INCREASING STUDENTS INTEREST IN MATHEMATICS LEARNING USING PEER TUTOR METHOD

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ABSTRACT

Interest is one of the affective aspects affecting student's achievement. This study aims to increase students' interest in learning mathematics in class VIII E students of State Junior High School (SMP N) 2 Sanden, Bantul Regency using peer tutor methods. The type of this research is Classroom Action Research (CAR). This study's subjects were 28 students of class VIII E SMP N 2 Sanden, Bantul Regency. The object of this study was learning using peer tutor methods. Data collection techniques used observation and questionnaire methods. Data collection instruments were observation sheets, questionnaires, and documentation. The data collected was analyzed by qualitative descriptive. This study indicates that mathematics learning with peer tutor methods can increase students' interest in learning mathematics for students of class VIII E of SMP N 2 Sanden. This is indicated by increasing students' interest in learning mathematics from cycle I to cycle II. In the first cycle, students' average score in learning mathematics is 62.23 with fewer categories. In cycle II the average score of students' interest in learning mathematics increase to 71.88 in the high category.

Keywords: Peer Tutor Method, Learning Interest, CAR

INTRODUCTION

Mathematics is a science that exists in every aspect of life. In real life, mathematics is used to solve everyday problems. Mathematics is also a source of various sciences. Therefore, mathematics is very important to be taught at an early age. According to Slameto (2015), learning is a business process carried out by someone to obtain a new change in behavior as a whole, as a result of his own experience in interactions with his environment. Aunurrahman (2016) states that learning is a process carried out by individuals to obtain a new change in behavior as a whole, as a result of the individual's own experience in interaction with his environment.

Learning is a process that is directed towards the goal, the process of acting through various experiences. This implies that the success or failure of achieving educational goals is very dependent on the learning process experienced by students, both when he is in school or the environment or his own family. Rokhimah (2015) states that one of the factors of achieving success is determined by interest, including students' success in learning mathematics. Based on what was felt when teaching class VIII E of SMP Negeri 2 Sanden, I felt that students' interest in learning was still low in mathematics because when they entered mathematics hours, many students were preoccupied with their affairs and did not immediately prepare tools -the learning tools needed, have not been able to identify the subject matter correctly and do problem-solving related to the material not yet right.

According to Slameto (2015), interest is a feeling of preferability and a sense of interest in a thing or activity, without anyone asking. According to Doyles Fryer in Nurkancana and Sumartana (1983), interest is a psychological phenomenon associated with objects or activities that stimulate feelings of pleasure in individuals. Interest is not brought from birth but is obtained later. Interest is a feeling of preference and a feeling of interest in something or activity, without anyone asking. Interest is the acceptance of a relationship between oneself and something from outside oneself. The stronger or closer the relationship, the greater the interest (Slameto, 2015). Given the importance of the role of interest in student success, there are efforts to increase student interest in learning, one of which is students' interest in learning mathematics.

METHODS

This research is classroom action research (CAR). The research site was conducted in class VIII E of SMP Negeri 2 Sanden, Bantul Regency. When the research was conducted in the even semester of the academic year 2017/2018, this study's subjects consisted of two types: the action taker and the action recipient's subject. The subject of the action in this study was a researcher who was assisted by a mathematics teacher in class VIII E of SMP Negeri 2 Sanden as a collaborator and for the subjects receiving the action were 28 students of class VIII E even semester of SMP Negeri 2 Sanden in the academic year 2017/2018. The object of this research is the whole process of learning mathematics using the peer tutoring method for students of class VIII E SMP N 2 Sanden.

This study's design consists of cycles in which each cycle consists of 4 steps, namely planning, implementation, observation, reflection as in Figure 1.

