evaluating learning on students' critical thinking skills and learning outcomes.

Keywords: flipped classroom; critical thinking; civics subject.

INTRODUCTION

Entering the 21st century, educators and students must have the ability to learn and teach both soft skills and hard skills. These abilities need to be possessed in this day and age, because human lifestyles are starting to change quite a lot, but not with the world of education in Indonesia due to the development and advancement of science, technology, information and communication. The characteristics that occur in the 21st century include the increasingly interconnected and synergized world of science with one another (Maolidah, Ruhimat, & Dewi, 2017). The digital revolution has had an important influence in education as in many other fields. One of them causes radical changes in the field of education, such as in terms of teaching and learning approaches. Today's learners have very different characteristics compared to the past. Therefore, it is quite difficult to attract students' interest and curiosity (Susanti, 2019).

In the rapid development of technology and easily accessible information, critical thinking skills must be possessed by each individual so that they do not easily believe in information that is not necessarily the truth and do not rush to make decisions in taking action (Hidayanti et al., 2016). So, students' critical thinking skills in Indonesia must be developed, because critical thinking skills are very important in the 21st century, one of which is to determine success in learning activities. Critical thinking consists of cognitive abilities and dispositions. Dispositions can be seen as attitudes, habits, curiosity, flexibility, tendency to seek reasons, desire and willingness to seek diverse points of view (Safrida et al., 2018). Learners

are not only knowledgeable enough, but must also have critical thinking skills including basic clarification, decision-making, inferring, providing further explanation, estimation and integration, as well as additional abilities (Nuryanti et al., 2018). But in reality there are still many students who lack critical thinking skills in learning.

Problems regarding students' critical thinking skills are still low, according to the results of observations found in class VIII-A students at UPTD SMP Negeri 1 Kamal. Students tend to be passive, lack of understanding of the material, lack of courage in expressing opinions or questions about the subject matter taught. These conditions result in less than optimal student learning outcomes and the development of students' thinking skills, especially in critical thinking. From these problems, it shows that there are challenges for educators in Indonesia to improve problem solving and critical thinking skills. According to Fisher (Egok, 2016) Critical thinking is a skillful and active interpretation and evaluation of observation and communication, information and argumentation. In measuring critical thinking skills using the description of indicators consisting of explanation, interpretation, analysis, evaluation, inference, and self-regulation (Agnafia, 2019). The indicator is used as a questionnaire instrument in measuring critical thinking. According to Sapriya (Priantari et al., 2019) The purpose of critical thinking is to test an opinion or idea, including consideration or thinking based on the opinion proposed.

The success of education depends on the successful implementation of learning in the classroom, while the implementation of teaching and learning activities depends on the educator. This is because educators are part of the important role in the learning process. Therefore, educators must also be able to create learning that is able to train students' critical thinking skills to find learning information independently and actively create cognitive structures in students (Patonah, 2014). Educators must be more creative in utilizing technological advances at this time, such as making learning models appropriate and efficient. A learning model is a plan or pattern that can be used to form a curriculum (long-term learning plan), design learning materials, and guide learning in the classroom or others (Mirdad, 2020).

Educators need to determine and prepare which model is in accordance with the characteristics of students and learning objectives. One that utilizes technology to be used as a learning model that can motivate student learning and students' critical thinking skills is the Flipped Classroom learning model. The learning strategy using the flipped classroom learning model is to utilize technology to obtain sources of knowledge and information that can be accessed easily by students in online or offline form (Rokhmania & Kustijono, 2017). Flipped Classroom is the process of students studying the subject matter at home before class starts and teaching and learning activities in class in the form of doing assignments, discussing material or problems that students do not understand (Yulierti, 2015). In previous research conducted by (Maolidah, Ruhimat, & Dewi, 2017), revealed that the application of the flipped classroom learning model can improve students' critical thinking skills in science subjects. Based on previous research that has been explained, this research is different from the previous one on the subjects tested. The results showed that flipped classroom learning is effectively used to improve students' critical thinking skills in class VIII science subjects with motion material in plants at the UPI Bandung Pilot Laboratory Junior High School. If in the previous study the application of the flipped classroom model was tested in science subjects, but in this study researchers used Civics subjects in the application of the flipped classroom model. In this study, researchers used this Civics subject because Civics is oriented towards shaping the character of citizens who are able to understand and carry out their rights and obligations to become good, intelligent, and skilled citizens in accordance with the mandate contained in Pancasila and the 1945 Constitution of the Republic of Indonesia. This needs to be formed in students' critical thinking skills and understanding of material that is broad and needs rational thinking.

