

Improvement Of Mathematics Learning Outcomes About Flat Building Area Through Stad-Type Cooperative Learning Methods For Grade III Students Of SD Negeri 005 Kepenuhan

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Abstract, *The formulation of the problem in this study is Whether the STAD-type cooperative learning method can improve mathematics learning outcomes about flat building area in grade 3 semester 2 students of SDN 005 Kepenuhan 2021/2022?" The purpose of this study is to improve the learning outcomes of mathematics Class III Semester 2 on the subject matter of calculating the flat building area at SDN 005 Kepenuhan in 2021/2022. The results showed that the use of the STAD cooperative method can improve student learning outcomes in grade III mathematics subjects at SDN 005 Kepenuhan. This can be seen from the First Cycle of using the STAD type of Cooperative method, there was an increase, namely from 17 students as many as 11 students (64.70%) who achieved the Minimum Completion Criteria (KKM). And there was a significant increase in cycle II, namely as many as 13 students (76.47%) who achieved the Minimum Completion Criteria (KKM)*

Keywords : *Mathematics learning outcomes, STAD learning model*

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I. INTRODUCTION

Based on Law No. 20 of 2003 Article 3 concerning the National Education System, it is stated that education functions to develop abilities and form a dignified national character and civilization in order to educate the nation's life, aiming to develop the potential of students to become human beings who have faith and piety in God Almighty, have a noble character, healthy, knowledgeable, capable, creative,

independent, and be a democratic and responsible citizen answer.

Related to this, Permendiknas No. 41 of 2007 concerning Process Standards states that the learning process in each unit of primary and secondary education must be interactive, inspirational, fun, challenging, and motivate students to actively participate, as well as provide sufficient space for initiative, creativity, and independence according to the talents, interests, and physical and psychological

development of learners. So that the thematic approach is used for students in grades I to grade III. Taking into account the timing and breadth of problem studies, this research is limited to the study of mathematics learning problems in elementary schools.

The purpose of learning mathematics is to prepare students to be able to face changes in life and in an ever-evolving world through the practice of acting on thinking logically, rationally, critically, carefully, honestly, and efficiently (Puskur, 2002).

Based on the results of researchers' reflections carried out previously in the learning process carried out on April 1, 2022, it shows that the quality of mathematics learning grade III SDN 005 Kepenuhan is relatively low. In addition, the results of daily tests of mathematics subjects on the material of calculating the area of the previous flat wake show that student learning outcomes are still low

There are 7 students (41.18%) whose scores are above KKM and 10 students (58.82%) have not reached the predetermined KKM of 65.

Based on the above facts, it is necessary to take actions that can solve problems in the learning process in the classroom,

especially in learning mathematics material. The principal calculates the area of the flat wake. In responding to this problem, researchers try to activate students by inviting students to learn in groups or cooperative learning. This cooperative learning places the teacher as the facilitator.

The simplest cooperative method is STAD (Student Team Achievement Division). Where the class is divided into several small groups consisting of 3-5 students. This learning offers a learning model that will produce individuals in addition to mastering the material also have cooperative skills. With these provisions, students will be ready to face the challenges of the times that require mutual cooperation and are able to compete healthily. Based on the problems in this background, researchers conducted a study on "Improving Mathematics Learning Outcomes about Flat Building Area through STAD Type Cooperative Learning Methods for Grade III Semester 2 Students of SDN 005 Kepenuhan in 2021/2022.

II. RESEARCH METHODS

The research design taken in designing this research is Classroom Action Research. This study was conducted as many as 2 cycles. Classroom Action Research (PTK) has many models, in this study researchers used one of the

PTK models, namely the Arikunto model. Each model has a different implementation procedure, here are the steps of Classroom Action Research according to Arikunto (in Sanjaya, 2011)

1) Planning.

Planning is an initial plan to determine the learning journey process so that it is carried out properly.

2) Action

Action is a treatment carried out by researchers in accordance with the plan that has been prepared by the researcher

3) Observation

Observation is an observation made by researchers to determine the effectiveness of actions or collect information about various weaknesses (shortcomings) of actions that have been taken.

4). Reflection

Reflection is an analysis of the results of observations to bring up new programs or plans.

Research instruments that need to be prepared in this study are: RPP, Observation Sheet and Question Sheet.

