

Improving Mathematics Learning Outcomes Using the Take and Give Method with the Help of the Congklak Game Media

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Abstract

The aim of this research is to improve Mathematics learning outcomes in multiplication material using the Take and Give Method as a medium for the congklak game for class II students in the Even Semester of the 2021/2022 Academic Year at MI Subulussalam. This type of research is Classroom Action Research (PTK) which includes 3 cycles, where each cycle has 4 stages, namely planning, acting, observing and reflecting. The research time is 2 months, namely from January to February 2022 with research subjects of 30 students, while data is collected through tests, interviews, observation and documentation. The results of the research showed that there was a significant increase in mathematics learning outcomes for multiplication material in class II students. This is proven by the average test results in Mathematics learning in each cycle increasing, namely in Cycle I = 33.33%, Cycle II = 73.33% and Cycle III = 83.33% and the results of interviews conducted concluded that the subject The multiplication material mathematics uses the Take and Give Method with the help of the congklak game which is easy to understand and fun. This research concludes that mathematics multiplication material using the Take and Give method with the help of the congklak game media can improve learning outcomes in mathematics multiplication material in students.

Keywords: Congklak game, learning outcomes, mathematics, multiplication material.

1 INTRODUCTION

Education is a very important thing in life, because through education, human resources can increase. According to the Law of the Republic of Indonesia No. 20 of 2003 concerning SISDIKNAS, education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, as well as the skills needed by himself, society, nation and state. This shows that the success or failure of achieving educational goals really depends on the learning process experienced by students.

Learning is an activity that is in process and is also a very basic element in education. If the learning process is carried out well then learning outcomes will be obtained well. Student learning success can be seen from several indicators, including being active in learning, mastering learning material, answering questions correctly and being able to do questions.

In this regard, the teacher's main task is to develop learning that can involve students in learning activities. One way is to utilize learning media that can help students' learning process. Learning media is a tool as a medium of information from teacher to student with the aim of creating a conducive learning environment, helping to stimulate students' thoughts, feelings, abilities and attention in the teaching and learning process. The use of learning media can also create an active and creative student learning atmosphere, providing more space for students to experience, try, taste and discover for themselves what they are learning about Mathematics.

Mathematics, multiplication, is one of the important lessons introduced to elementary school students. Mathematics is able to encourage students' ability to solve problems or solve problems. Learning mathematics helps children get used to analyzing and finding the best solution to a problem. Elementary/MI Mathematics learning is very necessary for everyday life, where Mathematics learning is the science of logic, regarding shapes, arrangements, quantities, and concepts that are related to one another. Mathematics is divided into three large parts, namely algebra, analysis and geometry. But there is an opinion that says that mathematics is divided into four parts, namely arithmetic, algebra, geometric and analysis with arithmetic including number theory and statistics.

Based on the results of the researcher's observations on the 10th at MI Subulussalam in the 2021/2022 academic year, mathematics learning for multiplication material still uses the finger counting method. This makes learning ineffective because students do not respond to the lessons delivered by the teacher. Students just sit, listen, take notes, and memorize. Because students do not respond to the lessons delivered by the teacher, this has an impact on student learning outcomes. This is proven by the results obtained from mathematics test scores on multiplication material, the average score of many students did not reach the minimum completeness criteria (KKM). The minimum completion criteria (KKM) value that has been set by the school is (75). However, it can be seen from the total number of students, namely 30 students, that reaching the completion criteria (KKM) were 5 students (16.66%) while those who did not reach the completion criteria (KKM) were 25 students (83.33%).

Therefore, one of the efforts that teachers need to make to optimally improve student learning outcomes is by utilizing effective media to convey learning that can attract students' attention, namely by using the take and give method with the help of the congklak game media. Congklak game media is an interactive congklak board media which in delivering the material can be presented in the form of a congklak board/The congklak game attracts students' interest.

