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Improving learning outcomes of addition through playing fishing method for students with intellectual barriers

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Abstract: This study discusses improving learning outcomes in mathematics learning through the playing method of playing toy fishing in class V students with intellectual disabilities in SLB Negeri 1 Payakumbuh who previously only used fingers as a media for learning addition. This study aims to determine the effectiveness of playing toy fishing methods in improving learning outcomes for mental retardation in class V. The cycle in this study consisted of two cycles, each cycle having a difference in terms of time and material and each cycle consisted of four meetings. Research shows that playing toy fishing can improve the learning outcomes of addition, seen from the evaluation results of the first cycle there has been an increase in all students, but there are still two students who are still accustomed to counting with fingers whose summation is limited, in the results of the second cycle evaluation shows an increase where All students are already proficient in addition, so it can be concluded that playing fishing can improve learning outcomes in addition to students with intellectual disabilities.

Keywords: Learning outcomes addition, playing methods, fishing, students intellectual barriers

INTRODUCTION

Mathematics learning has a dominant role in human life. Without realizing it, every human activity is always related to learning mathematics, especially in terms of counting. Basically, addition is a process or a way to add one number to another. The arithmetic operation of addition is very much needed by students because addition is the result of basic learning to understand and master arithmetic operations.(J.Tombokan Runtukahu, 2017) said students will have difficulty mastering the second topic and so on, if they do not master the first topic. The results of learning arithmetic operations are not only needed by regular schools, but addition arithmetic operations are also needed by intellectually disabled students who get education and teaching in special schools.

In accordance with Permendikbud no 24 2017. Basic Competencies in fifth grade Mathematics learning for children with intellectual disabilities, each student must be able to complete the operation of adding numbers with a maximum result of 20, Based on the observations of researchers at SLB Negeri 1 so far, in providing mathematics learning to complete operations addition of numbers, teachers tend to use the media abacus, sticks, stones and fingers. The researcher assessed that this media was less effective and caused less interest in learning for students with intellectual disabilities in fifth grade.

This is because the media used does not attract the attention of students and from the results of the observations of researchers at SLB Negeri 1 Payakumbuh, the value of the sum done by students tends to be low. Meanwhile, students can sort numbers from one to twenty. There are even students who can count numbers sequentially up to forty. However, most of the students are still unable to complete the operation of adding numbers.

The researcher tries to solve this problem by applying the method of playing fishing to complete the addition operation for intellectually disabled children in fifth grade. The method of playing fishing can be a fun learning activity process and make it easier for students to do additions, because according to Santrock

in(Rohmah, 2016) play is useful in children's cognitive development, namely by playing children will more easily understand learning concepts.

In the implementation of the method of playing fishing, to complete this addition operation using a fishing rod made of magnets. While the fish is made of sponge or cork and in the mouth there is an iron that can be attracted by a magnet. This method can be used by teachers to instill the values of responsibility, cooperation, respect, confidence, obedience, activeness, honesty, creativity, perseverance, discipline, sportsmanship and curiosity.

Opinion (Soefandi, 2009) playing is an activity that uses the developing abilities of children to explore themselves and their environment in various ways. Playing can be said to be an activity carried out by someone individually and in groups using tools or not with the aim of pleasing the heart. Based on this opinion, it can be defined that learning that is fun for students is a play activity.

In his book (Tedjasaputra, 2001)entitled Playing and Playing Plato argued that it would be easier for children to learn mathematics by distributing apples to them. Plato was well aware of the importance of the practical value of play in learning mathematics. One of the benefits of the game according to(Tedjasaputra, 2001)fishing is for the development of cognitive aspects. The cognitive aspect in question is the power of reason, the ability to calculate and memory.

Many basic concepts are learned by children and knowledge of these concepts will be much easier through play activities. Including addition concepts that are conveyed through the use of the fishing game method. Students with intellectual disabilities in fifth grade have limited attention spans and seem to get bored quickly with monotonous conditions, for that if the introduction of concepts is done while playing, then students will feel happy and without realizing it turns out they have learned a lot.

In general, students with intellectual disabilities are students who experience obstacles in thinking, so they need special services and education to be able to develop optimally. According to(Ibrahim, 2005)mild intellectually disabled children are, "A group of Moron or Debil children. This group has an IQ level between 68-52 (according to the Binet scale) and 69-55 (according to the Wechsler scale, WISC)". Learning is a process of an individual in the form of achieving goals or learning outcomes. According to(Abdurrahman, 2010)learning outcomes are the abilities obtained by children after learning activities. Learning itself is a process of someone trying to obtain a form of behavior change that is relatively permanent. Children who succeed in learning are those who succeed in achieving learning goals.

Judging from the learning objectives, mathematics helps in everyday life and varies in various ways of counting and improving as well. According to(Negora, 2005)states that addition is an operation used to obtain the sum of two numbers. Addition is the first arithmetic operation taught to children, addition can be applied by combining sets. Addition is a arithmetic operation that is first taught for fulfillment to the next stage.

METHOD

The research method used is classroom action research with the aim of improving the quality of learning by teachers. This will also overcome problems and obstacles in the teaching and learning process. The cycles in this study consisted of two cycles, each cycle consisting of four meetings which were divided into: planning, action, observation and reflection. In the first cycle the teacher has started to do learning using the media of fishing rods with the sum of the results in numbers 5-15 as well as the beginning of the introduction of new learning media for students who previously only used the abacus and finger media. In the second cycle, the implementation still uses the method of playing fishing, but focuses on achieving learning objectives and to see the effectiveness of playing fishing media in improving student learning outcomes with intellectual disabilities.The subject of this research is the teacher and four people students with mental retardation class V SLB Negeri 1 Payakumbuh.

