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# The Improvement of Mathematics Learning Outcomes with Think Pair Share Cooperative Learning Model

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**Abstract**

In the process of mathematics learning, many students are less active, many are noisy, the work given is not completed, and the results of student evaluations are not satisfactory. For this reason, appropriate learning improvements are needed, namely by applying the think pair share cooperative learning model. This study aims to improve mathematics learning outcomes through think pair share cooperative learning method (think, pair, share) for Marsudirini Perawang elementary school students. The research subjects were students of grade 3 (three) totaling 30 people. The type of research is classroom action research. The research procedure consisted of planning, implementing actions, observing, and reflecting. The research instruments are learning tools and data collection tools (test sheets and student observation sheets). The results showed that the students' scores had increased very well from 0% then 10% to 26%. In the daily test score of 1, the number of students who achieved the very good category increased by 10%. Meanwhile, in the daily test score of 2, the number of students who achieved the very good category increased to 26%. The average score of students on the second daily test increased above the minimum completeness criteria (KKM) that had been determined by the school (73>70). Student activities in the aspects of answering questions, discussing student worksheets and reporting discussion results have increased. In the first cycle the average was 17.3% and 35.3%. While in the second cycle it rose to 53% and 73.3%. Overall, the average student activity in the first cycle was 18.12% and in the second cycle 63.33%. Thus, the application of think pair share cooperative learning model can improve mathematics learning outcomes in grade 3 (three) elementary school students.

**Keywords:** *Mathematics, Learning Outcomes, Think Pair Share Cooperative Learning*

## A. INTRODUCTION

The main objective of learning in elementary school is the ability to write, read and count. This shows that learning mathematics in elementary schools is very important. Especially in lower grades learning mathematics is a provision of basic skills to study other subjects as well as higher knowledge. The main purpose of learning mathematics is to understand mathematical concepts, explain the interrelationships between concepts and apply concepts or algorithms, flexibly, accurately, efficiently and precisely in problem solving, use reasoning on patterns and properties, perform mathematical manipulations in making generalizations, compiling evidence or explaining ideas. and mathematical statements, solving problems which include the ability to understand problems, design mathematical models, complete models and interpret solutions obtained, communicate ideas and symbols, tables, diagrams or other media to clarify situations or problems, have an attitude of appreciating the usefulness of mathematics in life, namely having curiosity, attention and interest in learning mathematics as well as a tenacious and confident attitude in solving problems (Depdiknas, 2004).

Mathematics is so important for elementary school students, but in fact at Marsudirini Perawang elementary school, especially grade 3 where the author teaches many students who do not like learning mathematics. When learning mathematics, many students are not active in learning, remain silent when asked to answer questions or are asked to ask questions by the teacher and only smart students do the whiteboard assignments, rarely ask if there is something they do not understand and the evaluation results are not in accordance with which is expected. Symptoms that often appear during the mathematics learning process are caused because the teacher only provides opportunities for smart students to work on questions on the blackboard and do not involve all students in turn in the learning process. Seeing this condition, the teacher certainly did not let this problem drag on because it greatly affected the mathematics learning outcomes of the 3rd graders of Marsudirini Perawang elementary school.

In the student learning process, it is stated that learning outcomes are the abilities students have after receiving their learning experiences. Meanwhile, (Sagala, 2005) states that the learning outcomes changes in behavior due to the learning process for individuals or the final value of the learning process carried out by adults consciously. And these learning outcomes reflect the breadth and depth and complexity of competencies formulated in knowledge, behavior, skills, attitudes and values that can be measured by various assessment techniques (Kurikulum, 2006). Based on these statements, it can be concluded that learning is a process of change in the human personality so that behavior changes due to experience and practice.

There are several factors that affect a person's learning outcomes, some of which according to (Syah, 2007) are as follows: Internal factors, these factors are factors from within students. As for what is included in this factor is health, disability, psychology which includes intelligence, interests, talents, maturity, and readiness; External factors, these factors are things that come from outside the individual, including family conditions, economic conditions, as well as environmental and school conditions; The learning approach factor, this is a type of student learning effort that includes the use of strategies and methods used to carry out learning activities.

Cooperative learning is not something new. In cooperative learning, students are formed in groups of 4 or 5 people to work together in mastering the material given by the teacher (Slavin, 2005). Cooperative learning is where students learn together as a team in completing group tasks to achieve common goals. So each group member has equal responsibility for the success of the group.

