

## IMPROVING MATHEMATICS LEARNING OUTCOMES USING CONCRETE MEDIA (REAL) KPK and FPB MATERIALS IN CLASS VI STATES OF SD NEGERI 020 TAMBUSAI, TAMBUSAI DISTRICT, ROKAN HULU REGENCY

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**Abstract,** This research is to improve the learning process in terms of teacher and student activities so as to find out whether there is an increase in student mathematics learning outcomes after implementing the application of learning using concrete (real) media in class VI students of SD Negeri 020 Tambusai, Tambusai District, Rokan Hulu Regency, totaling 31 students. This research is motivated by the low learning outcomes of students and the awareness of teachers to use media that are in accordance with the subject matter. This research is a Classroom Action Research (CAR) which consists of two cycles. Data collection techniques in this study were carried out using observation techniques (field notes, observations, interviews, photos) and performance tests. The Observation Sheet will be analyzed qualitatively which aims to describe the activities of students and teachers during the learning process, while the performance test will be analyzed using the Minimum Completeness Criteria (KKM) analysis. The results showed an increase in mathematics learning outcomes for sixth grade students of SD Negeri 020 Tambusai, Tambusai District. Rokan Hulu Regency. This can be seen in student learning outcomes in the test in the first cycle and the daily test in the second cycle, where the average value of student learning outcomes in the pre-cycle is 55.81, in the first daily test the average value of student learning outcomes is 64.84 and on the second daily test the average value of student learning outcomes is 77.74. while the performance test will be analyzed with the analysis of the Minimum Completeness Criteria (KKM). The results showed an increase in mathematics learning outcomes for sixth grade students of SD Negeri 020 Tambusai, Tambusai District. Rokan Hulu Regency. This can be seen in student learning outcomes in the test in the first cycle and the daily test in the second cycle, where the average value of student learning outcomes in the pre-cycle is 55.81, in the first daily test the average value of student learning outcomes is 64.84 and on the second daily test the average value of student learning outcomes is 77.74. while the performance test will be analyzed with the analysis of the Minimum Completeness Criteria (KKM). The results showed an increase in mathematics learning outcomes for sixth grade students of SD Negeri 020 Tambusai, Tambusai District. Rokan Hulu Regency. This can be seen in student learning outcomes in the test in the first cycle and the daily test in the second cycle, where the average value of student learning outcomes in the pre-cycle is 55.81, in the first daily test the average value of student learning outcomes is 64.84 and on the second daily test the average value of student learning outcomes is 77.74.

**Keywords :** Mathematics Learning, Concrete Media (Real).

### I. INTRODUCTION

Education in the school environment is essentially intended to realize the goals of

national education as in the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System,

it is emphasized that the function of national education is to develop capabilities and shape the character and civilization of a dignified nation in the context of educating the nation's life. To develop the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens.

The low level of students' ability to master mathematics subject matter because in the teaching and learning process that has been applied by teachers so far is by providing material without teaching aids, reading lesson texts while students are asked to listen, take notes and do exercises, so that students are just passive listeners in the class. causes students to be less interested, and even lose their motivation to learn so that the level of student understanding of the subject matter or learning outcomes obtained by students can result in low.

According to Sardiman (1992), learning is an effort to master the material of science which is part of an activity towards the formation of a complete personality. Usman (1995) says learning is a process of changing behavior in individuals due to the interaction between individuals and individuals with their environment.

Based on the observation of mathematics learning outcomes on daily

tests of 31 students who achieved the minimum completeness criteria (KKM) 65 as many as 10 students (32.26%) while students who had not reached the KKM were 21 students (67.74%) with a class average 55.81.

To improve student learning outcomes, one way is to use concrete (real) media which makes it easier for students to understand and understand the material presented by the teacher because concrete (real) media can have direct contact with students. So far, SD Negeri 020 Tambusai, Tambusai sub-district, Rokan Hulu Regency does not use this media so that students do not understand the material presented.