The use of technology is a fundamental aspect that needs to be considered by teachers in the current era, but it is not everything, technology is a tool that can be utilized to create meaningful experiences in the teaching and learning process. This can be done by implementing the flipped classroom concept (Hastuti, 2020). According Bergmann and Sams (Maolidah, Ruhimat, & Dewi, 2017) The concept of the flipped classroom learning model is that students at home do what is done in class, namely learning by understanding the material that has been given by the teacher, and in class students do what students usually do at home, namely working on problems and solving problems. The Flipped Classroom learning model utilizes learning media that can be accessed online by students. Indicators in the application of this flipped classroom learning model are watching videos, asking questions, discussing, and doing assignments (Muhammad et al., 2019). This model is not just about learning using learning videos, but rather emphasizes how to utilize time in the classroom so that learning is of higher quality, student learning outcomes, and can even improve students' critical thinking skills. So in its implementation, collaboration using a medium is needed to maximize this learning model (Chrismawati & Septiana, 2021). Through this learning video, students can study the teaching materials independently at home. During face-to-face learning at school, teachers facilitate and guide students to deepen the learning concepts that students have learned at home by intensifying the provision of problem-based exercises and project work (Kurniawati et al., 2019). Thus, Flipped Classroom is a model that combines online learning at home and face-to-face in the classroom with the integration of technology, which aims to make it easier and effective for students to understand Civics subject matter so that it can improve students' critical thinking skills.

METHODS

The research was conducted at UPTD SMP Negeri 1 Kamal. The research subjects were students of class VIII-A with a total of 32 students. The type of research used is exploratory. This type of research aims to explore broadly about symptoms or events that affect the Flipped Classroom variable (X) and the Critical Thinking variable (Y) (Rakhmawati et al., 2016). The research approach used in this study is quantitative. Quantitative research can be understood as a research method whose measurements are in the form of numbers (Djollong, 2014), in data collection techniques in the field measured by statistical techniques.

In this study, researchers used a questionnaire sheet as a research instrument that used product-moment correlation analysis & reliability test using Cronbach alpha. Researchers also used an observation sheet as a supporting instrument which aims to enable researchers to measure how students and teachers behave when interacting in the classroom, and to observe how social skills and abilities students have when learning takes place. Data processing on the questionnaire instrument was carried out using a Likert scale. Likert scale with 4 even choice categories, the choices of Strongly Agree, Agree, Disagree, and Strongly Disagree. The type of statement used in the Likert scale is a positive statement. In this research data analysis using statistical analysis, namely normality test, simple linear regression with t-test, and determination coefficient test (R^2) with SPSS version 29 application.

RESULTS AND DISCUSSION

This study aims to test the effectiveness of the Flipped Classroom learning model on students' critical thinking skills in Civics subjects. In order for this goal to be achieved, there are several stages in this research. First, the preparation stage. At this stage the researcher makes preparations before collecting data in the classroom. Among them are preparing or preparing instruments and research permits in taking data at the intended agency. Second, the implementation stage. At this stage the researchers carried out learning activities with the

Flipped Classroom model in class VIII-A which would later be tested for effectiveness. In the learning process to implement the flipped classroom learning model, researchers use teaching modules and Learner Worksheets / LKPD as a complete learning device so that learning is carried out systematically. LKPD contains questions or case studies that will be discussed by the group according to the subject matter. This can be used as an observation to find out the activeness of students in giving opinions, arguing, and researchers can find out the critical thinking abilities of class VIII-A students. The instrument used in these activities is an observation sheet, which has been validated by expert lecturers.