During cooperative learning, students stay in their groups for several meetings. They are taught special skills in order to work well in their groups, such as being active listeners, giving good explanations to their group mates, discussing, and so on. To be carried out well, students are given an activity sheet containing questions or assignments that are planned to be taught. While working in groups, the task of group members is to achieve completeness of the material presented by the teacher and help each other among group friends to achieve material

completeness. Learning has not been completed if one of the group members has not mastered the subject matter.

(Zamroni, 2000) suggests that the benefit of implementing cooperative learning is that it can reduce educational disparities, especially in the form of input at the individual level. In addition, cooperative learning can develop social solidarity among students. With cooperative learning, it is hoped that in the future a new generation will emerge who have brilliant academic achievements and have strong social solidarity. Cooperative goal structure occurs when students can achieve their goals only if other students with whom they work together achieve these goals.

Slavin (1995) in (Huda, 2011) states the purpose of cooperative learning is to maximize student learning to increase academic achievement and understanding both individually and in groups. Because students work together in a team, it automatically improves relationships among students from various ethnic backgrounds and abilities, develops group process skills and problem solving (Luisell & Descamps in (Huda, 2011). From several variations in the cooperative model the author take the Think Pair Share model or think in pairs. Sharing is a type of cooperative learning designed to influence student interaction patterns. Think Pair Share can give students more time to think, to respond and to help each other. Based on this theoretical study that by thinking (Thinking), in pairs (Pairing), discussing and reporting (Sharing) can help students to respond and help each other (Suyatno, 2009). In connection with the Think Pair Share method giving students more time to think (Thinking), sitting in pairs (Pairing), responding and helping each other (Sharing) with learning outcomes, the hypothesis of action in this study is if by giving students more time to think (Thinking), sitting in pairs (Pairing), responding and helping each other (Sharing) can be applied in learning mathematics, then the mathematics learning outcomes of 3rd grade students of Marsudirini Perawang elementary school will increase.

Here are some results of classroom action research using the Think Pair Share model of cooperative learning:

| No. | Writer | Research Title | Research Result |
|---|---|---|---|
| 1 | (Marta, 2017) | Improving Mathematics Learning Outcomes With Think Pair Share Type Cooperative Models in Elementary Schools | Learning outcomes in the first cycle are still relatively low with a mean of 73.75. Furthermore, out of 20 students, only 13 students completed while completing 65% classical learning. And the learning outcomes in the second cycle are classified as very good with an average of 84.25, and 20 students there are 17 students who complete while completing 85% classical learning. Thus, using the Think Pair Share (TPS) type model can improve mathematics learning outcomes in simple class IV building materials at SDN 009 Sialang Kubang |
| 2 | (Yuliyanti & Harini, 2019) | The Effect of TPS (Think Pair Share) Model on Mathematics Learning Outcomes of Fourth Grade Students at SDN Sindurejan | The results of the significance analysis of 0.000 <0.05 have a positive and significant effect on the use of the TPS (Think Pair Share) learning model on mathematics learning outcomes. So there are significant differences in learning outcomes of mathematics using the TPS (Think Pair Share) learning model and conventional methods. By looking at the average learning outcomes using the TPS (Think Pair Share) learning model is 65.282 and those using the conventional method are 49.935. |
| 3 | (Litna & Seli, 2019) | Application of the Think-Pair-Share (TPS) Cooperative | Obtained through interviews, observations and tests. The subject of the study was the fourth grade elementary school, which consisted of 20 |

