EFFORTS TO IMPROVE THE LEARNING OUTCOMES OF CLASS IX A OF UPT SMP NEGERI 27 GRESIK IN CONGRUENCE AND SIMILARITY THROUGH A COOPERATIVE LEARNING MODEL BASED ON ANIMATION MEDIA

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Abstract

Teaching and learning activities are carried out gradually based on its difficulty level. This avoids the assumption that studying at school is difficult, hypothetically regarding mathematics. For UPT SMP Negeri 27 Gresik students, many students complained that mathematics subjects are scary, uninteresting, difficult and do not seem to have any correlation with everyday life. These complaints are the negative perception of mathematics. Meanwhile, there are also students who enjoy the fun of mathematics and are challenged to solve every math problem. These condition is the positive perception of mathematics. From the results of learning activities that have been carried out for three cycles, and based on all the discussions and analyzes, learning activities through*cooperative learning based on animation media* has a positive impact on improving student achievement, which is characterized by an increase in student learning completeness in each cycle: cycle I (65.63 %), cycle II (78.13 %), and cycle III (93.75 %). The application of *cooperative learning based on animation media* has a positive influence, which can improve student achievement shown by the average student answers stating that students are interested in the *cooperative learning based on animation media* so they become motivated to learn.

BACKGROUND

Teachers in effective learning should give a lot of freedom to students to be able to observe, learn, and search for problem concepts independently. Teachers are required to design an innovative learning model that leads to an increase in learning outcomes achieved by students, one of which is the learning process of mutual cooperation or group or cooperative learning. According to Vygotsky in Suparmi, et al. (2016) stated that in cooperative learning, students are exposed to the thinking process of their peers. This method not only makes learning outcomes open to all students, but also makes the thinking process of other students open to all students (Andriani, Samparadja, & Tiya, 2019; Anwar & dkk, 2018; Siska Widiawati, Hikmawati, 2018; Susanti, Kusmanto, & Arigiyati, 2017).

The *cooperative learning model based on animation media* seems to be able to train students to listen to the opinions of others and summarize the opinions of themselves or friends in writing. Group tasks will be able to inspire students to work together, and help each other in integrating new knowledge with their acquired knowledge.

The improvement of using animation media in mathematics learning is to provide more interesting learning material. The students' interest is expected to trigger them to be more active in every teaching and learning process. The selection of animation media

is based on training materials for mathematics teachers that the author had followed in advance. The training also mentioned that the use of animation media in mathematics learning has been implemented in other areas with improved student learning outcomes. (Ilmu et al., 2012; Meiga, 2019; Mussardo, 2019)

Learning media must be adapted to the purpose and content of the material being taught in order to be optimal in improving the quality of education. It could be pictures or three-dimensional objects (visual) or sound (audio). As for learning mathematics, it would be better if using media that is a combination of these three things. It is because the stimulus received by students from media that combines these three things will be better than the stimulus received by students if only from one of them either only from audio or visual only (Mussardo, 2019; (Meiga, 2019; Muhammad Iqbal, 2021; Ramli, 2015; Wahyuliani, Supriadi, & Anwar, 2016).

To date, learning in UPT SMP Negeri 27 Gresik has been carried out by teachers with a classical learning model; in addition, research has never been performed to improve student learning outcomes using *cooperative learning based on animation media* .

However, the reality in UPT SMP Negeri 27 Gresik, especially in Class IX A, student activity in the learning process of mathematics remains low. During the learning process, students tend to only listen to the teacher's explanation. When it is directed with questions about material related to daily activities, students are not eager to answer. Based on the author's experience while teaching some subjects of mathematics in the odd semester, after explaining the material, the author allows students to ask if there is a part of the material that has not been understood, but no one asked. Because there is no question, the author gives oral questions to students to observe the extent to which students understand the material that has been delivered. However, still none of the students actively raised their hands to try to answer the questions.