In the questionnaire sheet instrument in which there are statements according to the indicators of the flipped classroom model and critical thinking, given to students after the learning process in class is complete. The results of the data from the questionnaire sheet, then the researcher will analyze the data using the SPSS version 29 application, as well as in testing the validity and reliability of the data. According to Sugiono (Al Hakim et al., 2021) The validity test is one of the steps taken to test the contents of an instrument, the purpose of the validity test is to measure the accuracy of the instrument to be used in a research study. The validity test is carried out calculating the correlation between the score of each statement and the total score. The following are the results of the validity test output of the two variables.

Table 1. Validity Test of Flipped Classroom Variable

Statement	r-count	r-table	Description
P1	0,748	0,349	Valid
P2	0,677	0,349	Valid
P3	0,685	0,349	Valid
P4	0,614	0,349	Valid
P5	0,629	0,349	Valid
P6	0,707	0,349	Valid
P7	0,707	0,349	Valid
P8	0,630	0,349	Valid
P9	0,537	0,349	Valid

Table 2. Critical Thinking Variable Validity Test

Statement	r-count	r-table	Description
P10	0,608	0,349	Valid
P11	0,688	0,349	Valid
P12	0,544	0,349	Valid
P13	0,677	0,349	Valid
P14	0,524	0,349	Valid
P15	0,774	0,349	Valid
P16	0,796	0,349	Valid
P17	0,760	0,349	Valid
P18	0,617	0,349	Valid
P19	0,510	0,349	Valid
P20	0,642	0,349	Valid

From the output results of the validity test in the table above, it shows that in accordance with the provisions, namely r-count> r-table = 0.349. Thus, the Flipped Classroom and Critical Thinking variable statements in the questionnaire are declared valid.

Reliability test is an index test that shows the extent to which a measuring device can be trusted or relied upon (Amanda et al., 2019) In the reliability test, it is said to be reliable if the Cronbach's alpha value is greater than 0.60. The results of the reliability test of the two variables resulted in a Cronbach alpha value> 0.60, so it is said to be reliable. The results can be seen as follows.

Table 3. Reliability test

Variable	Cronbach Alpha	Description
Flipped Classrom	0,835	Reliabel
Critical Thinking	0,861	Reliabel

Third, the data analysis stage. At this stage begins with a normality test using the Shapiro-Wilk formula. The formula was used, because the number of samples studied was small, namely 32 students. The decision criteria are if Sig. > 0.05 then the data on the variable can be said to be normally distributed, and vice versa. The output results of the normality test on SPSS Version 29 are as follows.

Table 4. Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Flipped Classroom	,113	32	,200[*]	,976	32	,674
Critical Thinking	,115	32	,200[*]	,961	32	,288

Based on the results of the normality test above on the Flipped Classrom variable, the Sig value is 0.674> 0.05. So according to the decision rules, namely if Sig. > 0.05 then the data on the Flipped Classroom variable is normally distributed. While on the Critical Thinking variable the Sig. value is 0.288> 0.05. So, according to the decision rules, if Sig. > 0.05 then the data on the Critical Thinking variable is normally distributed.

Furthermore, the simple linear regression test aims to predict the positive or negative effect between the independent variable (Flipped Classroom) and the dependent variable (Critical Thinking). The following are the results of simple linear regression with SPSS.

Table 5. Simple Linear Regression Test

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	5,785	4,276		1,353	,186
Flipped Classroom	,942	,150	,753	6,265	<,001
a. Dependent Variable: Berpikir Kritis					

From the table above, the regression equation model can be formulated as follows:

$$Y = \alpha + bX$$
$$Y = 5{,}785\ (\alpha) + 0{,}942\ (X) \quad ....(1)$$

The constant of 5.785 means that the consistent value of critical thinking variable is 5.785. The regression coefficient of the flipped classroom variable of 0.942 states that every 1% increase in the value of the flipped classroom, the value of critical thinking increases by 0.942.