| | | | |
|---|---|---|---|
| | | Learning Model to Improve Mathematics Learning Activities and Achievements | students. Based on the data analysis that has been done, the average student learning activity in the first cycle is 37.67 in the moderately active category, then increased in the second cycle to 53.83 with the active category. The results of student achievement in the first cycle was 62.65, increasing to 76.2 in the second cycle. Thus, the results of this study indicate that the application of the think-pair-share (TPS) cooperative learning model can increase students' learning activities and achievement in mathematics. |
| 4 | (Dewi et al., 2019) | Efforts to Improve Mathematics Learning Outcomes Through Think Pair Share (TPS) Learning Models Assisted by Media Build Class IV Elementary School Creations | The results showed an increase in student learning outcomes from the initial conditions that reached KKM only 32%, then in the first cycle it increased to 73% and in the second cycle it increased again to 91%. This increase occurred because students began to understand concepts in mathematics learning using the Think Pair Share (TPS) learning model with the Build Creative media and students became more enthusiastic, active, and creative in participating in the teaching and learning process. |
| 5 | (Khamid, 2014) | Improving Mathematics Learning Outcomes Through Think Pair Share in Class VI SD Negeri Jetis 1 Yogyakarta | The results of this study indicate that the implementation of the learning model Think Pair Share cooperative type there is an increase in cycle I obtained the average value of the class is 76.34, the second cycle the average value of the class is 80.77, and in the third cycle obtained an average grade of 90.19. Through TPS, students have felt that this thinking activity does require the knowledge of each, students are able to work in groups and agree on the results, and take responsibility for the results in front of the class. |
| 6 | (Hamdan, 2017) | The Effect of (Think – Pair – Share) Strategy on the Achievement of Third Grade Student in Sciences in the Educational District of Irbid | The findings of the study show that there are statistically differences in grades of students due to group variable at the significance level (0.05), and the differences were in favor of the experimental group and there are statistically differences due to gender at the significance level (0.05) in favor of females.The study recommended to entry (Think – Pair – Share) strategy within the teaching strategies used by students during the teaching and the involvement of teachers in training courses on (Think – Pair – Share) strategy. |
| 7 | (Manurung, 2017) | Using Think-Pair-Share To Improve Speaking Achievement Of The Second Semester English Study Program Of | The results showed that the average score of students speaking achievement was 66 in cycle I and the observation result was 62.82. The result had not been reached the target yet that was >70. At least more than 85% students could achieve the score above 70. Thus, cycle II was necessary to be implemented. In cycle II, the average score |

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|---|---|---|---|
| | | Tridinanti University Palembang | of speaking test was 81 and the observation result was 81.06. The students had reached the target and the cycle was stopped. In conclusion, the implementation of TPR had brought significant improvement to the students speaking achievement. |

Mathematics is so important for elementary school students, but in fact at Marsudirini Perawang elementary school, especially grade 3 where the author teaches many students who do not like learning mathematics. When learning mathematics, many students are not active in learning, remain silent when asked to answer questions or are asked to ask questions by the teacher and only smart students do the whiteboard assignments, rarely ask if there is something they do not understand and the evaluation results are not in accordance with which is expected. Symptoms that often appear during the mathematics learning process are caused because the teacher only provides opportunities for smart students to work on questions on the blackboard and do not involve all students in turn in the learning process. Seeing this condition, the teacher certainly did not let this problem drag on because it greatly affected the mathematics learning outcomes of the 3rd graders of Marsudirini Perawang elementary school.

## B. METHODOLOGY

In this Classroom Action Research, researchers collaborate with colleagues as observers of the research process, it is highly expected that high honesty is needed to provide information, input and ideas so that researchers can take further action efforts in improving student learning outcomes. Likewise, the support and guidance of the principal in the implementation of this research. So that Classroom Action Research conducted by researchers can run well and smoothly.

1. *Research Subject*
   The subjects of this study were 3rd grade students of Marsudirini Perawang elementary school, totaling 30 students. The research topic is improving mathematics learning outcomes in time unit material (hours) by applying the Think Pair Share (TPS) Cooperative learning model. Thus, the implementation of the learning improvement actions was carried out in grade 3 Marsudirini Perawang elementary school. In the implementation of this research, it was carried out in two cycles, cycle 1 on October 8th 2018 and cycle 2 on October 15th 2018 for mathematics subjects.
2. *Learning Improvement Procedure Design*
   This research is classroom action research (CAR), which is an action or effort of the teacher in the learning process through self-reflection with the aim of improving so that student learning outcomes increase (Aqib & Dkk, 2009). This learning improvement effort is called a cycle. Classroom action research has four components, namely planning, implementation, observation, and reflection (Wardani, 2010).

**Cycle I**

a. Action plan

1. Cycle I corrective actions will be implemented in grade 3 MarsudiriniPerawang elementary school on:
   a. Meeting 1: Monday, October 8th, 2018
   b. Meeting 2: Thursday, October 11th, 2018
2. Learning equipment prepared by lesson plans, worksheets, and wall clocks.
3. Determining pairs, smart students with students who are less able to take lessons.

b. Action execution

1. Initial Activity (10 minutes)
   1. The teacher starts learning by giving apperception and motivation to students.
   2. The teacher conveys the learning objectives to the students.
2. Core Activities (45 minutes)
   1. The teacher asks students to sit in pairs, who are smart with students who are less able to follow the lesson.

2. The teacher shows the picture of the clock to the students and explains how to read the time signs on the clock.
3. Students practice turning the long and short needles according to the time determined by the teacher alternately in front of the class.
4. The teacher distributes student worksheets
5. Students discuss the questions given by the teacher on the worksheet with their partner.
6. Students report the results of their group work to the pairs in the class.

