



THE USE OF THE FLIPPED CLASSROOM METHOD TO IMPROVE STUDENT LEARNING INDEPENDENCE AND LEARNING OUTCOMES

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Abstract

The purpose of this study can determine the increase in the use of the flipped classroom learning method to increase learning independence and student learning outcomes. This research was conducted at SMP Muhammadiyah 1 Gresik on students of grade VII B. Flipped classroom is a learning system by reversing activities that are usually carried out in the classroom to be carried out anywhere, and vice versa when learning at home can be done in the classroom. This research is a classroom action research consisting of several stages: pre-cycle, cycle I, and cycle II through the following process; (1) the teacher plans the lesson, (2) the teacher uses the flipped classroom learning model as in the first cycle by reviewing the material that has been delivered before proceeding to the new material, (3) the teacher gives instructions to the students to form a group, (4) the teacher uses the flipped classroom learning model to provide practice questions, and (5) the teacher reflects. The results of the study show that the use of the flipped classroom learning method has increased by 85% from the previous data of only 60%. This shows that the use of the flipped classroom learning method can significantly increase the completeness of student learning outcomes in science subjects.

Keywords: flipped classroom, independence, improve student learning outcomes

INTRODUCTION

Education is a learning process that allows students to develop religious spiritual strength, self-confidence, intelligence, noble character, active potential and the ability to benefit themselves and the surrounding environment (Situmeang et al., 2021). In the current era of globalization, education is very important for the progress of the country, so the government pays great attention to its continuity in order to prepare students who are desired to be competitive in the national and international arena (Hamdina et al., 2024).

Based on Law Number 20 of 2003 which contains the national education system, it is stated that National Education is to develop skills, form a valuable national character and civilization, and educate national life, become a person who believes in and fears God Almighty. The characters contained in the item of the law imply that in addition to cognitive abilities, students are expected to be able to have other abilities, namely; affective ability, and psychomotor ability, both of which are continuous from cognitive learning outcomes (understanding and knowledge) (Damayanti Hutapea & Sitinjak, 2022).

The role of a teacher in the world of education is not only responsible for regulating, directing, and guiding students in providing information and science and encouraging them to learn about nature systematically. A teacher is also the key to the success of the vision and mission of the learning system (Gowder, 2016). Science subjects are expected to provide provisions for students to become independent and cooperate with others and the natural environment. Furthermore, science subjects in junior high school grade VII can be interpreted as a class that emphasizes the problems of natural phenomena and their application in daily life, as well as problems related to productive abilities through the expansion of abstract concepts (Aswat & Syamsurijal, 2019).

In this era of globalization, some schools still use learning in a monotonous learning format. Conventional learning models are considered less successful in supporting the face-to-face learning process (Dahniar, 2022). Here the teacher is more dominant in the learning system, so that students do not understand what is conveyed by the teacher. Researchers know from experience that face-to-face learning with conventional models is not very effective and many students feel bored

quickly. Therefore, researchers try to use the flipped classroom learning model to update the learning model used (Ochoa & Martinez, 2016).

The use of the flipped classroom method has its own advantages when supported by technological advances (Eko Murtiasih, 2022). The flipped classroom learning model aims to make students think critically, collaborate, communicate and work creatively and innovatively. Flipped classroom is a learning model that has a positive impact on student understanding. Technological advances can take advantage of technology in the form of education-based applications (Darmawati, 2022). In the flipped classroom, there are 3 stages, namely: 1) Independent learning activities at home, 2) Face-to-face learning activities at school with teachers, 3) Evaluation and follow-up actions (Darmawati, 2022)

Based on the observations made at the beginning, at SMP Muhammadiyah Gresik 1 in class VII B students at the time of learning the teacher still uses the traditional learning method or lectures, as a result many students still ignore learning if they use the lecture method, some have their own activities, some easily feel bored, enjoy playing with their friends and some play mobile phones during learning. This has an impact on learning less effectively and lessons cannot be absorbed by students optimally by students. Insufficient absorption of lessons makes students incomplete their learning outcomes.

In today's era, many students already have personal mobile phones, one of which is students at SMP Muhammadiyah 1 Gresik. The use of mobile phones is not only for games and social media, but also for other activities such as studying. In addition, the use of gadgets in learning in order to adjust the needs of the millennial generation in carrying out their activities (Sonia, 2022). With the use of gadgets or mobile phones, it can be a tool for teachers to apply the flipped classroom method. Researchers are interested in changing the learning method from the traditional method or lecture to the flipped classroom method, by using the flipped classroom method can be a solution to improve the completeness of student learning outcomes and solve the problems that teachers are facing during learning at SMP Muhammadiyah 1 Gresik.