Based on regulations, it is believed that using the take and give method with the help of the congklak game media, children can train fine motor nerves because it involves small muscles, eye coordination and the child's hands. Apart from that, the congklak game can also train children's patience, learning to count, understanding the rules and honesty. The Take and Give method with the help of the congklak game media can be an alternative in creating fun learning. Using the Take and Give Method with the help of the Congklak Game Media can also help students in learning

understand and accept the learning process. Training students to learn how to count when playing congklak is required to fill the small hole in front of them with 5-7 congklak seed holes. Of course, in this case they have to count slowly to make sure the contents are correct. Then at the end of the game, they have to count their congklak seeds carefully to determine whether they are winners in the game or not. So in this case students play and learn to count in the congklak game.

Based on the description of the problem above, it is necessary to conduct research to determine the improvement in student learning outcomes in Mathematics learning multiplication material in class II MI Subulussalam. Therefore, the researcher wishes to conduct Classroom Action Research with the title "Efforts to Improve Mathematics Learning Outcomes in Multiplication Material Using the Take and Give Method with the help of the congklak game media for Class II Even Semester Students at Mi Subulussalam Academic Year 2021/2023"

2 RESEARCH METHODS

The type of research method used is Classroom Action Research. The aim of this action research is to improve and increase the quality of learning in the classroom effectively and efficiently, especially on the results of mathematics learning on multiplication material. This research uses the Kemmis and Mc Taggart model which includes four stages, namely planning, implementation, observation and reflection.

This research was carried out at MI Subulussalam in the even semester of the 2021/2022 academic year starting from January to February. The subjects of this research were 30 class II students consisting of 13 male students and 17 female students.

The data collection techniques in this research are: 1) Observation. This activity was carried out to observe the implementation and development of learning carried out by teachers and students in learning mathematics, multiplication material with the help of congklak game media. 2) Test, a test is a measurement tool in the form of questions, commands and instructions shown to the tester to obtain a response according to the instructions. The test used in this research was a written test regarding learning mathematics, multiplication material. This written test uses questions or instruments in the form of multiple choices for learning multiplication calculation options. 3) Interview, this activity is carried out by asking questions to class II teachers and students to explore information regarding the Mathematics learning process in multiplication material using the Congklak Game media. 4) Documentation, this activity is carried out to get a real and complete picture of the condition of the school, initial conditions before action is taken, conditions during action. This is to show an objective picture. Documentation includes; syllabus, lesson plans, teacher notes, performance scores, and photos of learning activities.

The data analysis techniques in this research are data reduction, data description and data verification. In the data description there are 2 types of data, namely qualitative and quantitative data. Quantitative data on research results can be explained as follows:

1) Learning Outcome Data

The test was carried out three times. Cycle 1, II and III tests. The test results were analyzed to determine students' Mathematics learning outcomes after implementing learning media with the help of the congklak game media. Test learning outcomes can be calculated using the following calculations

Average = Number of values

1) Data on Learning Completion Results

Data on learning completion results are presented in table form and then analyzed using percentage values. The data validity technique in this research was carried out using a triangulation process. Triangulation is a way to obtain accurate information using various methods so that the information can be trusted to be true so that researchers do not make wrong decisions. This technique is carried out by comparing data collected from various sources, including test results, observation results, field notes and interview results. The minimum completeness criteria value in this research is the minimum completeness value that has been implemented by the school, namely 75. The understanding results of 83.33% of class II students at MI Subulussalam for the 2021/2022 academic year are more than the KKM (75).

3 RESULT AND DISCUSSION

Based on data obtained by students in the pre-cycle, there are still many students who have not reached the minimum completeness criteria, namely 83.33% or 25 students, while those who have reached the minimum completeness criteria (KKM) are 16.66% or 5 students. If this is not addressed, the learning outcomes of class II MI Subulussalam students will be low, which will cause these students not to advance to class and affect the quality of the school. Therefore, improvements need to be made in the next cycle in order to improve the learning outcomes of class II MI Subulussalam students.