3. Final Activity (15 minutes)
    1. Students conclude the lesson guided by the teacher
    2. Students work on evaluations with teacher supervision.

c. Observation / observation

1. The things observed by observers are as follows:
   Teacher Activities:
    1. In motivating students the teacher does not provide examples that exist in the student environment.
    2. The teacher is too quick to speak at the time of apperception.
    3. In class management, the teacher informs the smart students' assignments.
    4. The teacher only supervises some students at the time of study.
    5. The teacher guides students to conclude that the lesson still dominates.

   Student Activities:
    1. Students are not well motivated.
    2. Only some students can relate apperception to the subject matter.
    3. Smart students have not been able to guide their partner in learning well.
    4. Some students are still noisy in learning.
    5. Only smart students can answer questions from the teacher.
    6. Students are generally excited to do the exercise in pairs.
    7. Some students still do not summarize the subject matter.

d. Reflection

After the data is obtained and has been discussed by peers, by analyzing the weaknesses and strengths of the teacher in teaching in the planning of the first cycle, then the planning of the second cycle will add the following actions:

1. The teacher must improve the way of speaking in conveying motivation, apperception, and giving examples that are commonly known to students in their environment.
2. Teachers must supervise students as a whole in learning.
3. Teachers should involve students more in learning.

Strength to be improved:

1. Determination of partners, preferably closer friends so that they can more easily communicate in learning.
2. The use of props will be added with a variety of clock models, to make it more interesting.
3. When students report the results of their group work, students are given awards so that other groups want to convey the results of their group work.

**Cycle II**

a. Action plan

1. Cycle II corrective actions will be carried out on:
   Meeting 3: Monday, October 15th, 2018
   Meeting 4: Wednesday, October 17th, 2018
2. Learning equipment that will be prepared by RPP, student worksheets, various kinds of clock models.
3. Changing pairs of students for their classmates, namely by choosing friends who are more familiar so that it is easier for them to communicate in learning.

b. Action implementation.

1. Initial Activity (10 minutes)
    1. The teacher gives an initial test of the lesson by asking questions about the previous lesson.
    2. The teacher motivates the students by singing the song Names of the Day.
    3. The teacher conveys the learning objectives.
2. Core Activities (45 minutes)
    1. The teacher asks a question or problem related to the lesson.
    2. The teacher explains how to solve time problems in everyday life.
    3. The teacher arranges student seats according to the action plan.
    4. The teacher distributes student worksheets.
    5. Students in small groups discuss working on practice questions about how to solve time problems in everyday life.
    6. Students take turns representing the discussion group reporting the results of their group work with the guidance of the teacher.
    7. Students in pairs with their classmates practice turning the long and short hands of the clock according to the specified time, on the hour provided by the teacher.
3. Final Activity (15 minutes)
    1. Students conclude the subject matter at the end of the lesson guided by the teacher.
    2. Students do the evaluation.
    3. The teacher writes homework on the blackboard.

c. Observation/ Observation

4. The things observed by observers in cycle II are as follows:

    Teacher Activities:
    1. In motivating students the teacher does not give examples that are usually experienced by students.
    2. The teacher is quite relevant in giving apperception.
    3. Management of smart student seating arrangements for friends who are less able to learn is very helpful in the learning process.
    4. Teacher supervision of students during the learning process is better.
    5. Teachers are better at facilitating students in learning.

    Student Activities:
    1. Some students are still not well motivated.
    2. Students are very responsive to the apperception of the teacher and can answer questions from the teacher about the past lesson.
    3. Smart students really help students who are less able to learn.
    4. Students learn more conducive because they feel cared for thoroughly.
    5. In general, students have the courage to come to the front of the class to write down their work, dare to ask questions, and answer questions from the teacher even though there are still some students who are still passive in learning.
    6. Between smart students and their classmates, there has been good communication and cooperation in learning.
    7. In general, students can conclude the subject matter.

d. Reflection

After analyzing the weaknesses and strengths of teaching teachers in the second cycle planning, for further planning, the following actions will be added:

1. Teachers must always relate the subject matter to the experiences of students in everyday life.
2. Teachers must make students the center of learning while the strength that must be continuously improved is the management of varied seating arrangements.
3. The learning system should be more attractive to students.