METHOD

The method used in this study is classroom action research (PTK). This class action research consists of two cycles. There are four components in the implementation of both cycles, namely planning, action, observation, and reflection. This research was conducted at SMP Muhammadiyah 1 Gresik. The subject of this study is 25 students in grade VII B SMP Muhammadiyah 1 Gresik. The data collection method is through technical tests, observations, and documentation. The test aims to obtain data on student learning outcomes before learning, during the research process, and after learning is carried out. The observation used by the researcher is systematic observation, this observation is carried out by the researcher in accordance with the procedure. The purpose of observation is to obtain accurate data. The test is used to measure students' abilities in science subjects in the chapter on the classification of living things and the classification of materials and their changes. The test results were analyzed to determine the mastery of the material after the application of the flipped classroom learning method. The following is a scheme of classroom action research design according to Stephen Kemmis and Robyn McTaggart :

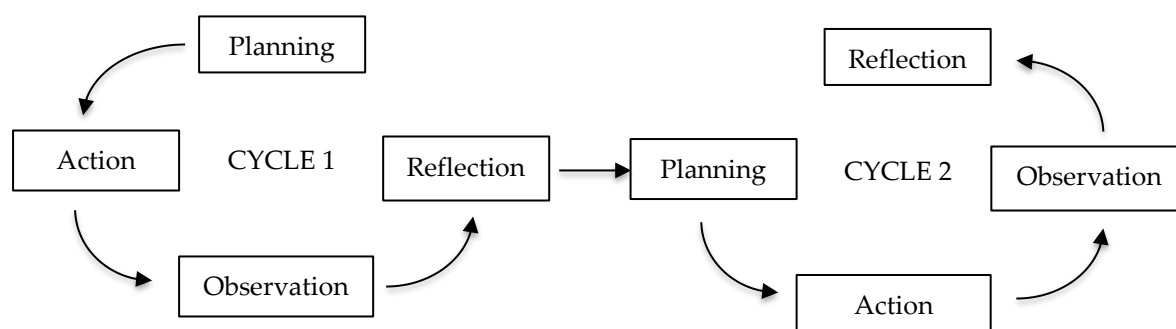


Figure 1. Scheme of Classroom Action Research Design by Stephen Kemmis and Robyn McTaggart

In the cycle 1 through the following process; (1) the teacher plans the lesson, researchers prepare and make learning tools such as: syllabus, learning implementation plans (RPP), learning media and assessment instruments, which will be used in the learning process. After preparing all learning tools at the planning stage, the next stage namely action. at this stage the teacher uses the flipped classroom learning model as in the first cycle by reviewing the material that has been delivered before proceeding to the new material, the teacher gives instructions to the students to form a group, the teacher uses the flipped classroom learning model to provide practice questions. After that, at the observation stage, researchers observed students when Flipped Classroom is implemented. At the reflection stage, researchers conducted questions and answers to students about their interest and understanding.

In cycle 2, during the planning stage, the researcher prepares the learning developed in cycle 1 for implementation in classroom activities. In the action stage, the use of flipped classrooms is introduced to students to facilitate the learning process. During the observation phase, the researcher closely monitored students' engagement and interaction with the flipped classroom during classroom activities. In the reflection stage, questionnaires were distributed to collect student feedback and suggestions regarding the use of learning media. The reflection findings were then analyzed to assess the effectiveness of flipped classroom and improve its use in future learning activities

The steps taken begin with determining indicators, compiling test question items according to indicators, conducting tests, collecting data from test results, recording results in the form of scores or categories of material mastery, analyzing test results, comparing test results with predetermined learning objectives and evaluation and conclusions.

FINDINGS AND DISCUSSION

The results of this study describe cycle 1 as pre-cycle and the use of flipped classroom as cycle 1 and cycle 2. The results of the learning observation from cycle 1 were then tested and improvements were made to improve learning outcomes in cycle 2 learning.

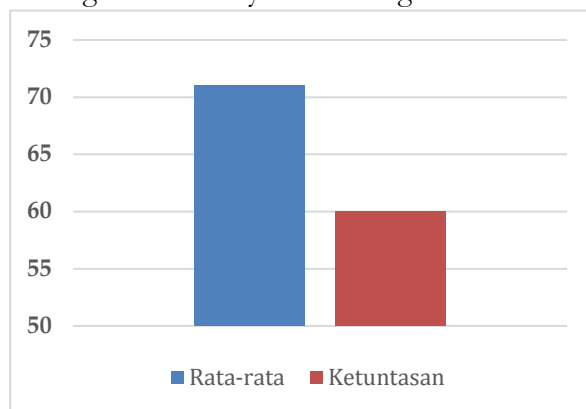
Before the implementation of learning in cycle I, the initial stage that must be done is pre-cycle learning. This pre-cycle learning aims to determine the initial condition of students' understanding of the material to be taught and the effectiveness of the learning methods that have been used previously. The result of pre-cycle learning consisting of a total of 25 students who reach school standard scores or KKM amounting to 10 students (60.25%). And students whose grades do not meet school standards or KKM are 15 students. While the average class score was (71.82%) The method used in this pre-cycle learning was the conventional method or lecture.

