THE APPLICATION OF TEAM ASSISTED INDIVIDUALLY (TAI) COOPERATIVE LEARNING MODEL TO IMPROVE MATHEMATICS LEARNING ACTIVITY OF VIII CLASS STUDENTS

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ABSTRACT
Student learning activities in learning mathematics are still lacking. At least students are actively involved in the mathematics learning process, such as interactions between students, student-teacher interactions, and student activity in low groups. This study aims to determine the increase in student learning activities in mathematics learning using the Team Assisted Individually (TAI) cooperative learning model for class VIII C students of State Junior High School (SMP Negeri) 11 Yogyakarta in the 2019/2020 academic year. This research is Classroom Action Research (CAR). The setting used is class VIII C in the even semester of SMP Negeri 11 Yogyakarta in the 2019/2020 school year. This research was conducted in two cycles. Each Cycle consists of an action design, action implementation, observation, and reflection. Data collection techniques in the form of observation, interviews, field notes, and triangulation. The research instruments used were observation sheets, interview guidelines, and field notes. The data analysis technique used is descriptive qualitative. The results showed that using the cooperative learning model type TAI could increase the mathematics learning activities of class VIII C students of SMP Negeri 11 Yogyakarta. The results of the observation sheet evidence this. Student learning activities in each Cycle have increased. It can be seen from the average percentage of student learning activities in Cycle I of 53.53% with sufficient criteria and an increase in the average percentage of student learning activities in Cycle II of 62.49% with good criteria.

Keywords: Classroom Action Research, Individually Assisted Team, Learning Activities.

INTRODUCTION
Education is a communication process that contains the transformation of knowledge, values, and skills, inside and outside of school, that lasts a lifetime (Risa Rusdiana, 2017). One of the education in the world is mathematics.

Mathematics has an important role in the world of education. Mathematics is taught at the school level. Mathematics learning is carried out so that students are skilled at using mathematics and provide provisions for students with the pressure of structuring reasoning in applying mathematics in everyday life during the community where they live. Therefore mathematics is needed in everyday life. As time goes by, education is growing. Teachers are required to be facilitators, while students are not only expected to be able to understand the mathematics material being taught but must also be active in learning.

In the process of learning mathematics, student activity is needed because learning requires activity. Learning is a process of changing individual behavior through interaction with the environment (Oemar Hamalik, 2001: 28). According to Sampurna (2009) in Daitin Tarigan (2014), activity is activity, activity, and activity. Individual behavior is an activity or activity. Learning without activities makes the learning process not go well. Therefore, student activities are very important in the learning process.

From the interviews with mathematics teachers in class VIII C SMP N 11 Yogyakarta that teachers use conventional learning methods, students pay less attention to classroom learning. Student learning activities are still relatively low. This is based on the observation of student learning activities by 47%, which is classified as low. To deal with this problem, it is necessary to have a learning model that can increase student learning activities. One of the cooperative learning models that can improve student learning activities is the Team Assisted Individually (TAI) cooperative learning model. With this type of
TAI cooperative learning model, students can actively ask teachers, peers, and learning resources and actively collaborate in groups.

Based on the description above, the problem formulation is as follows: can the application of the TAI type cooperative learning model increase student learning activities in mathematics learning in class VIII C SMP?

This study aims to improve to determine the increase in student learning activities in mathematics learning by using the cooperative learning model type TAI class VIII C SMP students.

a. Cooperative Learning Model

According to Slavin, cooperative learning is a learning model in which students learn and work collaboratively in small groups whose members are 4-6 people with a heterogeneous group structure (Isjoni, 2009: 15). The cooperative learning model's characteristics are group appreciation, individual responsibility, and equal opportunity to succeed (Isjoni: 2009: 33).