Based on the observation and experience of mathematics teachers at UPT SMP Negeri 27 Gresik on the topic of similarity and congruence, the average score of their test a few years ago was 5.3 for Class IX A students. Addressing the above with *cooperative learning based on animation media*, it is expected to improve student learning outcomes, especially in Class IX A in the 2021/2022 academic year and in general other class IX A students, so that the acquisition of learning outcomes of Class IX A students obtains an average value of more than 5.3.

The improvement of using animation media in mathematics learning is to provide more interesting learning material. The students' interest is expected to trigger them to be more active in every teaching and learning process. The selection of animation media is based on training materials for mathematics teachers that the author had followed in advance. The training also mentioned that the use of animation media in mathematics learning has been implemented in other areas with improved student learning outcomes.

In this study, researchers used animation media in learning activities as an effort to increase interest applied in student learning activities. Images in animation is a combination of motion, sound, music and color in order to attract students. This animation media can display images in sequence of an event as the actual event (Shabrina, 2012). In addition to making the learning process more attractive, animation can also strengthen and retain students' memory regarding the topic, and the pictures showed clarify students understanding of the material provided.

Based on the background description, the class action research problem is formulated as follows; whether the learning outcomes of Class IX A UPT SMP Negeri

27 Gresik in the topic of similarity and congruence can be improved through the *cooperative learning based on animation media* ?

RESEARCH METHODS

Class action research entitled "Efforts to Improve Student Learning Outcomes Class IX A UPT SMP Negeri 27 Gresik in the Topic of Similarity and Congruence through the *Cooperative Learning* Learning Model based *Animation Media*", was conducted at UPT SMP Negeri 27 Gresik. The subjects studied were students of Class IX A of the 2021/2022 academic year UPT SMP Negeri 27 Gresik. Class IX A consists of 32 students. The research schedule in this class action research is:

Table 3.1 Class Action Research schedule (PTK)

Cycle	Implementation Date
I	January 13 and 15, 2022
II	January 20 and 22, 2022
III	January 27 and 29, 2022

The benchmark for success in this class action research is if the mathematics learning outcomes of students of Class IX A UPT SMP Negeri 27 Gresik in the topic of similarity and congruence increased, such as student learning outcomes on average reached a minimum of 7.0 and student learning completeness reached a minimum of 85%.

RESEARCH RESULTS AND DISCUSSION

Implementation on Pre Cycle

Following the ideas put forward, the researchers developed this research plan in the form of working procedures in action research carried out in the classroom.

This stage of class action research includes three cycles. A cycle consists of stages of planning, implementation/action, observation, and reflection. Cycle I is about learning the similarity of two-dimensional figures through *cooperative learning model based on animation media* . The pre-cycle is held on Monday, January 6, 2022, the seventh and eighth lesson hours for 80 minutes. With a breakdown of 55 minutes used for the preparation and execution of the action, while 25 minutes are used to conduct the individual test and the administration of homework.

Implementation of Cycle I

Cycle I is learning about the similarity of two-dimensional figures through a cooperative learning model based on animation media, which was held on January 13, 2022 for the third and fourth lesson hours for 80 minutes. With a breakdown of 55 minutes used for the preparation and execution of the action, while 25 minutes are used to conduct the individual test and the administration of homework.

The research results in cycle I can explain that by applying learning methods *cooperative learning based on animation media* , the researcher obtained the average student achievement score was 68.44, and learning completeness reached 65.63%, or there were 21 students from 32 students who completed learning. The results showed

that in the first cycle, students had not finished learning in a classical classroom setting because the students who obtained a score of ≥ 70 only amounted to 68.44% less than the desired percentage of completeness, which was equal to 85%. This is because students may feel unfamiliar and do not understand what is intended and used by teachers to apply *cooperative learning based on animation media*

Implementation of Cycle II

Cycle II is learning to determine congruent triangles through *cooperative learning model based on animation media* , which was held on January 20, 2020, the fourth and fifth lesson hours for 80 minutes. A breakdown of 55 minutes is used for the preparation and execution of the action, while 25 minutes are used to conduct the individual test and the administration of homework.