In cycle I, the implementation of activities to obtain data was carried out by researchers at MI Subulusalam in 2 meetings held on January 10 and 11 2022. The things carried out in cycle I were) preparing a research schedule, 2) making an implementation plan learning (RPP) based on the results of discussions with class II teachers who act as collaborating teachers, 3) create research instruments consisting of student activity observation sheets, teacher activity observation sheets, and student interview sheets, 4) prepare learning media in the form of student question sheets, prepare other media, Compiling learning outcomes test questions for students given at the end of cycle 1 to determine students' understanding of the material that has been taught, the test questions given are in the form of 20 multiple choice questions.

The description of the implementation of cycle I actions is as follows as follows: The teacher and observer enter the classroom, the initial activities carried out are carrying out routine face-to-face activities by opening the lesson with greetings and making a presence, then singing songs from Sabang to Merauke (Nationalist), then students do literacy activities (Reading non-fiction books lesson). After the habituation is complete, the teacher conditions the class so that the situation is conducive to following the learning process, after that the teacher conveys the learning objectives to be achieved. Students are first given an explanation of the learning concept, namely by paying attention or observing what is displayed during the lesson, then students will be divided into several groups, and observers will make observations of student activities and teacher activities.

Meanwhile, the core activities can be described as follows: The teacher explains how to count using a congklak board and students are asked to observe. Then the teacher stimulates the students by asking the question "How is calculating multiplication using a congklak board easier?" However, only a few students could answer. Then the students, with the teacher's guidance, form groups. The students in the groups are assigned their respective assignments to answer the questions that the teacher has distributed. After trying to calculate multiplication using the congklak game media, then the teacher asks students in groups to write answers to the questions distributed on the blackboard along with how to calculate them using the congklak board, the teacher guides the discussion by walking around from one group to another. Each group presents the results of the discussion regarding the proof of the results of the experiments carried out. Students conduct questions and answers based on the results of other groups' presentations with the guidance of the teacher, then students conclude the learning results through experiments. Teachers also provide reinforcement to students in the form of appreciation, the teacher motivates students by providing encouragement and this is where the role of the teacher as a facilitator is very necessary. The teacher and students provide conclusions from the results of the discussion regarding the experiment of calculating multiplication using a congklak board. the teacher and students ask and answer questions about things that the students don't know, the teacher assesses the results of the group discussion.

At the end of the learning activity, the teacher together with the students concludes the material that has been studied, and gives independent assignments, then the teacher carries out a Cycle I learning outcomes test to measure students' understanding of the material presented which is followed by all 30 class II students.

From the results of this observation, it is known that learning activities are not being carried out optimally. At the first and second meetings, students paid less attention to the material given, were also less active when discussing, they tended to chat with each other rather than discussing the material and always asked group members questions. Students only express their opinions when the teacher asks questions, however, students still seem afraid and embarrassed to express their opinions.

Based on the results of observations in Cycle I, student learning activities were still less than optimal, as well as students' understanding of the subject matter, their learning outcomes were still below the Minimum Completeness Criteria (KKM) with an average class score of 68.5 and a learning completion percentage of 33.33%. . The following is data on student learning outcomes for Cycle.