Concrete media (real) is the easiest tool to use because there is no need to make preparations other than using it directly. Concrete objects (real) as media are tools for conveying information in the form of actual or original objects or objects and have not undergone significant changes.

Concrete (real) media are tools that usually provide a direct experience to users. Therefore, concrete (real) media are widely used in the teaching and learning process as a tool to introduce new subjects. Concrete media (real) are able to give real meaning to things that were previously only described in an abstract way, namely by words or just fantasies.

The rapid development in the field of information and communication technology today is based on the development of mathematics in the fields of number theory, algebra, analysis, probability theory, and discrete mathematics. To master and create technology in the future requires a strong mastery of mathematics from an early age.

According to Djaali (2006), Mathematics is an abstract science about space and numbers and Bering is described as a collection of mathematical systems with structural ideas that contain logical sequences. Ruseffendi (1990) says: Mathematics is formed as a result of human thinking related to the idea of process and reasoning,

The formulation of the problem in this study are (1) How are student learning outcomes after the use of concrete (real) media is carried out?, (2) How much is the increase in student learning outcomes after the use of concrete (real) media is carried out?, and (3) What are the following factors? factors that influence student learning outcomes by using concrete (real) media?

The objectives of this study are (1) to determine the learning outcomes before the use of concrete (real) media is carried out, (2)

To find out the results learning after the use of concrete (real) media is carried out, (3) To find out how much increase in student learning outcomes after the use of

concrete (real) media is carried out, and (4) To find out the factors that influence student learning outcomes by using concrete (real) media. ).

## **II. RESEARCH METHODS**

This type of research is classified as Classroom Action Research (CAR) or Dashroom Action Research (CAR). The implementation of this classroom action research is collaborative, meaning that in this research it is different from peers. Peers act as observers whose job is to observe and assess all activities of researchers and students during the research process.

According to Suharsimi (2020), Classroom action research is a research activity that is carried out in the classroom. Hamalik Omar (2004) states that classroom action research is essentially a scientific activity that is able to reflect on learning activities in the classroom through scientific research that can be accounted for with procedures and requirements, which a teacher can do without reducing his attention to class and student achievement.

The research was carried out in class VI with a total of 31 students, consisting of 17 male students and 14 female students. This action was carried out by the sixth grade teacher of SD Negeri 020 Tambusai, Tambusai sub-district, Rokan Hulu Regency in mathematics, while the researcher himself acted as a teaching teacher and was assisted

by colleagues who acted as observers who had read and understood how to use concrete (real) media.

This research procedure consists of 4 steps, namely (1) planning, (2) implementation, (3) observation, and (4) reflection. This research consists of two cycles. Data collection techniques with syllabus, lesson plans, worksheets, teaching materials, test questions and observation sheets.

### III. RESEARCH RESULTS AND DISCUSSION

#### 1. Cycle I

Before the researchers applied the use of concrete (real) media to mathematics subjects, the researchers first applied the lecture and exercise learning method that was carried out in Class VI SD Negeri 020 Tambusai and conducted a performance test. Student learning outcomes through the tests that the researchers carried out were then analyzed, it can be seen that the learning outcomes in mathematics are relatively low, only 10 students have completed out of 31 students with an average acquisition of 55.81, which means that student learning outcomes have not reached the predetermined KKM. ie 65. Therefore, it is necessary to take corrective action. Student learning outcomes through the following tests:

Table 1. Learning Outcomes of Class VI students on the Persiklus daily test

No	Student's name	Mark
1	Student 07	80
2	22 student	80
3	Student 02	70
4	student 13	70
5	student 15	70
6	18 student	70
7	19 student	70
8	27 student	70
9	28 student	70
10	Student 30	70
11	Student 01	60
12	Student 04	60
13	Student 08	60
14	student 10	60
No	Student's name	Mark
15	Student 14	60
16	23 student	60
17	student 25	60
18	29 student	60
19	Student 03	50
20	Student 05	50
21	Student 06	50
22	16 student	50
23	17 student	50
24	Student 09	40
25	student 20	40
26	Student 21	40
27	Student 24	40
28	Student 11	30
29	student 12	30
30	26 student	30
31	Student 31	30
Average		55.81

