

EFFORTS TO IMPROVE STUDENT COOPERATION IN MATHEMATICS LEARNING USING NUMBER HEAD TOGETHER TYPE COOPERATIVE MODELS IN CLASS VII A STUDENTS OF SMP NEGERI 13 YOGYAKARTA

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ABSTRACT

Fewer students cooperate at the time of learning. That is indicated by the condition of learning in the classroom. The response of students who aren't entirely at the time given task. The participants are less active, application of cooperative Number Head Together mode and this type is expected to improved student cooperation. The research aims to improve cooperation between students and mathematics learning to use cooperative learning type Number Head together mode. This research is an action research class consisting of two cycles. The subject of the research is VII A grade student of 1st semester of the academic year 2016/2017 at SMP Negeri 13 Yogyakarta. The object of this research is the efforts to improve students collaboration in learning mathematics. Technic to collecting data is observation and interview. The instrument of the research is the collaboration students observation sheet. Teacher interview activity sheet, and student interview sheet. The category to succeed in the research is marked with increasing approximately the percentage of students teamwork minimal 61%. The result of the research is shown by cooperative learning mode we called if type Number Head Together mode. It can increase the student's teamwork in a mathematic lesson in VII A class. We can see from the result of the average percentage who shows that the increase in each cycle. The first cycle is 41,01%, enough to achieve this criteria and the second cycle is 65,05 % it achieves good criteria.

Keywords: Effort, mathematics students cooperation, NHT

INTRODUCTION

Observations were held on September 28, 2016, conducted by researchers. Student collaboration is one of the problems faced in learning, especially in mathematics. This problem was obtained when researchers conducted observations in class VII A in SMP Negeri 13 Yogyakarta and cooperation in class VII A was still low, it can be seen from several things that happened while learning took place. First the conditions of learning mathematics in class. Most learning conditions in the classroom many students who do not pay attention when the teacher is explaining the material and exercises in front, student learning conditions are still classified as less. When teachers give questions to students only a few students try to answer. Students are more interested in other activities, for example: interacting with friends. Both students' responses when given the task were uneven. Seen when the teacher gives students the task to learn to discuss with groups. For example, the group consists of 4-5 people but those who do collaborative activities and divide tasks are only 2 people while the other students keep quiet and talk with other friends. Third, the lack of student participation. This can be seen when students are told to discuss not all students express their opinions and some students just follow other friends. In the end, the group discussion activities did not go well because of the lack of interaction between students.

Based on the description above encourages researchers to implement a learning system that involves the role of students actively in learning activities to improve student collaboration in learning mathematics at every level of education. One learning model that involves the role of active students in the cooperative model. This cooperative model is very suitable to be applied to mathematics learning because in learning mathematics it is not enough just to know and memorize the concepts but also requires understanding to solve a problem related to mathematics. Through this cooperative model students are able to think actively, creatively, can express their opinions, exchange opinions and cooperate with each other if they experience difficulties in their groups. This can increase student

collaboration. Researchers take the NHT type of cooperative learning model because in this model students are more dominant in the learning process and group collaboration occurs and all students can be directly involved in thinking in solving a problem in discussion activities and do not happen to rely on each other among members of the group so that all students will actively think and behave in their learning activities. The main characteristic of NHT is the numbering of each student so that it raises an attitude to put more effort and cooperation. With this model, the researcher expects that learning can be meaningful and useful.