The regression coefficient is positive, so it can be said that the direction of the influence of the flipped classroom variable on the critical thinking variable is positive.

In the t-test with a confidence level of 95% (a = 0.05), and the t-table value with df = 30 is 2.042. In the SPSS output results Sig value, in accordance with the decision rules Sig value <0.05, namely 0.001 <0.05, thus stating that H1 is accepted. Also seen from the results on SPSS, the value of 6.265> 2.042 states in accordance with the decision criteria If t-count> t-table, then H0 is rejected and H1 is accepted. Based on these results, it shows that there is an influence between flipped classroom variables on critical thinking.

The coefficient of determination (R2) aims to measure how far the model's ability to apply variations in the dependent variable (emil salim, 2019). For the determinant test (R2) based on SPSS output, a value of 0.567 is obtained, which means that the effect of the flipped classroom variable on critical thinking (Partial) is 56.7% with the remaining 43.3% influenced by other variables not included in this study. The results of the determinant test output in the table are as follows.

Table 6. Determinant Test (R2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,753[a]	,567	,552	3,56992

This research was conducted by applying the flipped classroom learning model in class VIII-A in Civics subjects. Where the indicators used in the application of the flipped classroom learning model include watching videos, asking questions, discussing, and giving assignments (Muhammad et al., 2019). In accordance with these indicators, the discussion of the application of the flipped classroom is first, students first watch the learning video at home before face-to-face learning in class. Students listen to the subject matter in the learning video which will be discussed the next day. Second, asking questions. In this indicator, activities are carried out during class learning. Students can ask questions to friends or to the teacher if there is material that is not understood in the learning video. Students seemed enthusiastic in asking both among friends and to the teacher. Third, the teacher forms groups of 5 to 6 people per group for discussion activities. Students are given a Learner Worksheet (LKPD) which contains questions about the subject matter with the aim that students can discuss these questions, provide rebuttals or opinions with their group mates. This can encourage students to be more active in learning so that it affects their critical thinking skills. In the discussion process, students are enthusiastic in learning from analyzing questions and discussions on LKPD, asking questions, and providing solutions or providing the best answers. The discussion process continues after students have solved the questions on the worksheets that have been given by presenting the results briefly in front of the class. When groups that do not come forward, they can refute or give opinions to groups that come forward regarding the results that have been presented. That way learning activities in the classroom are more active and lively. In accordance with the theory of social constructivism (collaborative learning), in the learning process students must maximize interaction with other friends such as by forming a discussion group (Savitri & Meilana, 2022).

Successful learning activities are interactions between students and teachers in an active and lively learning atmosphere (Bariroh & Setiawan, 2021). Students listen and follow the learning activities in an orderly manner. Fourth, giving assignments. After the discussion, the teacher gives a sample problem in the form of a task to determine students' understanding of the material that has been learned by seeing the achievement of grades according to KKM. After the researchers applied the flipped classroom model in this study, judging from the results of data analysis and the learning process in class with the flipped classroom learning model, it had

an effect on students' critical thinking skills. This learning model makes students confident, more active and critical in responding to opinions and questions from teachers or fellow friends when learning takes place. Because students have previously studied the material before class starts, so it will be easier to do the assignments given. The flexibility of students in studying learning materials before class starts and there is plenty of time to discuss with teachers and friends. . So the application of the flipped classroom model is effective on students' critical thinking skills as in the research conducted by Irna (Irna Septiani Maolidah et al., 2017). In addition, there are other things that determine the success of this flipped classroom such as teaching approaches, teachers also need to determine teaching methods that support learning activities in the classroom.