**Data analysis technique**

Data analysis was used to classify mathematics learning outcomes with the Think Pair Share Cooperative learning model in grade 3 Marsudirini Perawang elementary school. The author uses the following formula:

$$\mathbf{M= \frac{X}{N} \ x\ 100}$$

M = Student scores
X = Correct number of questions
N = Number of questions

(Purwanto, 2013)

**Table 1. Grouping of Student's Values Based on the Interval of Values**

| Value Interval | Category |
|---|---|
| **81 – 100** | Very Good |
| **61 – 80** | Good |
| **41 – 60** | Sufficient |
| **21 – 40** | Less |
| **0 – 20** | Very Less |

Source :Purwanto, 2013

The results of the percentage of learning outcomes using the above formula will be compared with the percentage of completeness in the previous cycle. If there is an increase, it can be assumed that the application of the Think Pair Share Cooperative learning model in grade 3 Marsudirini Perawang elementary school is declared successful.

## C. FINDINGS AND DISCUSSION

### Description of Initial Value Discussion

Based on the previous explanation, classroom action research aims to find ways to improve mathematics learning outcomes by applying the Think Pair Share Cooperative learning model. This research was conducted in grade 3 Marsudirini Perawang elementary school which consisted of 30 students. Before carrying out the improvement of learning, the author first gave an initial test to students. This test aims to determine the basic abilities of students in mathematics before using the Think Pair Share Cooperative learning model in the learning process. Then the authors carry out the learning process using the Think Pair Share Cooperative learning model.

At the end of the I meeting of the first and second RPP, the second meeting of the third and fourth RPP, the writer gave daily test I and daily test II. Giving daily test I and daily test II aims to determine the ability of student learning outcomes after the application of the Think Pair Share Cooperative learning model in the learning process.

### Pretest Results

The initial test was carried out before the writer carried out the improvement of learning in students. This test was carried out in grade 3 Marsudirini Perawang elementary school, October 2rd, 2018.

**Table 2. Grouping of Pretest Scores**

| No. | Value Interval | Category | Frequency | Percentage |
|---|---|---|---|---|
| 1 | 81-100 | Very Good | 0 | 0 |
| 2 | 61-80 | Good | 6 | 20% |
| 3 | 41-60 | Sufficient | 8 | 27% |
| 4 | 21-40 | Less | 12 | 40% |
| 5 | 0-20 | Very Less | 4 | 13% |
| | **Total** | | 30 | 100% |

Based on the table above, it can be seen that the initial scores of 6 students (20%) were in the good group, 8 students (27%) in the sufficient group. In the less group, 12 students (40%) and 4 students (13%) were in the very poor group.

**Description of Learning Improvement Research Results**

The action referred to in this research is the application of the Think Pair Share Cooperative learning model to the time unit material in grade 3 Marsudirini Perawang elementary school. The implementation of the action in this study consisted of four meetings with the lesson plans and two daily tests. The implementation of the daily test I was after the first and second meetings, while the implementation of the second daily test was after the third and fourth meetings.

**Cycle I**

**Cycle I was conducted in two meetings and one daily test.**

**First meeting (Monday, October 8th, 2018)**

At the first meeting, the learning activities discussed solving the problem of time. It begins with praying, greeting, and asking the students' condition. Furthermore, the teacher conveys the material to be studied, the teacher conveys the learning objectives and explains the technical implementation of the learning to be achieved after learning. The teacher motivates students to be more enthusiastic about participating in learning, and reminds students by asking questions about what time they wake up and what time they go to school. Next, the teacher explains the outline of the material that will be studied by students in the discussion. The teacher asks students to sit in pairs. The teacher distributes student worksheets and asks students to work on the worksheets that have been distributed by discussing with their partners. Almost every couple has difficulty in doing worksheets. The teacher guides students who have difficulty. After finishing the discussion, the teacher asked one of the pairs to convey the results of the discussion, while the other groups observed and gave their responses. The teacher guides the discussion to formulate the correct answer and gives awards in the form of compliments to partners based on the results of their group work. At the end of the lesson the teacher guides students to conclude the material that has been studied, then students are given formative tests to solve problems about time.

In the discussion process, there were still couples playing around, some being confused, and there was a lack of discussion between partners. There are still couples who work on worksheet expecting orders from the teacher and do not understand how to do it, because students are not used to using worksheet. Only some pairs who want to learn and discuss, namely students or couples who understand. Meanwhile, students or couples who do not understand are just silent, and wait for answers from their friends, do not dare to ask and answer questions from the teacher. The learning process has not gone as expected.

To overcome this condition the teacher takes action, namely trying to explain the steps for working on the worksheet so that students are directed and understand how to solve problems about time. Then emphasize the students that in discussing, friends who can have to help friends who can't. Next, the teacher gives homework for practice at home.