In the confirmation activity, the teacher and students asked questions about the material being taught, while in the closing activity the teacher and students concluded the material for the FPB and KPK two numbers. Observers fill out student activity sheets and teacher activity observation sheets. After the first to third meetings are completed, a reflection on the activities and

teachers is carried out, with the following results:

Table 2. Student Activity Scores in Cycle I

Cycle	Meeting	Student Score	Category
I	The first meeting	2.0	Enough
	Second meeting	2.3	Well
	Third Meeting	2.5	Well
	Average	2.27	Well

Table 3. Student Activity Scores in Cycle I

Cycle	Meeting	Student Score	Category
I	The first meeting	2.7	Well
	Second meeting	3.0	Well
	Third Meeting	3.2	Very good
	Average	2.29	Well

Reflections in Cycle I of the First Meeting were obtained based on the results of the analysis for each step of implementing the action. Then discussed with the observer.

When students work on exam questions, the teacher supervises students in working on the exam questions given and ensures that the daily review goes well. However, in the first daily test, students told more stories so that it interfered with the daily test, this was due to the students' seats being not heterogeneous. Student time can be used to discuss questions. The daily test scores obtained are used to find students' completeness.

Table 4. Student Learning Outcomes of Class VI Cycle I

No	Student	Cycle
1	Student 07	90
2	22 student	90
3	28 student	90
4	Student 02	80
5	student 15	80
6	18 student	80
7	19 student	80
8	27 student	80
9	Student 30	80
10	student 13	70
11	Student 01	70
12	Student 04	70
12	Student 04	70
13	Student 08	70
14	student 10	70
15	Student 14	70
16	23 student	70
No	Student	Cycle
17	29 student	70
18	student 25	60
19	Student 05	60
20	Student 06	60
21	16 student	60
22	Student 03	50
23	17 student	50
24	student 20	60
25	Student 21	50
26	Student 24	50
27	Student 09	40
28	Student 11	50
29	student 12	50
30	Student 31	50
31	26 student	30
<i>Amount</i>		<b>2010</b>
<i>Average</i>		<b>64.84</b>

From the table above, student learning outcomes have increased but have not been maximized because there are still many students who have not reached the KKM so that the research continues to cycle II.

## 2. Cycle II

In the stage of implementing learning by the teacher, the steps taken at the first meeting of cycle II are as follows: (1) Prepare lesson plans with competency standards by performing integer arithmetic operations in solving problems, (2) Make student and teacher observation sheets, and (3) Determine peers as observers.

After the first to third meetings are completed, a reflection on the activities of students and teachers is carried out with the following results:

Table 5. Student Activity Scores in Cycle II

Cycle	Meeting	Student Score	Category
II	The first meeting	2.9	Well
	Second meeting	3.2	Very good
	Third meeting	3.4	Very good
Average		3.17	Very good

Table 6. Teacher Activity Score in Cycle II

Cycle	Meeting	Student Score	Category
II	The first meeting	3.5	Very good
	Second meeting	3.6	Very good
	Third meeting	3.8	Very good
Average		3.63	Very good

Reflection in the second cycle of the first meeting was obtained based on the results of data analysis for each step of implementing the action, then discussed with the observer.