The data analysis technique used in this study is to use qualitative descriptive techniques intended to provide a general overview of the research subjects of each cycle using average values, frequency tables and complete and incomplete

percentages To determine the level of mastery of student learning outcomes, the categories proposed by Nurkuncana (1986: 80) were used, namely:

1. The mastery rate of 90% - 100% is categorized as very high
2. The mastery rate of 80% - 89% is categorized as high.
3. Mastery rate of 65% - 79% is categorized as medium
4. The mastery rate of 55% - 64% is categorized as low.
5. The mastery rate of 0% - 54% is categorized as very low.

The data analysis techniques in this study are as follows:

Observation

Based on observations for observation of student activity. measurement of student activity during learning is used formula

$$p = \frac{F}{N} \times 100\%$$

(Source: Sudijono, 2008)

Information:

P = Percentage Number

F = Frequency of student activity

N = Many individuals

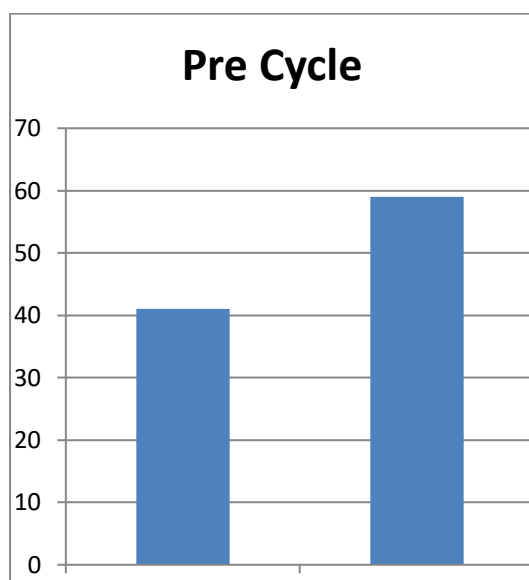
The success indicator in this study is that students complete classically by 80%. KKM for Mathematics 70.

III. RESEARCH RESULTS AND DISCUSSION

Description of Precyclical Data

Preliminary data on the learning outcomes of grade III students of SDN 005 Kepenuhan obtained before the cycle (precyclical) was that there were 10 students (58.82%) who had not succeeded in achieving KKM. The KKM set by the school is 65. The number of students who experienced learning completion was 7 students (41.18%) with the lowest score of 50 and the highest score of 100.

Graph 1 Mathematics Learning Outcomes of Grade III Students of SDN 005 Kepenuhan In Pre-Cycle Using STAD Type Cooperative Method



Description of Cycle I Research Results

a) Planning

The results of planning are in the form of designing learning by applying the STAD type of cooperative learning etode, making learning improvement plans, compiling

observation sheets, and designing formative tests.

b). Implementation

Cycle I will be held on Friday, January 7, 2022 and Friday, January 14, 2022 in grade III SDN 005 Kepenuhan with the number of students participating in learning is 17 students. Subject matter in cycle I That is to recognize flat wakes and calculate the area of a square with a time allocation of 2x35 minutes. The implementation of this cycle is an application of the STAD type cooperative learning method which includes pre-activities, initial activities, core activities, and final activities.

c). Observation/observation

In carrying out observations, researchers use the observation sheet format. . Observation is emphasized on teacher activities in carrying out learning using the STAD type cooperative learning model, and student participation during the learning process. The results of the observations are as follows:

a) Observation Results of Teacher Activities

Data on the Results of Observation of Teacher Skills When pre-learning has prepared the necessary tools and media in learning, including checking student readiness.

When opening lessons, teachers do not provide motivation related to teaching

materials, conveying learning objectives / competencies to be achieved.

In the core activities, the teacher demonstrates mastery of the learning material so that it can relate the material to other relevant knowledge and realities of life, and is clearly conveyed, according to the learning hierarchy and characteristics of the student.

b) Observation Results of Student Activities

Data on the Results of Observation of Student Activity Cycle I obtained the following data:

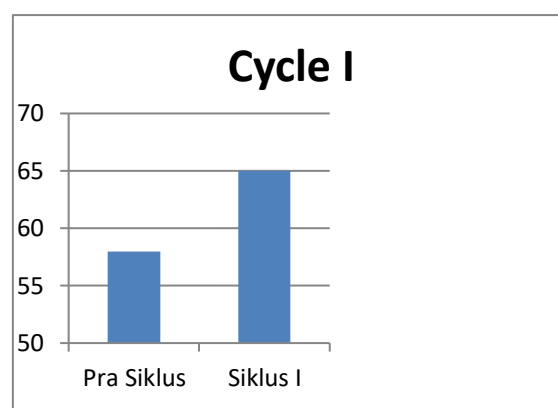
In pre-learning activities students receive learning, and listen carefully when explaining the competencies to be achieved. At the time of the core activity, students pay serious attention when the subject matter is described, actively ask questions during the process of explaining the material, there is a positive interaction between the student-student-teacher, student-subject matter. Students work on group work assignments quietly. The final activity, students actively summarize the conclusions of the subject matter, and are ready to acc

c) Student Cognitive Domain Learning Outcomes

The learning outcomes of the cognitive realm of students in the first cycle are the results of individual tests on mathematics learning through the STAD cooperative learning method. The value of each student

can be known from the results of the written test. The number of students taking the first cycle test is 17 students. Cycle 1 learning test results shows that the average learning outcome of the siswa cognitive realm in mathematics learning through the STAD cooperative learning method is 63.52, with the highest score of 80 and the lowest score of 50. The number of students completed 11 students and 6 students have not completed, so the percentage of classical learning completion is 64.70% with good categories. This shows that the learning outcomes of the cognitive realm of students. The specified classical completion criterion is 75%.

Graph 2 Mathematics Learning Outcomes Grade III SDN 005 Fullness



d. Cycle I Reflections

On reflection resistance, researchers worked with peers to consult with supervisors to record all findings in learning improvement, which included advantages and disadvantages in the improvement of cycle I. The purpose of action research reflection is to improve the quality of

learning in cycle II so that subsequent learning is better. The disadvantages and advantages of cycle I are as follows. 1.

Success

- a) Students' motivation and interest in learning have increased.
- b) Overall, teachers have carried out teaching and learning activities well in the process of improving learning.
- c) There is an increase in students' mastery of the learning material.
- d) Learning outcomes have improved from before learning improvements were made.

Deficiency

- a) There are still students who do not understand the material.
- b) Students' skills in answering questions are still lacking.
- c) Learning outcomes need to be improved again.
- d) Students need teacher guidance in doing assignments.

e. Improvement of Cycle I

Based on the reflections that have been described, it is necessary to make improvements from both teachers and students in all aspects of the assessment of cycle I for the implementation stage in cycle II as follows.

- a. At the beginning of learning, teachers need to provide motivation to be ready and focused on following the. In explaining the
- b. benefits of the material, the teacher

should mention the overall benefit of the material not just focused on a specific material.

- c. The delivery of learning objectives should be conveyed clearly so that students are aware of the learning activities and material limitations on the day.
- d. Teachers need to create good classroom conditions in learning by emphatically reprimanding students who make rowdy.
- e. Teachers need to invite students to be more active in their opinions, questions and responses, both during discussions and given the opportunity to ask questions.
- f. Teachers need to guide students in groups by holding an approach in person.
- g. At the end of the lesson the teacher needs to actively involve the students in concluding and reflecting on the learning activities of the day. Then invite students to pray.

Description of Cycle II Research Results

a. Planning

The results of planning are in the form of designing learning by applying the STAD type of cooperative learning methods as well as the use of printed paper media, making learning improvement plans, compiling observation sheets, and designing formative tests.

Implementation

- b. Cycle II will be held on Friday, January 21, 2022 in grade III SDN 005 Kepenuhan

with the number of students participating in learning is 17 students. The subject matter in cycle II is about the properties of flat wakes and calculating the circumference of a rectangle with a time allocation of 2x35 minutes. The implementation of this cycle is the application of the STAD type cooperative learning method.

a) Observation Results of Teacher Activities

Data on the Results of Observation of Teacher Skills Cycle II conducted by colleagues can be described as follows:

When pre-learning has prepared the necessary tools and media in learning, including checking student readiness.

When opening the lesson, the teacher gives apperception questions related to the teaching material, conveying the learning objectives / competencies to be achieved.

In the core activities, the teacher demonstrates mastery of the learning material so that it can relate the material to other relevant knowledge and realities of life, and is clearly conveyed, according to the learning hierarchy and characteristics of the student.

Regarding the cooperative learning model, teachers carry out cooperative learning in accordance with the planned activity steps, in accordance with the goals / competencies to be achieved, foster active student participation, facilitate interaction between

students and learning resources, use spoken and written language well.

