

## IMPROVING THE STUDENT'S ACTIVENESS IN MATHEMATICS LEARNING THROUGH COOPERATIVE LEARNING MODEL OF ASSISTED INDIVIDUALIZATION TEAM

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### ABSTRACT

This research background is active less of VIII grade SMP Muhammadiyah 2 Kalasan Sleman on the semester academic year 2016/2017 in the learning mathematics. This research aims to increase students' activeness in the learning of mathematics using cooperative learning model type Team assisted individualization (TAI) class VIII Junior High School (SMP) Muhammadiyah 2 Kalasan, Sleman semester academic even year 2016/2017. This research is a class act. The setting used is a class VIII SMP Muhammadiyah 2 Kalasan, district Sleman totaling 28 students. The study was conducted in two cycles of the first cycle and the second cycle, each cycle consisting of three meetings. The first cycle and the second cycle using cooperative learning model type TAI. Data collected by observation using observation sheet student learning activeness, and interviews. Analysis instrument using content validity. Analysis of the data used is descriptive qualitative. The result showed that using cooperative learning model type TAI can increase students' activeness in mathematics learning in class VIII student of SMP Muhammadiyah 2 Kalasan the school year 2016/2017. This is evident from the observation of students' learning activities in each cycle. The average percentage of student activity observation on the first cycle, 54,16%, reached sufficient criteria. On the second cycle, it increased to 63,77% that reached both criteria. From interviews with students showed a positive response to the students learning activeness.

**Keywords:** Student Learning Activeness, Team assisted individualization, Mathematic

### INTRODUCTION

In line with the times, of course, knowledge is growing. For a country to be more advanced, the country needs to have intelligent humans. For this purpose, of course, they need to learn various sciences, mathematics. According to James and James in Suherman, Erman et al. (2003: 16) states that mathematics is a branch of science about logic, regarding the form, composition, magnitude, and concepts related to one another in large numbers, which are divided into three fields, namely algebra, analysis, and geometry. Mathematics is an essential subject, from elementary school to the tertiary level, even though mathematics is a subject that must be studied. Mathematics is also useful for meeting practical needs and solving problems in everyday life.

Based on researchers' interviews on mathematics, teachers of class VIII, students are less active during the learning process. The method used by the teacher is the lecture and question and answer method. Some students do not pay attention to the teacher's explanation. Students look crowded, chatting with the students, and students' learning occurs. Most of the students' grades have not yet reached the Minimum Completeness Criteria (MCC) value. The MCC value of VIII grade students of SMP Muhammadiyah 2 Kalasan is 75. Table 1 shows data that can provide a concrete picture of the acquisition of students' mathematics learning outcomes shown on the midterm scores.

**Table 1.** Student Achievement in Mathematics Learning of SMP Muhammadiyah 2 Kalasan 2016/2017

Class	Total Student	MCC	Not Complete	Complete
VIII	28	75	28	0

*Source: SMP Muhammadiyah 2 Kalasan*

From the above data, it can be concluded that mathematics learning outcomes are still below the MCC. This shows that the results of learning mathematics in class VIII B is still low. Based on the observations in class VIII B SMP Muhammadiyah 2 Kalasan, several problems, including the teacher's visible method, are the lecture and question and answer method. When the teacher is explaining, students pay less attention to the teacher's explanation. Students are busy, chatting with the theme. The learning process is still centered on the teacher because it is seen lecturing during the learning process. Student enthusiasm in participating in learning is still lacking. Student interaction with the teacher is still lacking. The interaction between students is still lacking, and group collaboration is still lacking. Learning styles that are still centered on teacher-student activity are challenging to develop. If left unchecked, students will find it increasingly difficult to learn and understand the material being studied. In this case, the teacher should choose a variety of learning strategies that include the learning model. According to Suprijono, Agus (2012: 46) argues that the learning model can be defined as a conceptual framework that describes a systematic procedure in organizing learning experiences to achieve learning goals. Therefore there is a need for learning strategies that can refer students to be more active in school, especially in the classroom. Teachers must innovate in learning activities in the classroom, so learning is centered on the teacher.

The cooperative learning model is a learning model that puts students more before working in study groups. According to Runtukahu, J. Tombokan (2014: 233) argues that cooperative learning is a learning strategy in which children learn together in small groups to achieve a specific learning goal. There are several cooperative learning models: the Team Assisted Individualization type of cooperative learning model. According to Sharan, Shlomo (2009: 28) states that Team Assisted Individualization is a program that combines cooperative learning with individual teaching to meet various classes' needs. Using this learning model, students can think and understand the subject matter and think of receiving and remembering. However, activeness, independence, and skills can be developed. So students can exchange ideas, help each other in solving problems.

According to Shoimin, Aris (2014: 200-203) argues that the advantages and disadvantages of the Team Assisted Individualization type of cooperative learning model include: 1) weak Students can be helped in solving problems, 2) Students who are smart can develop their abilities and skills, 3) There are responsibilities in groups in solving problems, 4) Students are taught how to work together in groups, 5) Reducing anxiety, 6) Replacing forms of competition with cooperation, 7) Involving students to be active in the learning process, 8) They can discuss, debate, or convey ideas, concepts, and expertise to understand them, 9) They have a sense of caring, a sense of responsibility, towards other friends in the learning process, 10) They can learn to respect differences in technique, different levels of ability, and physical disabilities.

In a study conducted by Nuryani, Sri (2015), the Team Assisted Individualization type's cooperative learning model can improve student mathematics learning activities. The material used in this study is the surface area and volume of the prism pyramid. This study aims to increase student activity by using the Team Assisted Individualization type of cooperative learning models in mathematics learning for VIII Even Semester students at SMP Muhammadiyah 2 Kalasan sleman in the 2016/2017 school year.