Table 7. Student Learning Outcomes of Class VI Cycle II

No	Student	Cycle II
1	Student 07	100
2	22 student	100
3	28 student	100
4	Student 02	90
5	student 15	90
6	18 student	90
7	19 student	90
8	27 student	90
9	Student 30	90
10	student 13	80
11	Student 01	80
12	Student 04	80
13	Student 08	80
14	student 10	80
15	Student 14	80
16	23 student	80
17	29 student	80
18	student 25	70
19	Student 05	70
20	Student 06	70
21	16 student	70
22	Student 03	70
23	17 student	70
24	29 student	70
25	Student 21	70
26	Student 24	70
27	Student 09	60
28	Student 11	70
29	student 12	60
30	Student 31	60
31	26 student	50
Amount		2.410
Average		77.74

In the first cycle, the first meeting the student activity score was 2.0 with sufficient category, the second meeting the student activity score was 2.3 in the good category and the third meeting the student activity score was 2.5 in the good category. In the second cycle, the first meeting had a student activity score of 2.9 in a good category, the second meeting a student activity score of 3.2 in a very good category and the third meeting

a student activity score of 3.4 in a very good category. The average student activity in cycle I and cycle II is 2.7 with good category.

In Cycle I, the first meeting had a teacher activity score of 2.7 with a good category, the second meeting a teacher activity score of 3.0 with a good category and the third meeting a teacher activity score of 3.2 with a very good category. Cycle II, the first meeting the teacher's activity score was 3.5 with a very good category, the second meeting the teacher's activity score was 3.6 with the very good category and the third meeting the teacher's activity score was 3.8 with a very good category and for the average score of teacher activity was 3.3 with very good category. From each cycle, the teacher's activity score increases, although not significantly, this is due to the teacher's desire to continue to improve the learning process so that the desired learning objectives are achieved.

In the first cycle of daily tests, the average student absorption was 64.84, while in the second cycle the average student's absorption was 77.74. The average student gain is 12.90 and the percentage is 12.90%. The daily test value in cycle II can be said to increase. From the beginning the score was completed by 17 students from 31 students, then in the daily test scores of Cycle II the number of students who completed was 27 students out of 31 students with a percentage

of 87.10% while students who did not complete reached 4 students out of 31 students with a percentage of 12.90 %. This increase is because students have begun to understand and are able to draw their own conclusions so that they can think about the answers to the questions given.

There is a daily pre-cycle test from 31 students, which only 10 students complete, which is equivalent to 32.26% of the time. Students who did not complete 21 students are equivalent to 67.74%. In the daily test of the first cycle, the 31 students who completed the test reached 17 students, which is equal to 54.84%. while students who did not complete 14 students were comparable to 45.16% of students. Furthermore, in the second cycle of 31 students, the students who completed 27 students were equal to 87.10%. Meanwhile, students who did not complete only 4 students were comparable, with 12.10%. For more details, student learning completeness is classically from pre-cycle, cycle I, to cycle II.

Based on field notes, observations and interviews, there are several factors that influence student learning outcomes in cycle I, which still make it difficult for students because it is difficult to calculate integers with positive and negative uses. This is also the case for FPB and KPK materials because so far they have used abstract calculations.

In addition, the use of concrete (real) media in the form of marbles in learning students are more interested in playing them so that the learning process does not achieve the goals or objectives. In cycle II, students begin to understand so that learning is faster and makes students become interested. The use of learning media has been used by students according to its function and makes the class situation safer and more orderly. The researcher's attention was not only focused on the noisy students but all of them got the same attention. Therefore, the learning process in cycle II is more optimal and achieves learning objectives.

#### **IV. CONCLUSION**

Based on the results of the study, the conclusions of this study were obtained as follows:

1. The use of concrete (real) media can improve student learning outcomes.
2. Student learning outcomes before using concrete (real) media had an average score of 55.81 students in the pre-cycle and an average score of 64.84 in cycle 1.
3. Student learning outcomes after using concrete (real) media have an average student score of 64.84 in the first cycle and 77.74 in the second cycle.
4. The increase in student learning outcomes from pre-cycle to cycle I was 9.69% and from cycle I to cycle II was 12.90%.

5. The factors that influence student learning outcomes in this study are learning materials, learning media, and teacher approach.

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