Teaching methods that teachers often use in learning Civics include discussions and presentations, lectures, demonstrations, exercises accompanied by discussions, and giving home assignments (Syajili & Agus, 2021). The form of assignments is not only given in the form of handwriting on the blackboard, but they are instructed to find a complete discussion of the material to solve questions that are quite difficult through the internet. The application of the flipped classroom model in the research also has a positive impact on educational goals and produces effective and interactive learning, it is very helpful for teachers in managing the learning process both from learning methods and learning media. Teachers can also improve and hone their creativity in making learning videos. In this learning model, it makes it easier for teachers to evaluate students' critical thinking skills. Teachers can assess students' activeness in speaking, the way students think in responding to other people's opinions, and student participation in following the learning until the end. With this learning strategy, it is able to measure the evaluation of student learning outcomes which can be categorized in curriculum evaluation, by developing effective and creative learning media on critical thinking skills and being able to improve student learning outcomes (Syajili & Agus, 2021)

CONCLUSION

Based on the results of this study, it can be concluded that the application of the flipped classroom learning model is effective on the critical thinking skills of class VIII-A students at UPTD SMP Negeri 1 Kamal in Civics subjects. The effectiveness of this learning model is supported by the flipped classroom learning model in Civics subjects can create learning in the classroom more actively and can encourage students to think critically optimally. In addition, it helps teachers in learning in the classroom more effectively so that it facilitates the process of evaluating learning on students' critical thinking skills and learning outcomes. With the results of this study, the application of the flipped classroom learning model in various schools is highly recommended. The flipped classroom learning model needs to be trained and disseminated about its benefits to educators, so that they do not feel unfamiliar with this learning model.

REFERENCES

Agnafia, D. N. (2019). Analisis Kemampuan Berpikir Kritis Siswa Dalam Pembelajaran Biologi. *Florea : Jurnal Biologi dan Pembelajarannya, 6*(1), 45-63.

Al Hakim, R., Mustika, I., & Yuliani, W. (2021). Validitas Dan Raliabilitas Angket Motivasi Berprestasi. *FOKUS (Kajian Bimbingan & Konseling Dalam Pendidikan)*, *4*(4), 263. https://doi.org/10.22460/fokus.v4i4.7249

Amanda, L., Yanuar, F., & Devianto, D. (2019). Uji Validitas Dan Reliabilitas Tingkat Partisipasi Politik Masyarakat Kota Padang. *Jurnal Matematika UNAND*, *VIII*(1), 179–188.

Bariroh, V., & Setiawan, A. C. (2021). Evaluasi Hasil Belajar Penerapan Flipped Learning Untuk Meningkatkan Pemahaman Peserta Didik Dalam Pembelajaran. *Jurnal Inspirasi Manajemen Pendidikan*, 1245-1256.

Chrismawati, M., & Septiana, I. (2021). Peningkatan Hasil Belajar Melalui Model Flipped Classroom Berbantuan Media Power Point Dan Audio Visual Di Sekolah Dasar. *EDUKATIF : Jurnal Ilmu Pendidikan*, *3*(5), 1928–1934. https://doi.org/10.31004/edukatif.v3i5.695

Djollong, F. A. (2014). Tehnik Pelaksanaan Penelitian Kuantitatif. *ISTIQRA'*, *2*, 86–100.

Hastuti, D. W. (2020). Membangun Motivasi dan Kemandirian Peserta Didik Berkebutuhan Khusus Melalui Flipped Classroom di Masa New Normal Covid-19. *Prosiding Webinar Magister Pendidikan Nonformal UNG*, 181–192.

Hidayanti, D., As'ari, A. R., & Daniel, T. (2016). *Konferensi Nasional Penelitian Matematika dan Pembelajarannya (KNPMP I) 276 Universitas Muhammadiyah Surakarta*. *12*.