## **METHODS**

This type of research is Classroom Action Research (CAR). According to Arikunto, Suharsimi et al. (2007: 3) argue that classroom action research is an examination of learning activities in the form of an action that is deliberately raised and occurs in a class together. This research is designed to improve student learning activeness through the Team Assisted Individualization type of cooperative learning model. This research was conducted at SMP Muhammadiyah 2, located in Bayen Village, Kalasan District, Purwomartani Village, Sleman Regency. The time used in this study is the even semester of the 2016/2017 school year. The research design chosen in this study consisted of planning, action, observation, and reflection. This research procedure consists of two cycles. In detail the steps in

each cycle are as follows: 1) in cycle I the steps start from planning, implementation, observation and reflection, 2) and continued in cycle II, the activities carried out in the cycle II is an activity of improvement and improvement of the implementation of learning in cycle I, in cycle II the action plan is carried out based on the reflection of the cycle I, the stages follow the stages of work in cycle I. this research will proceed to the next cycle if the cycle II has not been improved or indicators of success have not been achieved. The cycle is stopped when there is an increase in student learning activities. Data collection techniques used include 1) Observation method, 2) Interview method, 3) Test method, 4) Field notes, 5) Triangulation. Instrument Analysis uses Content Validity. Analysis of the data used is descriptive qualitative.

## RESULTS AND DISCUSSION

The results of classroom action research consisting of cycle I and cycle II regarding mathematics learning with Team Assisted Individualization type cooperative learning models indicate increased student activity in learning mathematics. This can be seen from student activeness in mathematics learning in cycle I and cycle II, which have increased even reaching the desired indicator of at least 61% or indicators achieving the right criteria and increasing test results.

Students' activeness in learning mathematics has increased after fixing the lack of mathematics learning using the Team Assisted Individualization type cooperative learning model in the first cycle. This can be seen from the percentage of each indicator of student activity, namely: 1) students' enthusiasm in learning by 56.24%, 2) interaction between students and teachers by 52.67%, 3) interaction between students by 52.67%, 4) interaction students with learning resources 55.35%, 5) group collaboration of 54.46%, 6) student activities in groups of 51.78%, and 7) student participation in groups of 51.78%, also, obtained an average percentage the results of observations of student activity in the first cycle of 54.16%. This means that the qualifications of the results of the percentage of observations of student activeness in learning mathematics in the first cycle are still sufficient criteria. At the same time, the results of the first cycle test results are increasing.

After correcting the deficiencies in cycle II, the mathematics learning process was carried out using the Team Assisted Individualization type of cooperative learning model. The activeness of students in learning mathematics has increased. This can be seen from the percentage of each aspect or indicator of student activity, namely: 1) students' enthusiasm in learning by 63.39%, 2) interaction between students and teachers by 63.39%, 3) interaction between students by 61.60%, 4) student interaction with learning resources 66.06%, 5) group collaboration of 63.39%, 6) student activities in groups of 66.06%, and 7) student participation in groups of 62.50%, also, obtained an average percentage the average results of observations of student activity in the second cycle amounted to 63.77%. This means that the qualifications of the results of the percentage of observations of student activeness in learning mathematics in the second cycle are included in the right criteria. Simultaneously, the results of the second cycle test have increased compared to cycle I. Table 2 shows data that can provide a concrete picture of student activeness in mathematics learning using the Team Assisted Individualization type cooperative learning model.

**Table 1.** The results of observations of the activeness of students in cycle I and cycle II

No	Indicator	Percentage		Info.
		Cycle I	Cycle II	
1	Enthusiastic	56,24%	63,39%	Increase
2	Student interaction with the teacher	52,67%	63,39%	Increase
3	Interaction between students	52,67%	61,60%	Increase
4	Student interaction with learning resources	55,67%	66,06%	Increase
5	Group collaboration	54,46%	63,39%	Increase
6	Student activities in groups	55,35%	66,06%	Increase

No	Indicator	Percentage		Info.
		Cycle I	Cycle II	
7	Student participation in groups	51,78%	62,50%	Increase
	Mean	54,16%	63,77%	Increase

From the description and table above, it can be seen that the indicator of student interaction with the teacher experienced the highest increase compared to the other indicators and the average results of the research increased to more than 63%.

## CONCLUSION

Based on the study results, it can be concluded that the cooperative learning model of the Team Assisted Individualization type can increase student learning activeness in mathematics learning for students in VIII B Even Semester 2016/2017 Academic Year on the sub-topics of surface area and prism volume, pyramid. Improvement occurs in every aspect as an indicator of student learning activeness, which includes: 1) student enthusiasm, 2) interaction between students and teachers, 3) interaction between students, 4) interaction between students and learning resources, 5) group collaboration, 6) student activities in groups, and 7) student participation in groups. Mathematics learning using the Team Assisted Individualization type cooperative learning model gets positive responses from students and teachers.

Based on the results of research and discussion, the researchers suggest: 1) For students, for the smooth process of teaching and learning, students are expected to be enthusiastic and prepare themselves to participate in learning and practice respecting the opinions of others, collaborating, and receiving input from others if they are wrong and diligent reading learning resources both from textbooks, worksheets, or notebooks. 2) teachers should be able to apply Team Assisted Individualization type of cooperative learning as an effort to improve student learning activities in learning and as a form of variation in conveying material so as not to be monotonous, creating relationships that are harmonious with students because it will significantly assist students in developing their potential, and so that the results obtained are more optimal, learning using the Team Assisted Individualization type model requires more supervision from the teacher when learning individually or in groups. 3) For schools, this study will contribute to schools to improve learning and improve learning quality, especially in mathematics.

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