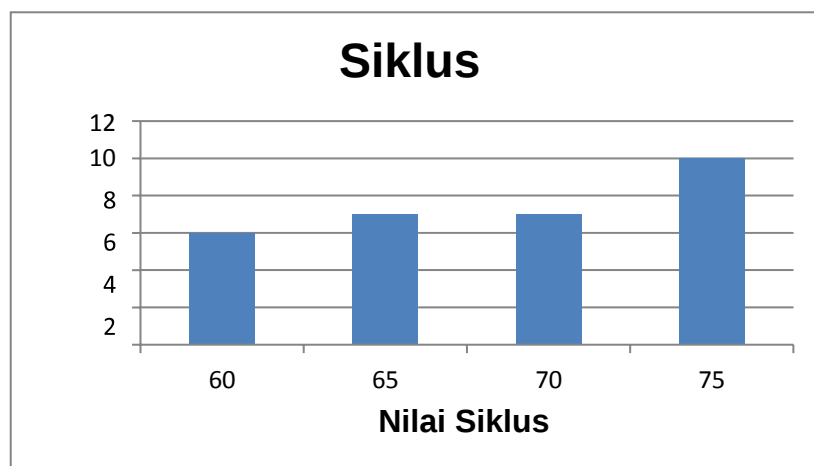


Figure 1. Graph of learning outcome scores

Based on the student learning outcomes assessment graph above, it can be seen that the highest score is 75, the lowest score 60. In Cycle I, there were 10 students or 33.33% who had reached the minimum completeness criteria (KKM), while there were 20 students who had not reached the minimum completeness criteria (KKM) or 66.66%. Judging from the percentage of student completion, it is still relatively low compared to those who have not yet completed. Therefore, these results have not yet reached the criteria for research success. Research is said to be successful if 80% of students have achieved the minimum completion criteria (KKM). Looking at the results of Cycle I shows that it is not satisfactory for researchers.

Reflection is carried out to determine whether the actions in cycle I were successful or not, including that at the beginning of the meeting the majority of students were less focused on receiving the lesson material when it was explained or displayed in front of the class through the help of the congklak game media, students were still doing other activities, such as chatting with their friends, being noisy in class. , lack of enthusiasm when receiving material presented through the help of the Congklak board media, during group discussion activities it is less lively. They do not pay attention to the applicable rules where in each group they must actively discuss and ask questions if there are things they do not understand. Therefore, to further improve good learning outcomes, researchers must find ways to make students feel interested, motivated, and enthusiastic about learning using the Congklak Game media. Therefore, improvements are needed in the next cycle.

In cycle II, the implementation phase of this activity was carried out by researchers with 1 meeting held on January 17 2022. The sequence of implementation was in accordance with what was previously determined as depicted in the RPP which was made with the following activity steps:

The initial activities were carried out the same as the previous meeting. The teacher greets, asks how they are and checks the students' attendance, then asks one of the students to lead a prayer, then invites the students to sing together to increase the students' motivation to study. After the habituation is complete, the teacher conditions the class so that the situation is conducive to following the learning process. Next the teacher asked "Have you done the assignment that mother gave you yesterday?" All students answered yes doing it mom. Next, the teacher conveys further material to be studied, namely mathematics, multiplication material.

In the core activity, the teacher asks students questions about the material previously studied. The teacher appoints several students who will represent their friends to answer the questions given. After that the teacher does

the steps of the learning activities are the same as the previous meeting, The learning activity steps are the same as the previous meeting, namely the teacher displays a congklak learning board media about multiplication, students are asked to sit neatly and focus. Then the teacher stimulated the students by asking questions provided on the blackboard. Many students started to be active and answer. Then the students, with the guidance of the teacher, form groups. Students in the groups are invited together to repeat the congklak game by filling in the questions that have been distributed. Then the teacher asks students in groups to carry out experiments with students to explain in front of them using a congklak board. The teacher guides the discussion by walking around from one group to another. Each group presents the results of the discussion regarding the proof of the results of the experiments carried out. Students conduct questions and answers based on the results of other groups' presentations with the guidance of the teacher, then students conclude the learning results through experiments. The teacher and students ask and answer questions about things that the students don't know, the teacher assesses the results of the group discussion.

At the end of the learning activity, the teacher together with the students concludes the material that has been studied, and gives independent assignments, then the teacher carries out a Cycle II learning outcomes test to measure students' understanding of the material presented which is followed by all 30 class II students.