Based on the results of the researcher's discussion with the observers at the first meeting, that the cooperation in pairs has not gone as expected, because during noisy class discussions, there are still many students who do not dare to ask questions, many do not understand the discussion activities. The teacher gives too much guidance to students and students with low abilities are still shy to ask their partner (friend).

**Second meeting (Thursday, 11st October 2018)**

At the second meeting, the learning activities were discussing how to change the units of time from minutes to seconds, hours to minutes, hours to seconds. Before the learning activities begin, the teacher and students discuss together homework that is considered difficult, then remind students about the technical learning that will be carried out. The teacher conveys the learning objectives and motivates students to carry out learning activities and demonstrates how to read the clock according to the long and short hands seen on the clock, then the teacher

explains the outline of the material to be studied. The teacher asks students to sit according to their respective pairs that have been formed in the previous meeting. The teacher distributes the second worksheet, students work on the worksheet in discussion with their partners, the teacher guides couples who have difficulty working on the worksheet.

The teacher asks one group to report the results of their discussion and another group observes and provides feedback. The teacher guides the presentation by directing students to formulate the correct answers and giving praise to all groups, especially groups that have presented the results of their discussions. The teacher motivates students so that the next presentation will be even better. The teacher and students conclude the material that has been studied. At the end of the lesson the teacher gives the task of making a picture of a clock out of cardboard according to the time determined by the teacher.

Based on the results of the researcher's discussion with the observers at the second meeting, the activities of teachers and students have increased. In group discussions, it was already seen that there was cooperation with their partners, although there were still some students who did not care about their groups and only saw their friends working. At the time of presentation, there were still students who did not want to give feedback, especially students who were shy and did not understand the material being taught.

**Implementation of Daily Test I Cycle I ( Friday, 12rd October 2018 )**

The teacher gives the first daily test with the main material knowing the unit of time. The test is carried out for 70 minutes with a total of 10 questions in the form of a description. In the implementation of the Daily Test I, there were students who tried to see the results of their friends. To overcome this, the teacher provides motivation so that students believe in the results of their own work. Five minutes before the end of time, all answer sheets were collected.

**Table 3. Grouping of Daily Test Values I**

| No. | Value Interval | Category | Frequency | Percentage |
|---|---|---|---|---|
| 1 | 81-100 | Very Good | 3 | 10% |
| 2 | 61-80 | Good | 8 | 27% |
| 3 | 41-60 | Sufficient | 10 | 33% |
| 4 | 21-40 | Less | 7 | 23.3% |
| 5 | 0-20 | Very Less | 2 | 6.7% |
| | **Total** | | 30 | 100% |

Based on the table above, it can be seen that the initial scores of 8 students (27%) were in the good group, 10 students (33%) in the sufficient group. In the less group, 7 students (23,3%) and 2 students (6,7%) were in the very less group.

**Results of Observation of Student and Teacher Activities**

The author carried out observations of students during the learning process took place. The activities observed included discussing student worksheets, reporting the results of the discussions and answering questions.

**Table 4. Percentage of Student Activity Cycle I**

| No | Student Activity | Student Activity (%) Cycle / Meeting | |
|---|---|---|---|
| | | I/I | I/II |
| 1 | Answer the question | 16.00% | 40.00% |
| 2 | Discussing Student Worksheets | 10.00% | 33.00% |
| 3 | Reporting Discussion Results | 26.00% | 33.00% |
| | **Total** | **52** | **106** |
| | **Rate (%)** | **17.3%** | **35.3%** |

The results of the observation of student activities in the first meeting explained that 5 students (16%) answered the teacher's questions, 3 students (10%) discussed student worksheets and 8 students (26%) reported the results of the discussion. Below you can see the percentage of

student activities in cycle I meeting 2.Based on the results of observations of student activities in the first cycle of the second meeting, 12 students (40%) answered the teacher's questions, 10 students (33%) discussed student worksheets and 10 students (33%) reported the results of the discussion. The following can be seen the percentage of observations of teacher activities.

**First Cycle Reflection**

After carrying out the first cycle of learning process with 2 meetings, the writer gave daily test I. The results of the first daily test were 19 students out of 30 students who scored below the minimum completeness criteria (KKM). 10 students or 33% get sufficient category, 7 students or 23,3% get less category, and 2 students or 6,7% get very less category. The minimum completeness criteria are said to be successful if students scored 70 or above the minimum completeness criteria. In other words, cycle I was not successful. Only 37% students get above the minimum completeness criteria. This is due to 2 factors, namely student and teacher factors. From the student factor, there are still many students who are not actively asking questions, are not involved in discussions and do not have the enthusiasm to learn. From the teacher factor, the teacher does not give students the opportunity to ask questions, does not make lesson conclusions and does not motivate students. From the explanation above, it can be concluded that the first cycle was not successful so it was necessary to carry out the second cycle.

