

The Improvement Of Mathematics Learning Outcomes Through Cooperative Learning Models Student Team Achievement Division (STAD)

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Abstract

This study aims to describe and obtain information on improving learning outcomes of Mathematics content through the STAD type cooperative learning model. This research is a class action research consisting of three cycles, each cycle consisting of three meetings. Each meeting consists of four stages, namely planning, implementation, observation and reflection. The subjects of this study were 18 grade IV students of SDIT An-Nahl Tapos, Depok. This research was carried out in the even semester of the 2022/2023 academic year Data collection techniques using observation, interviews, documentation, tests. Data is analyzed using percentages. Hasl research shows that through the STAD type cooperative learning model can improve the mathematics learning outcomes of grade IV students of SDIT An-Nahl Tapos. .

Keywords: Learning outcomes, Math, STAD.

1 INTRODUCTION

Education is an effort to improve the knowledge gained well from formal and informal institutions to obtain qualified human beings. In order for the expected quality to be achieved, it is necessary to determine the right educational goals . The purpose of education is what will determine success in the process of forming a quality human person, without prejudice to the role of other elements in education. The process of determining educational goals requires a mature, careful, and thorough study so as not to cause problems in the future. Therefore, it is necessary to formulate an educational goal that makes morals a very important basis in every nation's civilization. (Aziizu, B. Y. A. 2015)

Mathematics is a subject that has an important role in education. Mathematics is a stand-alone discipline in studying things that are all related to reasoning, therefore, must study Mathematics so that it can be used as a means to solve problems of everyday life. Efforts to improve learning outcomes can be carried out by teachers by strengthening the material and selecting learning models that are tailored to the abilities of students, so that student learning outcomes can increase, especially in Mathematics education in elementary schools (Maulida, A. 2023)

School Mathematics learning objectives 1) Understand Mathematics concepts, explain the relationship between concepts, and apply concepts or algorithms. 2) Using reasoning on patterns and properties, performing Mathematical manipulations and generalizations, constructing proofs, or explaining Mathematical ideas and statements. 3) Solving problems which includes the ability to understand problems, design Mathematical models, solve models and interpret obtained solutions. 4) Expressing ideas with symbols, tables, diagrams, or other media to explain the situation or problem. 5) Have an attitude of appreciating the use of Mathematics in everyday life. (Siagian, M. D. 2016).

Based on the description above, it can be concluded that the importance of education for Students one of them is education that teaches Mathematics, because every life activity uses Mathematics, this is what makes Mathematics the main subject to learn for students

and this is also proven since sitting at the elementary level, students have been taught Mathematics subjects. But in fact, some students consider Mathematics subjects to be difficult to understand. This can be seen from the results of the daily assessment of grade IV Mathematics subjects of SDIT An-Nahl Depok City for the 2022/2023 academic year from 18 students, there are 7 students whose scores are above KKM (complete) while as many as 11 students whose scores are still below KKM (incomplete), so it can be said that not all students have completed in Mathematics subjects because there are still scores below the minimum completeness criteria (KKM), which is 75.

With conditions like this, it is necessary to improve the implementation of the learning process to improve student learning outcomes. The selection of learning models will make the learning process more varied, innovative so that it can increase the activity and creativity of students so that the main subject matter to be studied in this study emphasizes students with a high sense of interest when the teaching and learning process takes place so as to get maximum learning results, therefore, researchers feel the need to make changes in delivering Mathematics material in grade IV elementary school students at SDIT An Nahl Depok City with a learning model that can involve students actively and directly. One of the learning models that can be used is the Cooperative Learning Student Team Achievement Division.

Cooperative Learning Model Student Team Achievement Division. It is a learning model using a grouping system. Where students are grouped into several groups consisting of 4 (four) to 5 (five) people who have different academic ability backgrounds, genders, races or tribes (heterogeneous). Each team must work together to achieve learning objectives. The criterion of learning success is determined by team success. Learning activities begin with the delivery of learning objectives, material delivery, group activities, quizzes, and group awards which are reflected in teamwork." According to Utami in Kusumawardani-et al, 2018 said that, "Student Team Achievement Division (STAD) is to motivate students to help each other in solving problems¹

The use of the Student Team Achievement Division Cooperative learning model is expected to improve student activities and learning outcomes in addition to the application of the Student Team Achievement Division Cooperative learning model the teaching and learning process will be effective. The role of the teacher as a facilitator will direct students to achieve learning goals so that the teacher can control students during learning. Based on the description above, the author feels interested in conducting a research entitled Improving Mathematics Learning Outcomes of Angular Material through the Student Team Achievement Division (STAD) Cooperative Learning Model (Classroom Action Research on Grade IV Students, Even Semester, SDIT An Nahl Depok Academic Year 2022/ 2023)

2 RESEARCH METHODS

This type of research is classroom action research. Classroom action research is a form of strategy in detecting or solving problems faced by teachers and students with action, namely by cyclical research. Classroom action research aims to improve their performance as teachers, so that the learning outcomes of students increase and systematically the quality of education in educational units also increases in grade IV Mathematics learning at SDIT An-Nahl Depok (Machali, I. 2022).

This research is in the form of primary data sources and secondary data sources. A primary data source is a data source obtained from the source directly. In this case, researchers take data based on the results of interviews and observations to Class Teachers, grade IV students. While secondary data sources in this study are observations, interviews, documentation, Data analysis techniques are carried out with three actions, namely a) data reduction, b) data presentation, and c) verification (drawing conclusions). A) data reduction means that researchers summarize and summarize, then select data from interviews, photos, field notes, documentation, teacher methods in teaching mathematics, as well as strategies and

motivations given by teachers in fostering students' reading interest. B) data presentation means that after the data is collected, grouped according to categories then presented in the form of narratives starting from the beginning of the researcher into the field until the end of the research. C) verification which means the researcher makes conclusions from the results of observations, interviews, and documentation that have gone through the stage of reducing and presenting data by including valid evidence. (Wijaya, H. 2018).