From the results of observation in cycle II, it shows that learning activities have begun to improve. In cycle II, students have begun to focus on receiving material presented through the media of the Congklak Game, students have also begun to be active in conducting group discussions, and have begun to have the courage to express their opinions to the group and to the teacher, even though they are not optimal. Based on the results of observations in cycle II, student learning activities were classified as good, and had increased from the previous cycle. Likewise, students' understanding of the subject matter presented through the Congkak Game media has increased from the previous cycle, as shown by their learning results being quite good, with an average class score of 74.83 and a learning completion percentage of 73.33%. The following is data on student learning outcomes

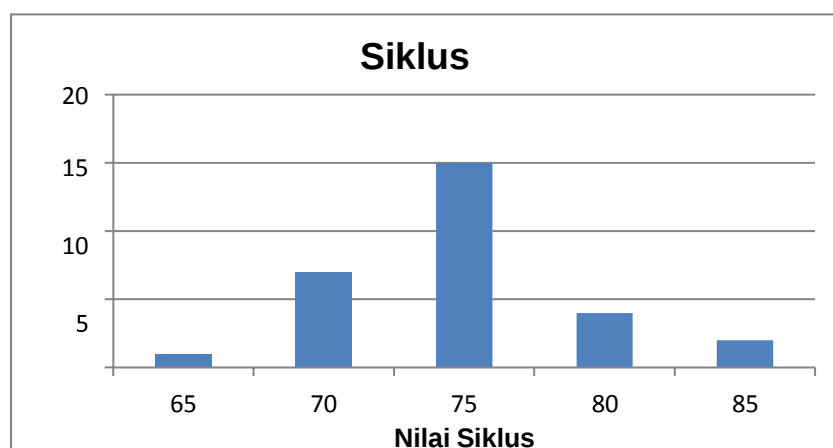


Figure 2. Graph of cycle II learning outcomes

Based on the student learning outcomes assessment graph above, it can be seen that the highest score is 85, the lowest score

70. In Cycle II, there were 22 students or 73.33% who had reached the minimum completeness criteria (KKM), while there were 8 students who had not reached the minimum completeness criteria (KKM) or 26.66%. The percentage of students who have completed the minimum completion criteria (KKM) is greater than those who have not

complete. However, these results have not yet reached the criteria for research success. Research is said to be successful if 80% of students reach the minimum completeness criteria (KKM). Looking at the results of cycle II shows that research still needs to be continued in cycle III.

The Reflection Stage was carried out after the observation results were obtained, which means that learning activities with the help of the application of the Congklak Game media had begun to improve from the previous cycle. Even though in cycle II learning has improved from the previous cycle, this is not yet satisfactory for researchers, because based on student learning outcomes, there are still 8 students who have not reached the minimum completion criteria (KKM). Therefore, researchers tried to make improvements in the next cycle.

In Cycle III, the activity implementation stage was also carried out in one meeting which was held on January 18. The sequence of implementation is in accordance with what was previously determined as outlined in the RPP which is made with the following activity steps:

The initial activities were carried out the same as the previous meeting. The teacher greets, asks how they are and checks the students' attendance, then asks one of the students to lead a prayer, invites students to sing together to increase students' motivation to study. After the habituation is complete then the teacher condition the class so that the situation is conducive to the learning process taking place. Next the teacher asked "Have you done the assignment that mother gave you yesterday?" All students answered that they had done it, ma'am. Next, the teacher delivers further material to be studied, namely about multiplication mathematics.

In the core activity, the teacher asks students questions about the material previously studied. Students take the initiative themselves to answer questions given by the teacher without fighting. After that the teacher carried out the same learning activity steps as the previous meeting, namely the teacher displayed the Congklak game media, students were asked to observe the teacher's explanation. Then the teacher stimulates the students by asking questions that the teacher has prepared several multiplication questions for. Students are very active in answering questions asked by the teacher. Then the students, with the guidance of the teacher, form groups, the students in the group are invited to work together to fill in the questions distributed by the teacher. Each group leader takes the question sheet that the teacher gives, then the teacher asks the students in groups to carry out calculation experiments using a congklak board. The teacher guides the discussion by walking. moving from one group to another. Each group presents the results of the discussion regarding the proof of the results of the experiments carried out. After that, the teacher asked each group representative to collect answer papers and each group explained the results of the questions the teacher had given.