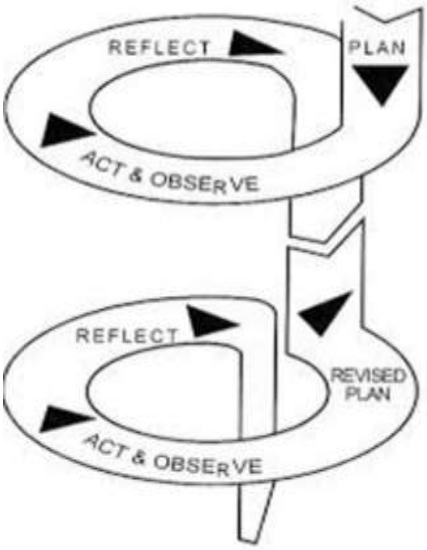

Figure 1. Kemmis and Mc Taggart Cycle Model (Arikunto, 2006)

In this study, the cycle study consisted of 4 primary stages that were interrelated and continuous. The four steps are one cycle or cycle, meaning after the 4th step, then back to the 1st, and so on. Although they are different, the 2nd and third steps are carried out simultaneously if the implementers and observations are different. If the observation is also carried out, it may be that the observation is carried out after the implementation by remembering what happened. In other words, the object of observation has already happened. However, if in the two cycles of this research, the success indicators have not yet been reached, this research will continue to the next cycle until the success indicators are achieved.

Data collection techniques used in this study consisted of observations and questionnaires. This observation is only carried out when the teaching and learning process occurs, namely from the initial stage to the final stage, to determine students' habits in the class that can affect student learning interest. A questionnaire or Questionnaire is used to determine how much interest in student learning in mathematics consists of 25 questions. The questionnaire test uses the content validity test by reviewers, and reliability uses the Cronbach Alpha formula. The data that has been collected will be analyzed by descriptive qualitative. After that, it is analyzed using a Likert Scale (Sugiyono, 2016). Each answer and gradation from positive to very negative score with its score level, according to Sugiyono (2016), for example:

a. Very Agree / Always, very positive given a score of 4
b. Agree / Often, positive is given a score of 3
c. Disagree / Almost Disagree, negative given a score of 2
d. Significantly Disagree / Never, very harmful given a score of 1

Furthermore, researchers add up all the scores that have been accumulated with the number of answers to a statement. Based on the number of scores obtained divided by the ideal number (4 x many answerers) to obtain an average. The average yield obtained is multiplied by 100% to determine the percentage of agreement level. Table 1 shows the category of students' interest.

$$\text{Average score} = \frac{\text{total score}}{4 \times \text{number of questions}}$$

$$\text{Percentage} = \frac{\text{total score}}{4 \times \text{number of questions}} \times 100$$

Table 1. Interest Categories

No	Student Score	Interest Category
1	$X \geq \overline{X} + 1.SBx$	Very Positive / Very High
2	$\overline{X} + 1.SBx > X \geq \overline{X}$	Positive / High
3	$\overline{X} > X \geq \overline{X} - 1.SBx$	Negative / Inadequate
4	$X < \overline{X} - 1.SBx$	Very Negative / Very Low

Information :
X = Student Score
$\overline{X}$= Ideal average = ½ (ideal maximum score + ideal minimum score)
SBx = standar deviasi ideal = $\frac{1}{6}$ (ideal maximum score - ideal minimum score)
Ideal maximum score = Σkriteria item criteria × the highest score
Ideal minimum score = Σkriteriabutton criteria × lowest score

(Mardapi, 2008)

RESULTS AND DISCUSSION

The peer tutor research method results can increase students' interest in learning mathematics in class VIII E SMP Negeri 2 Sanden. This class action research consists of two cycles. Each cycle consists of 2 meetings. Cycle I still lacked many students and teachers. Cycle I is divided into four stages, namely, planning, implementation, observation, and reflection. The material used in the first cycle is to present data in the form of bar charts and Mean (average).

Based on the results of the questionnaire students who took part in learning using the peer tutoring method during the first cycle, it can be concluded that by looking at the average questionnaire results, which amounted to 62.23 with fewer categories, then the results of student interest in learning questionnaires show that students' learning interest is still lacking towards math. The reflection of the first cycle in the learning process uses the peer tutoring method, namely: (a) There is a lack of cohesiveness of students in working on worksheets with group members, there are students who only sit and do not help in working on worksheets, and some are fun to joke with their friends. (b) Tutors are still shy in explaining material to their members. (c) Students are not able to be conditioned and do not focus on learning.