In the second cycle, research obtained the average student achievement score was around 70.63, and completeness of learning reached 78.13%, or there were 25 students out of 32 who completed learning. These results indicate that in the second cycle of classical learning, completeness has increased slightly better than in the first cycle. The improvement of student learning outcomes is because the teacher informs that at the end of each lesson, there will always be held tests; so that at the next meeting students are more motivated to learn. In addition, students have also begun to understand what is intended by the teacher by applying *cooperative learning method based on animation media.*

There are several shortcomings in the implementation of study activities in the second cycle. It needs a revision to be implemented in the third cycle, among others:

1) Teachers in motivating students are good, but it needs to be improved so that it can motivate them during the teaching and learning process.
2) The teacher should be closer to the students so that there is no fear in the students either to express an opinion or ask questions.
3) Teachers have been more patient in guiding students to formulate conclusions/find concepts but need to be improved.
4) Teachers in distributing time is good enough, so that learning activities can run as expected.
5) Teachers should add more sample questions and give practice questions to students to work on each teaching and learning activities.

Implementation of Cycle III

At this stage, the researcher prepared learning tools consisting of lesson plans 3, LKBPD 3, 3 daily test questions and teaching tools that support. In addition, a learning management observation sheet is also prepared to evaluate *cooperative learning based on animation media* and an observation sheet of teacher and student activities.

The implementation of teaching and learning activities for the third cycle was carried out in Class IX-A UPT SMP Negeri 27 Gresik with a total of 32 students. In this case, the researcher acts as a teacher. The teaching and learning process refers to the lesson plan by paying attention to the revision in the second cycle, so that mistakes or shortcomings in the second cycle do not repeat themselves in the third cycle.

Observation is carried out simultaneously with the implementation of teaching and learning. At the end of the teaching and learning process, students are given a daily test III with the aim to determine the level of success of students in the teaching and learning process that has been conducted. The instrument used is regular test III. The

data of research results in the third cycle based on the table above obtained the average score of the daily test of 78.75, and of the 30 students who had completed as many as 30 students and two students have not reached the completeness of learning. Then classical learning completeness achieved around 93.75% (including the category of completion). Results in the third cycle has increased very significantly. The improvement of learning outcomes in the third cycle is influenced by an increase in the ability of teachers in applying *cooperative learning method based on animation media* so that students become more accustomed to learning like this so that students are easier to understand the material that has been given.

DISCUSSION

1. Completeness of Student Learning Outcomes

   The results of this study showed that the *cooperative learning method based on animation media* has a positive impact on improving student achievement. This can be seen from the steady understanding of students to the topic presented by the teacher (learning completeness increased from cycle I, II, and III), respectively, 65.63 %; 78.13%, and 93.75 %. In the third cycle of student learning, completeness has been achieved classically.
2. Teacher's Ability to Manage Learning

   Based on data analysis, student activity in the process of *cooperative learning methods based on animation media* in each cycle increases. This positively impacts student achievement, which can be shown by increasing the average value of students in each cycle that continues to increase.
3. Teacher and Student Activities in Learning

   Based on data analysis, student activity in the learning process of mathematics on the subject of similarity and congruence with the *cooperative learning methods based on animation media,* the most dominant is to follow the instructions / observe, listen to the teacher's explanation and discussion between students/between students and teachers. So it can be said that student activity can be categorized as active.

   The activities of teachers during learning has implemented the steps of *cooperative learning method based on animation media* well. This can be seen from the activities of teachers who appear among the activities of guiding and observing students in working on LKBPD activities/finding concepts, explaining difficult material, giving feedback/evaluation/question and answer where the percentage for the above activities is quite large.

CONCLUSION

From the results of learning activities that have been carried out for three cycles, and based on all the discussions and analyzes, learning activities through*cooperative learning based on animation media* has a positive impact on improving student achievement, which is characterized by an increase in student learning completeness in each cycle: cycle I (65.63 %), cycle II (78.13 %), and cycle III (93.75 %). The application of *cooperative learning based on animation media* has a positive influence, which can improve student achievement shown by the average student answers stating that students are interested in the *cooperative learning based on animation media* so they become motivated to learn.

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