b. The TAI Type Cooperative Learning Model

Robert E. Slavin developed this type of TAI cooperative learning model in Cooperative Learning: Theory, Research, and Practice (Aris Shoimin, 2014: 200). According to Slavin (2005), the translation of Narulita Yusron (2015: 187), the rationale of the TAI type cooperative learning model is "to adapt teaching to individual differences in terms of student abilities and student achievement."
The TAI-type cooperative learning model's purpose from the rationale behind individualization is to increase knowledge, abilities, and motivation to learn groups that involve students actively in the learning process. According to Yuni Kurniaawati et al. (2018), the TAI-type cooperative learning model has various motivational dynamics from the Students Team Achievement Division (STAD) and Team Game Tournament (TGT). According to Slavin in Isjoni (2013: 51), the cooperative learning model type STAD "is a type of cooperative that emphasizes the existence of activities and interactions between students to motivate and help each other in mastering subject matter in order to achieve maximum achievement." This means that TAI can increase learning activities. According to Aris Shomin, the steps of the TAI learning model are: 1) Placement Test, 2) Teams, 3) Group Teaching, 4) Creative Students, 5) Team Study, 6) Fact Test, 7) Team Score and Team Recognition, 8) Whole Class Units.

c. Learning activity

According to Oemar Hamalik (2007: 179), learning activities are defined as learning activities in teaching-learning situations. According to Paul D. Dietrich, the types of activities are (Oemar Hamalik, 2001: 172): (1) visual activities, (2) oral activities, (3) listening activities, (4) writing activities, (5) drawing activities, (6) metric activities, (7) mental activities, (8) emotional activities. Activity indicators according to the Ministry of Secondary School Education and Law no. 20 of 2003 article 1 verse 20, namely: 1) student enthusiasm in learning, 2) student interaction with teachers, 3) student interaction with other friends, 4) student interaction with learning resources, 5) group collaboration, 6) student activities in groups, 7) student participation in concluding learning outcomes.

d. Action Hypothesis

Based on the theoretical basis, the framework of thinking, and research objectives outlined earlier. The following action hypothesis can be formulated: applying the Team Assisted Individually (TAI) cooperative learning model can increase students' mathematics learning activities.

METHODS

This research was conducted at SMP N 11 Yogyakarta by applying it to class VIII C students. This study's subjects were all students of class VIII C SMP N 11 Yogyakarta, totaling 30 students, consisting of 16 girls and 14 boys. The object of this research is the application of the cooperative learning model type TAI. The type of research carried out is Classroom Action Research (CAR). According to Arikunto, Suarsimi (2006: 3), broadly speaking, four stages are commonly passed, namely (1) planning, (2) implementation, (3) observation, and (4) reflection. The research instruments used in this study were:
(1) The observation sheet was used as a guide when making observations on students' mathematics learning activities in participating in learning and teaching activities using the TAI learning method, (2) The interview guide contained several questions asked by students. Interviews are used to obtain information that has not been obtained through observation or observation, (3) field notes to record events during the study. Data collection techniques, namely: observation and interviews, field notes, and triangulation. The data analysis included: analysis of data from observations, interviews, triangulation, reduction, and display. This study's success is if the learning activities carried out by students reach the minimum criteria of good, namely (P> 60%).

RESULTS AND DISCUSSION

Learning activities are carried out in two cycles. Each Cycle was conducted in two meetings. The results of the study can be seen in table 1.

From table 1, it can be seen that in Cycle I and Cycle II, there was an increase in students' mathematics learning activities. Cycle I indicated that the average percentage of student learning activities was 53.53% with sufficient criteria. In Cycle II, it was shown that the average percentage of student learning activities was 62.49%, with good criteria. It can be seen that there is an increase in each Cycle because the percentage in Cycle II has reached ≥60%, meaning that students' mathematics learning activities have reached good criteria.