3 RESULT AND DISCUSSION

This research was carried out on grade IV students in the even semester of the 2022/2023 academic year at SDIT An-Nahl Depok City. Thus in this section presented the results of the study.

Number of Students	18	%	Number of Students	18	%	Number of Students
Complete Amount	8	44,44%	Complete Amount	8	44,44%	Complete Amount
Amount Not Yet Complete	10	55,55%	Amount Not Yet Complete	10	55,55%	Amount Not Yet Complete

Table 1.Pre-Cycle Learning Outcomes

The pre-cycle learning outcomes table above can be seen that the average pre-cycle learning outcomes are 59.72. There were 7 students who scored above KKM, while those who scored below KKM had 11 students. From the data above, it is stated that the results of observations in the Precycle average learning outcomes of students in class are 59.72 with the highest value of 80 and the lowest value of 30. While students who have completed learning reach KKM which is 38.88% or 7 students and those who have not completed learning by 61.09% or a total of 11 students. Based on the data above, it can be concluded that learning in the precycle that still uses conventional learning cannot help students in achieving completeness criteria. This is also shown from the learning activities, the situation in the classroom is very crowded and the activeness of students has not been seen because there are still many students who do not pay attention and understand the teacher's explanation. Learners have not been able to complete tasks on time. So the researchers made improvements in learning in cycle 1.

Complete Amount	8	44,44%	Complete Amount	8	44,44%	Complete Amount
Unfinished Amount	10	55,55%	Unfinished Amount	10	55,55%	Unfinished Amount
Average rating	70,27		Average rating	70,27		Average rating

Table 4. Learning Outcomes Cycle 1

Based cycle 1 is 70.27. Students who get scores above KKM there are 8 students, while those who get scores below KKM there are 10 students. From the data above, it is stated that the results of observations in cycle 1 average learning outcomes of students in class are 70 with the highest score of 90 and the lowest value of 50. While students who have completed learning reach KKM which is 44.43% or 8 students and those who have not completed learning by 55.55% or totaling 10 students.

This is because students have not been able to master the material so they are less able to answer the questions given by researchers and the curiosity of students is still lacking. Thus, to achieve cycle 2, the things that need to be done by researchers are

designing teaching program plans, considering, and planning attitudes and skills that are expected to develop student activeness in the learning process. providing an explanation of the steps and stages of the Cooperative Student Team Achievement Division (STAD), researchers will provide reinforcement and motivation to students in the implementation of learning with the Student Team Achievement Division (STAD) Cooperative learning model. So the researchers made improvements to learning in cycle 2.

Number of Students	18	%	Number of Students	18	%	Number of Students
Complete Amount	12	66,67%	Complete Amount	12	66,67%	Complete Amount
Unfinished Amount	6	33,34%	Unfinished Amount	6	33,34%	Unfinished Amount

Table 3. Learning Outcomes Cycle 2

Complete Amount	15	83,33 %	Complete Amount	15	83,33 %	Complete Amount
Unfinished Amount	3	16,67%	Unfinished Amount	3	16,67%	Unfinished Amount
Average rating	82,78		Average rating	82,78		Average rating

Table 4. Learning Outcomes Cycle 3

From the comparison of student learning outcomes above, the acquisition of final test scores in cycle 3 has increased compared to cycle 2, and the acquisition in cycle 3 has reached success indicators where students who get a score of ≥ 75 reach 83.33%. From the results of observations in learning activities by researchers and observers in cycle 3 it seems to be increasing. From the learning results mentioned above, it is as expected because in cooperative learning Student Team Achievement Division students learn in groups with different abilities, so that if students with low abilities have problems in learning, these students immediately ask with high-ability group friends and medium-ability students. Because students are more courageous to ask group friends than to ask teachers.

According to (Slameto, 2013), said that the indicators of student activity can be seen from the majority of students who are active in learning and students are able to do the tasks given by the teacher through pre-cycle, cycle 1, cycle 2 and cycle 3. Increased activity of learners in the learning process will make lessons more meaningful and meaningful in children's lives.

It is said that because of the involvement in compiling and planning the teaching and learning process.² Therefore, the second indicator in determining the Student Team Achievement Division's cooperative learning on corner material at SDIT An-Nahl Depok City is the achievement of student learning outcomes. Based on the learning outcomes achieved, it can be stated that students have carried out the Student Team Achievement Division Cooperative learning as expected. Based on the evaluation of the results of the implementation of learning with cooperative learning Student Team Achievement Division, it was found that basically this cooperative learning has good enough potential to improve the results of student learning on the material angle. This is shown by the average class of student test results carried out at the end of learning, thus, Cooperative Learning Student Team Achievement Division is a learning model that can improve student learning outcomes on Mathematics, especially in angular material.

4 CONCLUSION

Based on the results of Classroom Action Research and the discussion that has been explained, the average activity and learning outcomes of grade IV students of SDIT An-Nahl in the Mathematics lesson use the STAD Student Team Achievement Division learning model in Cycle I with an average value of 70 students' Mathematics learning. In cycle 2, the average score of learning Mathematics students became 77.22. Furthermore, in cycle 3, the average score of learning Mathematics students increased even more to 82.78. Likewise, the level of completeness of students also increased the results of cycle 1, which was 56% of the value of students who were above KKM reaching 8 students. In cycle 2 it increased to 66.67%, namely 12 students who had scores above KKM. Similarly, in cycle 3 it increased to 83.33% with the number of students above KKM as many as 15 students.

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