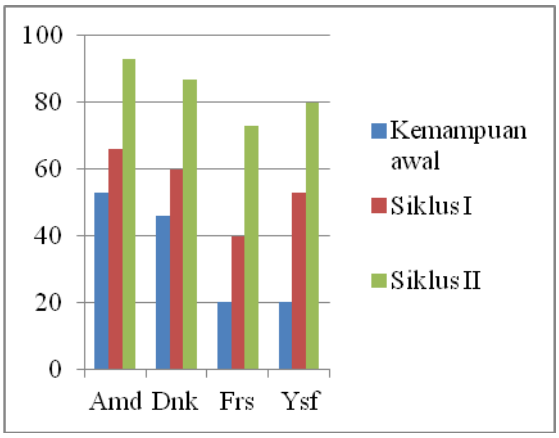
RESULT AND DISCUSSION

The objectives to be achieved in the research grid are to: improve the result of learning mathematics addition to students with intellectual disabilities in class V by playing fishing.Learning outcomes of mild mentally retarded students on initial abilities before being given an intervention.

Based on the results of the initial ability test of students with intellectual disabilities in doing addition math problems with the results of 5-15 still relatively low and below the KKM value. In this case there are criteria for determining the KKM such as complexity (difficulty and complexity), researchers use the KKM value limit for subjects that have been set by the school with a KKM value limit of 70. There is a KKM value limit as a basis for improving students' abilities in a benchmark for achievement development learners.

Based on the results of the initial ability test, the average intellectual disability of class V SLB Negeri 1 Payakumbuh has low summation learning outcomes. This can be seen from the tests carried out by students working on 15 questions about addition, the achievement results of class V students only reached an average value of 35%. In accordance with this problem, the researcher offers a solution by applying fishing rods which aims to improve the summation learning outcomes of fifth grade students. Using varied methods in learning will make it easier for students to accept and understand the material presented by the teacher so as to improve student learning outcomes according to which are expected. From the observations of researchers and collaborators in the first cycle, there was a slight increase in the learning outcomes of addition with 5-15 results for students with intellectual disabilities using the method of playing fishing.

Based on the ability to add up with the results of 5-15 in the first cycle, which still did not reach the target expected by the educator, it was continued in cycle II. Cycle II is the application of improvements that are still considered lacking in cycle I. Students in cycle II are able to achieve the target expected by educators, all students are able to answer and get a score above the KKM set, which is 70. During the second cycle, students were able to solve addition problems with 5-15 results quite well and there was a very significant increase in learning outcomes in addition with 5-15 results. The table of increasing mastery of summation learning outcomes obtained by students with intellectual disabilities in each cycle carried out when presented in graphic form is as follows:



Graph 1. Acquired Learning Values of Each Learner

Referring to the results of the actions that have been carried out in cycles I and II. So this study states that the method of playing fishing can improve learning outcomes for students with intellectual disabilities in class V SLB Negeri 1 Payakumbuh. The learning outcomes obtained by each student from the initial ability test, evaluation of cycle I and evaluation of cycle II, when presented in tabular form are as follows:

Table 1. Learning outcomes of addition mathematics with results 6-10 in the initial ability test, cycle I and cycle II

No	Name	Initial ability test scores	Cycle I	Cycle II	Information
1.	Amd	53	67	93	Increase
2.	Dnk	46	60	87	Increase
3.	Frs	20	40	73	Increase
4.	Ysf	20	53	80	Increase
Average		35	55	83	**Increase**

CONCLUSION

Based on the results of the study, the increase in learning outcomes from 5-15 in the first cycle, from an average of 35, increased to 55. This increase has been achieved even though it has not met the target expected by researchers and teachers. Because in the first cycle the implementation of the fishing game method was not appropriate, namely the teacher asked students to fish first which resulted in students fishing continuously so that students always got a sum with dozens of results. Therefore, in the second cycle, the

method of playing fishing rods was carried out with the teacher giving questions first, which could control students in fishing and also did not miss the addition of the order of the smallest numbers to the largest.

In cycle II which was carried out for 4 meetings the average obtained increased to 83. It can be concluded that the increase in the initial test to cycle II was 48. Thus, the method of playing fishing for fish can improve learning outcomes of addition with 5-15 results for students with disabilities. SDLB class V intellectuals can be said to be accepted.

In using the fishing rod method, there are weaknesses and strengths that can be obtained during the learning process. The disadvantage is that students need more time because students have to fish one by one first before calculating the results of their fishing rods. The advantages are that students can concentrate on counting while fishing, students can dare to come forward because they are active so there needs to be a way forward as a cure for boredom they work on problems together, fish fishing media also attracts students' attention because it uses the playing method, in addition it is easier for students to counting because students can see what they are counting, they are no longer counting abstractly.

Based on the results of the research that has been done, it can be seen that the method of playing fishing rods carried out by the teacher is effective in improving the mathematics learning outcomes of addition with results 5-15 by using the fishing rod playing method which is carried out on students with intellectual disabilities in class V SLB Negeri 1 Payakumbuh. Learning is carried out in 2 cycles to be able to improve the mathematics learning outcomes of each student. AMD students experienced a 40% increase in achievement from the initial test with an achievement of 53% to 93% on the final test. Dnk students experienced an increase in achievement of 41% from the initial test with an achievement of 46% to 87% on the final test. Frs students experienced an increase in achievement of 53% from the initial test with an achievement of 20% to 73% on the final test.

Based on the conclusions that have been described previously, the researchers give suggestions to teachers who have cases of students with intellectual disabilities who have difficulty in addition can do an assessment first and use media that are concrete and fun for students, as the researchers used in this study.

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