**Cycle II**

Cycle II was conducted in two meetings and one daily test. The teacher uses time as efficiently as possible, provides even guidance, and is as firm as possible in the classroom.

**Third meeting (Monday, 15th October 2018)**

The third meeting began by discussing the task of making a clock out of cardboard. Learning activities, namely students can determine the time that is guided by the Learning Implementation Plan (third lesson plan) and worksheet. The learning process begins by conveying the learning objectives, namely students can determine the time. The teacher motivates students to carry out learning activities by inviting students to sing back the song "Puzzles". The teacher asks questions to recall how to change the unit of time that has been learned.

The teacher presents the lesson material on how to determine the time and asks students to sit with the same partner at meetings 1 and 2. The teacher distributes worksheet -3, students work on the worksheet according to the instructions. In work there are still couples who are confused about what to do. The teacher provides guidance to couples who are still confused and always motivates students to be active in group activities. The teacher asks one group to report the results of their group's work, the other group gives a response. The teacher guides the presentation by directing students to formulate the correct answer, then gives awards in the form of praise to the group based on the results of their group work. Finally, the teacher and students conclude the subject matter. At the end of the lesson, students were given tests and homework.

Based on the results of discussions between researchers and observers, the implementation of learning in general was better than the second meeting. Implementation is in accordance with the plan. Student activity in the discussion is quite good, there are only a few students who have not mastered the lesson.

**Fourth Meeting (Wednesday, 17th October 2018)**

The fourth meeting begins with discussing homework, learning activities about solving time problems in daily life based on Lesson Plan-4 and worksheet-4. The learning process begins with conveying the learning objectives. The teacher motivates the students by singing the names of the days. The teacher asks questions to recall how to determine the time that has been studied previously that supports the material to be studied.

The teacher presents the material, then asks students to sit in the same pairs as the previous meeting. The teacher distributes worksheets, students work on worksheets with their partners. The teacher guides students and always motivates students to be active in group activities. The teacher asks one of the pairs to present the results of their discussion, the other

groups give their responses. The teacher guides the presentation by directing students to formulate the correct answer. After the presentation activity ended, the teacher gave an award in the form of praise to the couple who had presented their work. The teacher and students conclude the subject matter. At the end of the lesson students do the evaluation and remind students at the next meeting there will be a daily test. Based on observations, it is known that the activities of teachers and students have been carried out according to plan.

**Implementation of Daily Test II (Friday, 19th October 2018)**

At this meeting, a daily test was carried out which was attended by 30 students by giving a test of learning outcomes on the unit of time material. In the implementation of the second daily test, all students worked on the questions in an orderly manner, no more trying to cheat and opening their math exercise book. Five minutes before the end of time, all answer sheets were collected, then students whose scores were still below the KKM were agreed to be held remedial.

**Table 5. Grouping of Daily Test Values II**

| No. | Value Interval | Category | Frequency | Percentage |
|---|---|---|---|---|
| 1 | 81-100 | Very Good | 8 | 26% |
| 2 | 61-80 | Good | 14 | 47% |
| 3 | 41-60 | Sufficient | 5 | 17% |
| 4 | 21-40 | Less | 3 | 10% |
| 5 | 0-20 | Very Less | - | - |
| | **Total** | | 30 | 100% |

**Results of Observation of Student and Teacher Activities**

The author carried out observations of students during the learning process took place. The activities observed included discussing student worksheets, reporting the results of the discussions and answering questions.

**Table 6. Percentage of Student Activity Cycle II**

| No | Student Activity | Student Activity (%) Cycle / Meeting | |
|---|---|---|---|
| | | II/III | II/IV |
| 1 | Answer the question | 57.00% | 70.00% |
| 2 | Discussing Student Worksheets | 50.00% | 67.00% |
| 3 | Reporting Discussion Results | 53.00% | 83.00% |
| | **Total** | **160** | **220** |
| | **Rate (%)** | **53.3%** | **73.3%** |

The results of observing student activities at the third meeting above explained that 17 students (57%) answered the teacher's questions, 15 students (50%) discussed student worksheets and 16 students (53%) reported the results of the discussion. Below you can see the percentage of student activities in the second cycle of the fourth meeting.Based on the results of observations of student activities in the second cycle of the fourth meeting, 21 students (70%) answered the teacher's questions, 20 students (67%) discussed student worksheets and 25 students (83%) reported the results of the discussion. The following can be seen the percentage of observations of teacher activities.