In Cycle I, 53.53% was included in the sufficient criteria. This happened because the students' enthusiasm in participating in learning was classified as good. After all, students paid attention to the teacher's explanation to work spontaneously when given assignments. However, there were still some students who did not work spotlessly when given assignments. Student interaction with the teacher is quite sufficient. This can be seen from the students not asking or answering teacher questions. Interaction between students is classified as sufficient because students do not ask friends from other groups and answer friends' questions. The interaction of learning resources is classified as good. This can be seen from the students reading books/worksheets to solve the problems presented. Group cooperation is classified as sufficient. Students do not divide the assignments to each group in the discussion, so they do not match one group's answers. Student activity in groups is classified as sufficient because students do not dare to respond to their friends' opinions and explain their opinions or their work results. Student participation in concluding learning outcomes is classified as lacking. This can be seen from the small number of students who complete the conclusions of their friends.

Table 1. Increasing the results of the observation of students' mathematics learning activities

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Percentage (%)</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cycle I</td>
<td>Cycle II</td>
</tr>
<tr>
<td>1.</td>
<td>Students' enthusiasm in participating in learning.</td>
<td>68.44</td>
<td>79.91</td>
</tr>
<tr>
<td>2.</td>
<td>The interaction that students do with the teacher</td>
<td>57.35</td>
<td>59.86</td>
</tr>
<tr>
<td>3.</td>
<td>Interaction between students</td>
<td>46.22</td>
<td>57.86</td>
</tr>
<tr>
<td>4.</td>
<td>Student interaction with learning resources.</td>
<td>63.83</td>
<td>69.72</td>
</tr>
<tr>
<td>5.</td>
<td>Group cooperation</td>
<td>46.50</td>
<td>54.07</td>
</tr>
<tr>
<td>6.</td>
<td>Student activities in groups</td>
<td>59.60</td>
<td>65.32</td>
</tr>
<tr>
<td>7.</td>
<td>Student participation in concluding learning outcomes.</td>
<td>32.77</td>
<td>50.72</td>
</tr>
<tr>
<td></td>
<td><strong>Average</strong></td>
<td><strong>53.53</strong></td>
<td><strong>62.49</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Criteria</strong></td>
<td><strong>Enough</strong></td>
<td><strong>Good</strong></td>
</tr>
</tbody>
</table>

The increase in students' mathematics learning activities can also be seen from the following graph:
In Cycle II, 62.49% was included in good criteria. This can be seen from students’ enthusiasm for participating in the learning, which was classified as good because of the increase in students' attention to the teacher's explanation. Students began to work spontaneously when given assignments, the decrease in students doing other work while learning. The interaction between students and teachers is quite sufficient. This can be seen from the students starting to dare to ask questions with the teacher. Interaction between students was classified as sufficient. Students began to ask friends from other groups and answer questions from friends from other groups. The interaction of learning resources is classified as good. This can be seen from the students reading books/worksheets to solve the problems presented and reading books/worksheets to remember previous lessons. Group cooperation is quite sufficient. In the discussion, students begin to divide each group's assignments to match one group's answers. Student activity in groups is classified as good because students begin to dare to respond to their friends' opinions and explain their opinions or their work results. Student participation in concluding learning outcomes is sufficient. This can be seen from the increase in students who complete their friends' conclusions and respond to their friends' conclusions or questions.

Based on all the data obtained, it can be concluded that this study’s purpose has been achieved in Cycle II so that this research is considered complete. The study results indicate an increase in students' mathematics learning activities using the TAI type cooperative learning model in class VIII C students of SMP Negeri 11 Yogyakarta. 2019/2020 school year.

Overall, it can be concluded that the TAI type cooperative learning model in mathematics learning can be used as an effort to increase the mathematics learning activities of class VIII C students in the even semester of SMP Negeri 11 Yogyakarta in the 2019/2020 academic year and get positive responses from students and teachers. Proven researchers.

CONCLUSION

The results showed that the TAI-type cooperative learning model could improve the mathematics learning activities of class VIII C students of SMP N 11 Yogyakarta in the 2019/2020 academic year. This can be seen from the average percentage of students 'mathematics learning activities in the first Cycle of 53.53% with sufficient criteria. In the second Cycle, students' mathematics learning activities increased to 62.49% with good criteria. Learning by applying the TAI learning model gets a positive response from students.

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