Cycle II learning is carried out the same as the previous cycle, namely two meetings. The material used in the second cycle is Median and Mode and the size of the data distribution. In cycle II, both students and teachers experienced positive changes. The class's learning atmosphere has begun to be fair; the enthusiasm is higher; students dare to present in front of the class. As for the teacher, all teacher performance indicators in teaching the classroom are carried out. The classroom situation is more controlled and more conducive. Based on the Questionnaire, students who took part in learning using the peer tutoring method during the second cycle, it can be concluded that by looking at the average questionnaire results, which amounted to 70.88 with a high category, the average in cycle II increased compared with cycle I.

Reflection cycle II is as follows: (a) During the study, peer tutoring methods can increase student learning interest during the learning process. With learning from peers, students feel more comfortable asking questions and not ashamed to ask their friends. (b) During the learning process, which in the past there were still students who did not want to cooperate with their friends in a group to change towards a better direction, i.e., students have shown an attitude of cooperation between groups, responsibility, and enthusiasm in following the lessons and increasing student interest in learning during the learning process.

During the learning process, the observer uses the observation sheet to observe the teacher's activities. Based on the observations during the first cycle, observations' acquisition has not yet yielded maximum results. This is caused by several factors, including the students who become tutors still awkward and embarrassed when they deliver the material to their friends and teachers who are not accustomed to using peer tutoring methods when teaching. However, after the reflection activity was carried out at the end of cycle I and all the corrective steps were taken, the actions in cycle II went better than cycle I, and the student questionnaire also seemed to be more improved when compared to the actions in cycle I.

The total score of teacher activity in cycle I meeting 1 was 12. In cycle I meeting two was 13. In cycle II, meeting 1 increased to 15. In cycle II, meeting 2, the total score of teacher activity reached 17. Simultaneously, the average number of student questionnaire scores in the first cycle is 62.23, which is included in the lower category. In cycle II the average number of student activity scores reached 70.88, which is included in the high category. The students' interest in learning at VIII E grade at SMP Negeri 2 Sanden in Mathematics using peer tutoring, which was carried out for two cycles, increased during the learning process taking place in class. This is indicated by the results of student questionnaires that improved from cycle I to cycle II. Data on students' learning interest of class VIII E SMP N 2 Sanden in mathematics will be presented in the following Table 2.

Table 2. Results of Questionnaire Cycle I and Cycle II

Student Interest Questionnaire	**Cycle**	
	I	**II**
Average value	62,23	70,88
Category	Less	High

The table above explains that there has been an increase in students' interest in learning mathematics after the action, using the peer tutoring method when learning takes place, from the results of the student questionnaire found in Appendix 16 that in the first cycle stage obtained an average of 62.23 student questionnaire results with fewer categories and from the first cycle to the second cycle, increased to 71.88 with a high category. This is in line with Prihantoro (2016) opinion, which states that the peer tutoring method can increase student interest and learning outcomes in lessons.

The increase in students' interest in learning in the second cycle is due to the reflection phase of all activities that have not been conveyed in the first cycle. Reflection material is given, and then in the second cycle, all these activities can be conveyed well to students. Also, several other things make students interested in mathematics, including the tutor conveying the material so that its members can understand the material correctly. Students learn in class, and students do not play alone when tutors explain.

CONCLUSION

Based on the research and discussion results, the following research conclusions can be drawn as previously described. Peer tutoring methods in Mathematics learning in class VIII E of SMP Negeri 2 Sanden, Bantul Regency, can increase student interest in learning. This can be proven by increasing the average results of student questionnaires. During the first cycle, it amounted to 62.23 with fewer categories than in the second cycle actions. Student questionnaires' average results increased to 70.88 with a high category.

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