The teacher motivates students and provides conclusions from the results of discussions about mathematics. Multiplication is repeated addition. The teacher and students ask and answer questions about things that the students don't know, the teacher assesses the results of the group discussion.

At the end of the learning activity, the teacher together with the students concludes the material that has been studied, and gives independent assignments, then the teacher carries out a Cycle III learning outcomes test to measure students' understanding of the material presented. Based on the results of observations in cycle III, there were many advances or changes in students in participating in learning. This can be seen by the improvement in the implementation of learning activities in cycle III compared to cycles I and II. The implementation of learning activities in cycle III can be seen when the learning process is taking place, many students focus when explaining the lesson material through the media of the congklak game, students are very active and have great enthusiasm and are enthusiastic about carrying out learning activities and discussing with their friends, they are not afraid or embarrassed in express their opinions because they really enjoy playing while learning.

It can be seen from the results of observations in cycle III that student learning activities are classified as good and have increased compared to previous cycles. Likewise, students' understanding of the subject matter, in cycle III, there was an increase from cycles I and II, which was shown by the learning results being quite good, with an average class score of 80.5 and a percentage of student learning completeness of 83.33%.

Based on observations or observations in the field, it shows that the implementation of learning activities has started to run according to what was planned, almost all students carry out learning well, orderly and enthusiastically and have high motivation from students as seen from their concentration in receiving the lesson material presented through the help of media. Congklak Game The following data on student learning outcomes: Based on the graph of student learning outcomes scores above, it can be seen that the highest score is 85, the lowest score is 70. In cycle III there were 25 students or 83.33% who had reached the minimum completeness criteria (KKM), while students who had not reached the minimum completeness criteria (KKM)) there are 5 students or 16.66%. The percentage of students who have completed the KKM is greater than those who have not completed it, the percentage of students who have completed the KKM is 83.33%, this shows that this research has been successfully carried out with 25 students out of a total of 30 students having achieved the KKM.

The reflection stage was carried out after the observation results were obtained. From the results of the observations it was discovered that learning activities with the help of the application of TikTok media in cycle III had been carried out better than cycles I and II. In cycle III, this has been implemented optimally, this can be seen from the students' focus in receiving the material presented through the media of the Congklak Game, live group learning activities, as well as being active and creative in expressing their opinions. Therefore