METHODS

Type and Design This research is classroom action research. This research was carried out using the stages of planning, action, observation, and reflection. The setting of this study was carried out at Yogyakarta State Junior High School 13 odd semester of 2016/2017 school year. The subject of this study was class VII A SMP Negeri 13 Yogyakarta and the object of this study was to improve student collaboration in learning mathematics using the NHT type cooperative model. Research procedures include planning, implementation, observation and reflection. This action plan includes all steps of the action in detail, all the necessities of carrying out classroom action research (material or teaching materials, teaching methods, and observation techniques and instruments) and the estimated constraints that may arise in implementation. Action implementation is the realization of theories and teaching techniques and actions (treatments) that have been planned in advance. Observation of this action is the collection of data and information. In observations or observations must refer to instruments that have been made and allow involving outside observers. Reflections on actions include: data that can be analyzed, the analysis can involve outsiders and draw conclusions. Data collection techniques and instruments include data collection techniques and data collection instruments where data collection techniques are by observation and interviews and data collection instruments include observation sheets and interview guidelines. There are three data analysis techniques, namely data reduction, data presentation and data conclusions.

RESULTS AND DISCUSSION

The results of the research cycle I and cycle II, from the results of these studies in class VII A SMP Negeri 13 Yogyakarta 2016/2017 Academic Year increased in terms of student collaboration by using the cooperative learning model type Number Head Together (NHT). Teacher results, observations of student collaboration have reached good criteria, so research in this cycle needs to be stopped. This can be seen from the analysis of the results of observations of student collaboration in the first cycle and second cycle which increased fiber from the test results in the first cycle and second cycle which also increased. More will be discussed in the following:

1) Cycle I

In the first cycle of student cooperation in learning mathematics each indicator obtained 44.49% group cooperation, individual responsibility reached 42.65%, promotive interaction reached 42.65%, communication between members reached 40.44%, group processing reached 34.81 %. Then the average percentage obtained in the first cycle reached 41.01%. This, according to the qualifications of the results of the percentage of students' collaborative observation scores in the first cycle, is sufficient.

2) Cycle II

In cycle II after correcting the deficiencies found in cycle I, the cooperation of students by giving rewards at the end of learning has increased. This can be seen from the increasing percentage of each indicator of student cooperation in each cycle. Group collaboration reached 58.09%, individual responsibility reached 79.41%, promotive interaction reached 57.35%, communication between members reached 75.53% and group processing reached 56.87. Then the average percentage obtained in the second cycle reached 65.05%. This, according to the qualifications of

the results of the percentage of the observation score of student collaboration in the first cycle is good criteria.

For more details, it will be presented in the following graphical form:

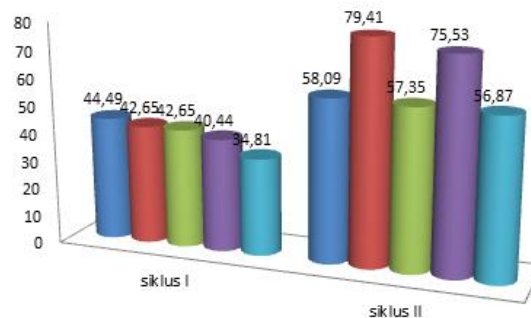


Figure I. Percentage Results of Observation Collaboration of Students in Cycle I and Cycle II

CONCLUSION

Based on the results of research conducted on students of class VII An odd semester at SMP Negeri 13 Yogyakarta 2016/2017 academic year on the subject of social arithmetic can be concluded that by using cooperative learning type Number Head Together (NHT) can increase student collaboration. This can be seen from the results of student observations in the first cycle and second cycle. The results of the first cycle obtained the percentage of success of 41.01%. In accordance with the classification results of the percentage score of student collaboration observation, then in this first cycle student cooperation reached sufficient criteria. Besides that, in the first cycle, 2 students had "very poor" cooperation, 14 students had "insufficient" collaboration, 15 students had "sufficient" cooperation, and 3 students had "good" cooperation. The results of the second cycle obtained an average overall percentage of 65.05%. Observations that have been made reach the criteria are good because the results reach $> 60\%$. Besides that in cycle II, 2 students had "very good" cooperation, 24 students had "good" cooperation, and 8 students had "sufficient" cooperation. Because it has increased and obtained good criteria, the study was stopped. Learning using the NHT cooperative model gets a good response from students. That is, students are able to follow the learning well. This is evident from the results of interviews with students.

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