In terms of assessment of learning processes and outcomes, teachers are good enough to monitor student learning progress during the learning process and conduct final assessments in accordance with the competencies (objectives) that have been made, the delivery of learning messages with spoken and written language clearly, well, and correctly.

The final activity, the teacher reflects and summarizes the material with students, carries.

b) Observation Results of Student Activities

Data on the Results of Observation of Student Activity Cycle II obtained observation results during the learning process, as follows:

In pre-learning activities students receive learning, and listen carefully when explaining the competencies to be achieved. At the time of the core activity, students pay serious attention when explained the subject matter, actively asked questions during the process of explaining the material, there is a positive interaction between the student-student-teacher, the student-the subject matter. Students work on group work assignments quietly.

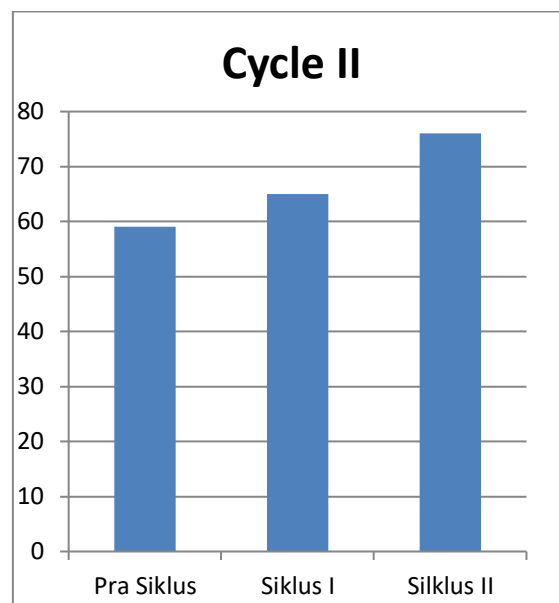
The final activity, students actively summarize the conclusions of the subject

matter, and are ready to accept homework assignments.

c) Student Cognitive Domain Learning Outcomes

The learning outcomes of the cognitive realm of students in cycle II are the results of individual tests on mathematics learning through the STAD cooperative learning method and the use of printed paper props. The score of each student can be known from the results of the written test which amounts to 5 description questions. The number of students taking the second cycle test is 17 students. The results of the cycle II test showed that the average learning outcomes of the cognitive realm in mathematics learning through the STAD cooperative learning method and the use of tiled paper media were 68.82, with the highest score of 100 and the lowest score of 50. The number of students completed 13 students and unfinished 4 students, so the percentage of classical learning completion is 76.47%. This shows that the learning outcomes of the cognitive realm of students in cycle II have met the criteria. The specified classical completion is 75%.

Graph 2 Mathematics Learning Outcomes Grade III SDN 005 Kepenuhan.



d. Reflection of Cycle II

The data obtained in the second cycle of research are in the form of teacher skills, student activities, and student learning outcomes in learning mathematics about the nature and calculating the circumference of flat buildings with the STAD-type cooperative method. Furthermore, the researcher and collaborators.

The results of the student evaluation test showed that the average learning outcome of the cognitive realm of students in cycle II was 68.82. There are 13 students who meet KKM and 4 students who have not met KKM. So that the percentage of classical learning completion is 76.47%. Thus, the learning outcomes of the cognitive realm of students have met the established classical completion criteria of 75%.

Based on the results of these reflections, learning mathematics about the nature and calculating the circumference of flat

buildings with the STAD-type cooperative method has improved teacher skills, student activities, and student learning outcomes. It is proven by the achievement of the expected success indicators in this aspect. Referring to those results, the study was dismissed only up to cycle II.

IV. CONCLUSION

Based on the results of data analysis that has been previously presented, researchers can conclude that the application of STAD-type cooperative learning can improve the learning outcomes of students in class III SD Negeri 005 Kepenuhan in mathematics learning material calculating flat uas building. It can be seen that the results of the evaluation in the pre-cyclush were 7 people (41.18%) students who achieved the KKM target of 65. Then, after the implementation of the first cycle of action there were 11 students (64.70%) who have achieved the KKM target, and in the results of the second cycle evaluation there are 13 (76.47%) students who have achieved KKM scores. Based on these conclusions, the hypothesis of action that through a cooperative learning model of the STAD type can improve teacher skills, student activities, and student learning outcomes in mathematics.

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