In the pre-cycle stage, the learning method used by teachers is the conventional method or lecture. In this method, the teacher plays the role of the main center in learning, where he delivers the material orally, while the student plays more of a listener role. Occasionally, teachers ask students to take note of the key points of the material explained. However, this pattern of learning causes the dominance of learning activities to be in the teacher, while students are less active in the learning process. As a result, many students seem to be less enthusiastic in participating in learning and tend to lose focus or concentration on the explanations delivered by the teacher. This shows that the lecture method is less effective in increasing students' understanding and involvement in the learning process, so innovations are needed in learning

strategies that are more interactive and actively involve students.

After learning, a test was carried out to see the effectiveness of student learning outcomes with the lecture method used by the teacher. The following is a graph of pre-cyclical learning results.

Figure 1. Pre-Cycle Learning Outcomes

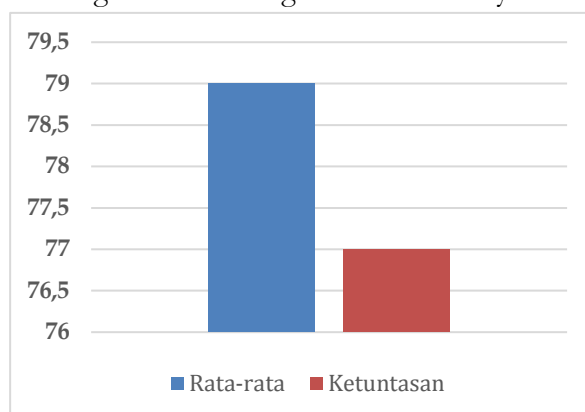


The learning system is carried out in accordance with the guidelines given by the school, namely using the Teaching Module with 2x meetings. The basic competency conveyed in the first cycle is the classification of living creatures. Furthermore, the delivery of material uses the flipped classroom method. The steps of the flipped classroom learning system are 1). Teachers give students the opportunity to learn the next learning material 2). Furthermore, the teacher forms a group of students consisting of 3-4 children and gathers in their respective groups 3). Teachers provide facilities for students such as internet connections, textbooks, and so on, besides that teachers become facilitators 4). The teacher asks a random question to one of the students to measure the student's ability, whether the material that has been delivered by the student can understand or digest the subject matter.

Based on the results of the observations that have been made, teachers have implemented a good learning system in the classroom. One of the methods used is *Flipped Classroom*, which is a learning model that emphasizes independent learning outside the classroom before face-to-face sessions take place. In this method, students are first given material to study independently through various sources, such as learning videos, modules, or other reading materials. Then, in face-to-face sessions, the time in class is more focused on discussions, questions and answers, and more in-depth problem solving.

When teachers use the flipped classroom learning method, there are still students who do not pay attention, 6 students who still neglect learning and do not participate in learning effectively. After reflection, there was an increase in student learning outcomes in the first cycle, the average student learning outcomes in the first cycle were (78.80%), 18 students achieved the school standard score or KKM (77.30%) and 7 students did not reach the student standard score or KKM.

Figure 2. Learning Outcomes of Cycle I



After the use of the flipped classroom learning method in the first cycle stage, only 18 students obtained better learning results, and there were still 7 students who were less active during the learning process. According to (Rachma Dianty et al., 2023) One of the factors that cause students to be less active is; 1) students do not follow the directions according to the teacher, 2) poor cooperation between groups, 3) inadequate facilities, 5) have their own activities, 4) lack of teacher approach to students. Very few students are able to understand the material and find solutions to every problem given to each group.

Some of the obstacles experienced in the learning mentioned above, teachers develop planning by reconstructing interesting learning media to be applied in cycle 2. In addition, improvements were also made in the management of learning time and making technology more effective to achieve learning goals.

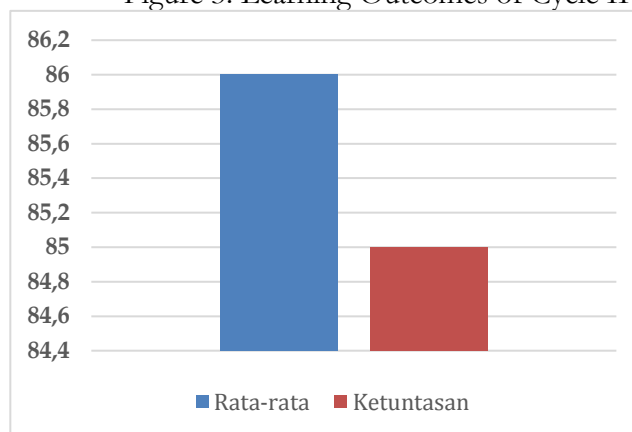
The use of Flipped Classroom in cycle I is not in accordance with the learning objectives. The use of the Flipped Classroom method is expected to be able to improve students' understanding according to their own abilities, be able to use time limitations and utilize technology to learn independently (Latifah & Rindaningsih, 2023). Thus, the implementation of cycle II is carried out so that the problems of the teaching and learning process can be found solutions.