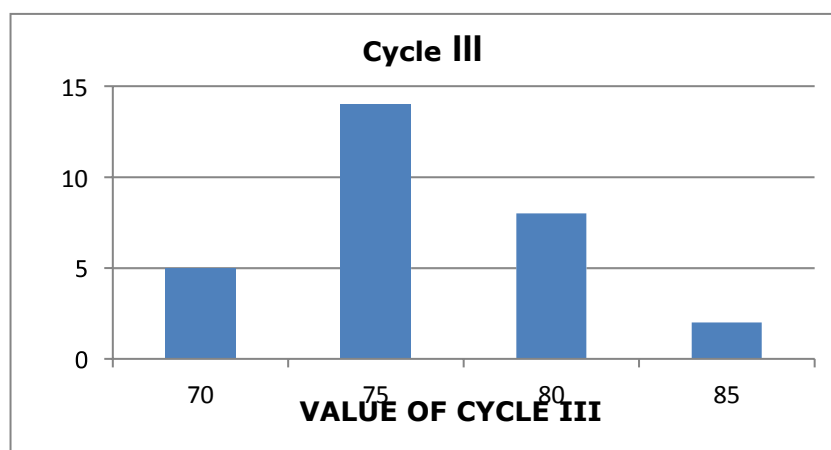


Figure 3. Graph of cycle III learning outcomes

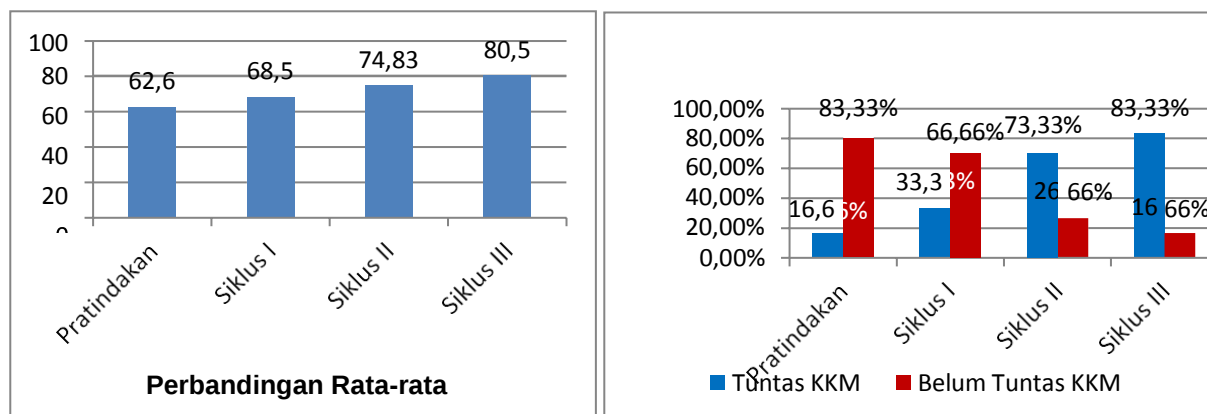
The results of learning Mathematics in the classroom material with the help of the Congklak Game media achieved maximum results in cycle III.

The following is a picture of the average increase and percentage of student learning completion

Figure 4 Graph of Average Yield Increase
Increase
Completeness of Student Learning Outcomes

Figure 5 Graph of Percentage
Student Learning Figure

Thus, based on tests on student learning outcomes using the Take and Give



method with the help of the Congklak Game Media in each cycle, it can be concluded that the Take and Give Method with the help of the Congklak Game Media can improve learning outcomes. Average = number of value lots of data

1) 1) Data on Learning Completion Results

Data on learning completion results are presented in table form and then analyzed using percentage values. The calculations are:

The data validity technique in this research was carried out using a triangulation process. Triangulation is a way to obtain accurate information using various methods so that the information can be trusted to be true so that researchers do not make wrong decisions. This technique is carried out by comparing data collected from various sources, including test results, observation results, field notes and interview results. The minimum completeness criteria value in this research is the minimum completeness value that has been implemented by the school, namely 75. The comprehension results of 83.33% of class II MI Subulussalam students for the 2021/2022 academic year are more than the KKM (75). Class II student at MI Subulussalam.

3 CONCLUSION

Based on the results of the action research carried out, it can be concluded that the help of the Take and Give Method with the help of the Congklak Game media in an effort to improve Mathematics learning outcomes for class II multiplication material at MI Subulussalam for the 2021/2022 academic year has been successful. This is because a series of learning activities with the concept of learning to play while learning are displayed during the lesson, then students will ask if there is material that they do not understand. Implementation of the take and give method with the help of the Congklak Game media makes students focused and more active in learning activities. Students in participating in learning with the help of the application of the Congklak Game media show positive results. The students are motivated to learn and understand well the material provided, as can be seen from the average value of the Mathematics learning outcomes for the Multiplication material, namely that the average student learning outcomes in the pre-cycle were 62.6. In the first cycle, student learning outcomes rose to 68.5 in cycle II rose to 74.83 and in cycle III rose to 80.5. In this research it can be seen that the average learning outcomes in each cycle have increased gradually. Likewise, with the increase in completeness after using the take and give method with the help of Permainan Congklak media, the average

student learning completeness in the pre-cycle was 16.66%, in the first cycle it rose to 33.33 %, cycle II rose to 73.33% and in cycle III it rose to 83.33%. In this way, the alternative hypothesis formulated in the previous chapter can be accepted as true.

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