Kurniawati, M., Santanapurba, H., & Kusumawati, E. (2019). Penerapan Blended Learning Menggunakan Model Flipped Classroom Berbantuan Google Classroom Dalam Pembelajaran Matematika SMP. *EDU-MAT: Jurnal Pendidikan Matematika*, *7*(1). https://doi.org/10.20527/edumat.v7i1.6827

Maolidah, I. S., Ruhimat, T., & Dewi, L. (2017). Efektivitas Penerapan Model Pembelajaran Flipped Classroom Pada Peningkatan Kemampuan Berpikir Kritis Siswa. *EDUTCEHNOLOGIA*, *3*(2), 160–170.

Mirdad, J. (2020). Model-Model Pembelajaran (Empat Rumpun Model Pembelajaran). *Jurnal Pendidikan Dan Sosial Islam*, *2*, 14–23.

Muhammad, O., Harahap, S., Rati, S., & Nasution, A. (2019). *Penerapan Flipped Classroom Berbasis Youtube Di Prodi Matematika Untuk Meningkatkan Kemampuan Pemecahan Masalah Mahasiswa*. https://www.youtube.co

Nuryanti, L., Zubaidah, S., & Diantoro, M. (2018). *Analisis Kemampuan Berpikir Kritis Siswa SMP*. http://journal.um.ac.id/index.php/jptpp/

Patonah, S. (2014). Elemen Bernalar Tujuan Pada Pembelajaran IPA Melalui Pendekatan Metakognitif Siswa SMP. *JPII, 3*(2). http://journal.unnes.ac.id/nju/index.php/jpii

Priantari, I., Muhammadiyah, S., Pendidikan Biologi, P., & Keguruan dan Ilmu Pendidikan Jember, F. U. (2019). Discovery Learning Meningkatkan Kemampuan Berpikir Kritis Siswa Discovery Learning Enhancing Student's Critical Thinking. *BIOMA: Jurnal Biologi Dan Pembelajaran Biologi*, *4*(1), 31–44. https://doi.org/10.32528/bioma.v4i1.2649

Rakhmawati, R., Raden, M. I., & Lampung, I. (2016). Aktivitas Matematika Berbasis Budaya pada Masyarakat Lampung. *Jurnal Pendidikan Matematika, 7*(2).

Rokhmania, F. T., & Kustijono, D. R. (2017). *Seminar Nasional Fisika (SNF) 2017 Efektivitas penggunaan E-Modul berbasis flipped classroom untuk melatih keterampilan berpikir kritis*. (Universitas Negeri Surabaya)

Safrida, L. N., Ambarwati, R., Adawiyah, R., Ermita, D., & Albirri, R. (2018). Analisis Kemampuan Berpikir Kritis Mahasiswa Program Studi Pendidikan Matematika. *EDU-MAT Jurnal Pendidikan Matematika*, *10*(1).

Savitri, O., & Meilana, S. F. (2022). Pengaruh Model Pembelajaran Flipped Classroom terhadap Pemahaman Konsep IPA Siswa Sekolah Dasar. *Jurnal Basicedu*, 7242 - 7249.

Egok, A. S. (2016). Kemampuan Berpikir Kritis Dan Kemandirian Belajar Dengan Hasil Belajar Matematika. *Jurnal Pendidikan Dasar*, *7*(1), 185-198.

Susanti, L. H. P. DA. (2019). Flipped Classroom Sebagai Strategi Pembelajaran Pada Era Digital. *Health & Medical Journal*, *1*, 54–58.

Syajili, A., & A. M. (2021). Efektivitas Model Pembelajaran Flipped Classroom Dalam Meningkatkan Kemampuan Matemis Peserta Didik Pada Masa Pandemi Covid-19. *Jurnal Pendidikan Indonesia*, 1639-1650.

Yulierti, F. (2015). *Pengaruh Model Flipped Classroom Dan Discovery Learning Terhadap Prestasi Belajar Matematika Ditinjau Dari Kemandirian Belajar Siswa Kelas VII SMP Negeri Di Kabupaten Sragen*. (Universitas Sebelas Maret).