In Cycle II, some students who are not able to understand the material and find solutions to every problem given to each group are distributed to the groups that have been divided.. During the implementation of cycle II, learning activities will be carried out through the following process; 1) The teacher uses the flipped classroom learning model as in the first cycle and then briefly reviews the material that has been delivered before moving on to the new material. The teacher gives instructions to form each group and the number of group members is 4 students in each group with material classification material and its changes, 2) the teacher uses the flipped classroom learning model to provide practice questions.

Based on observation activities, the implementation of cycle II learning in general shows an increase in student learning outcomes, with an indicator of the number of students being able to answer questions at cycle II meetings correctly. Some students participated in the discussion and provided active comments. Because this flipped classroom method is a method that requires students to learn first so that students' curiosity is higher and makes students active. (Susanti & Hamama Pitra, 2019)

An increase in learning outcomes shown by student activeness during the learning process developed by teachers in cycle 2. This completeness is evidenced by the reduction of students who are unable to complete the evaluation carried out after the learning process. In addition, solving the questions shows that the student understands the subject matter (Savitri & Meilana, 2022), This is an indoctrination of the results of the Cycle II assessment on improving student learning outcomes. In the second cycle, the average student learning achievement (86.37%), out of 25 students in the class, 22 students (85.28%) achieved the standard value of KKM while 3 students (70.71%) had not achieved it. The percentage of learning outcomes is shown in the following figure:

Figure 3. Learning Outcomes of Cycle II



The results of the research in cycle 1 on the use of flipped classrooms in learning activities show the success of students in learning science in the chapter on the classification of living

things and the classification of materials and their changes. This is shown by internal factors, namely students' attitudes, talents, and interest in learning. Students also have fun, engage, and pay attention while using flipped classrooms. In this cycle, it was shown that there was an increase in students' interest in learning using flipped classrooms where this success was supported by external factors such as the media, teachers, and peers. In cycle 2, teachers play an important role because they provide direction and use flipped classrooms developed in the questions so as to increase students' interest in learning science in the chapter on the classification of living things and the classification of materials and their changes.

Some students indicated that their participation increased after Cycle II. This action was not continued or stopped in Cycle II, because the success achieved after Cycle II was the percentage of success of this study. Student learning outcomes showed an improvement before the action in Cycle I and from Cycle I to Cycle II. After the increase in the completeness of student learning outcomes and student independence, student learning outcomes also increase, especially cooperation in each group, and independence in solving problems. The flipped classroom method increases student independence (Mirlanda et al., 2019). The use of the flipped classroom learning model students is actively engaged and not easily bored. Teachers play the role of learning facilitators, providing stimulants for students so that teaching and learning is not only teacher-centered but instead there is mutual communication between teachers and students.

This is in line with Fulton stating several advantages of Flipped Classroom learning, namely: 1) students can develop at their own pace, 2) doing exercises that are usually homework in the classroom give educators a better idea of the following learning styles, and students' learning difficulties, 3) face-to-face time can be used more effectively and creatively, 4) teachers can more easily assess students' achievements, interests, and learning commitments, and 5) the use of technology makes learning more flexible and collaborative (Sahara & Sofya, 2020).

The results of the analysis carried out at each stage showed that the learning outcomes of students experienced a significant improvement. This can be seen from the increase in average scores and student completeness. After several stages, it can be concluded that the use of the flipped classroom method can increase the completeness of learning outcomes and student independence in science subjects at SMP Muhammadiyah 1 Gresik. As Dahri stated that "flipped classroom teaching can improve student learning outcomes" (Dahry, 2020).

This study underlines the importance of using learning methods in the learning process, complemented by the support of the media, teachers, and peers, to maximize student engagement and improve material understanding

CONCLUSION

Based on the results of the research carried out, the flipped classroom learning method can improve the completeness of the learning outcomes of science subjects for grade VII students of SMP Muhammadiyah 1 Gresik. This can be seen from the learning outcomes of science subjects of students who have increased before using the flipped classroom method, namely before the action (60.25%) and after the action (85.28%). In addition, independence, student cooperation in learning is increasing, while teachers are able to have teacher learning innovations that can improve the completeness of student learning. The use of the flipped classroom learning model students is actively engaged and not easily bored. Teachers play the role of learning facilitators, providing stimulants for students.

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