**Second Cycle Reflection**

After carrying out the learning process in the third and fourth meeting cycle II, the author gave a daily test II to see the improvement of student learning outcomes. The results of the second daily test were 8 students out of 30 students who scored below the minimum completeness criteria (KKM). 5 students or 17% get sufficient category and 3 students or 10% get less category. But there's no students get very less category in the second daily test. In the results of the Daily Test II the average score of students increased above the minimum completeness criteria. It's 73%

students get above the minimum completeness criteria. Based on the results above, it can be seen that more than 70% of students actively ask questions, conduct discussions and report the results of the discussions. In the learning process the teacher also motivates students, provides opportunities to ask questions and make conclusions so that students understand the lesson better. The implementation of the improvement of the second cycle of learning with the Cooperative Think Pair Share model is categorized as successful.

**Discussion of Research Results for Improvement of Learning**

Based on the observations in cycle I and cycle II, the authors found an increase in student learning outcomes starting from the initial test, daily test I and daily test II can be seen from the following table.

**Table 7. Percentage of Student Activities**

| Student Activity | Cycle I | | | | Cycle II | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | | 2 | | 3 | | 4 | |
| | F | % | f | % | F | % | F | % |
| Answer the question | 5 | 16.00 | 12 | 40.00 | 17 | 57.00 | 21 | 70.00 |
| Discussing Student Worksheets | 3 | 10.00 | 10 | 33.00 | 15 | 50.00 | 20 | 67.00 |
| Reporting Discussion Results | 8 | 26.00 | 10 | 33.00 | 16 | 53.00 | 25 | 83.00 |
| **T. Average** | **5** | **17.33** | **11** | **35.33** | **16** | **53.33** | **22** | **73.33** |
| | **8 (18.12%)** | | | | **19 (63.33 %)** | | | |

Based on the diagram above, it can be seen that the average student in the first cycle of the first meeting was 5 students (17.33%), 11 students (35.33%) in the second meeting. In the second cycle, 16 students (53.33%) in the third meeting, 22 students (73.33%) in the fourth meeting. Below is the percentage of the initial value, daily test I and daily test II.

**Table 8. Percentage of initial value, daily test I and daily test II**

| No | Value Interval | Category | Frequency | | | Percentage | | |
|---|---|---|---|---|---|---|---|---|
| | | | Initial Value | Daily Test I | Daily Test II | Initial Value | Daily Test I | Daily Test II |
| 1 | 81-100 | Very Good | - | 3 | 8 | 0 | 10.0% | 26.0% |
| 2 | 61-80 | Good | 6 | 8 | 14 | 20.0% | 27.0% | 47.0% |
| 3 | 41-60 | Sufficient | 8 | 10 | 5 | 27.0% | 33.0% | 17.0% |
| 4 | 21-40 | Less | 12 | 7 | 3 | 40.0% | 23.3% | 10.0% |
| 5 | 0-20 | Very Less | 4 | 2 | - | 13.0% | 6.7% | 0 |
| **Total** | | | **30** | **30** | **30** | **100%** | **100%** | **100%** |

In the diagram above, it can be seen that the increase in mathematics learning outcomes for the 3rd grade students of Marsudirini Perawang elementary school. The very good category score of the students on the initial test was 0%, on the first daily test it increased to 10% and on the second daily test it increased to 26%. The average score of students on the second daily test increased above the minimum completeness criteria (KKM) that had been determined by the school (73>70).

Based on the explanation above, it was found that the average value of daily test results I and II was higher than the average value on the initial test. From the analysis of the cycle data above, the writer can conclude that the mathematics learning outcomes of the 3rd grade

students of Marsudirini Perawang elementary school using the Think Pair Share Cooperative model have increased.

## D. CONCLUSION

Based on the results of Classroom Action Research to seek to improve student learning outcomes for grade 3 mathematics subjects at Marsudirini Perawang elementary school, it can be concluded that applying Think Pair Share cooperative learning can improve mathematics learning outcomes for grade 3 students at Marsudirini Perawang elementary school from the average learning outcomes obtained. Then by applying Think Pair Share Cooperative learning, students can respond to be active in learning activities. Think pair share (TPS) cooperative learning model is a learning model that invites children to think, socialize, be brave, and cooperate with friends. So before the learning process using the Think Pair Share (TPS) type begins, the teacher should arrange the seats of the smart students with those who are less so that the learning process can run as expected.

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