

THE EFFECTIVENESS OF USING THE NUMBER-CATCHING APE IN INTRODUCING NUMBERS TO CHILDREN AGED 4-5 YEARS AT PGRI NURUL IMAN TIWU ASEM KINDERGARTEN CENTRAL LOMBOK

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ABSTRACTS	ARTICLE INFO
<p>This is caused by the lack of variety in the media used by teachers in schools. This research was carried out to increase children's interest in learning numbers through the use of an educational game tool in the form of a number-catching APE. The type of research used is mixed method by combining quantitative and qualitative methods. The research design used was explanatory sequential. The results of the research show (1) that the t-count value was 12.8, while the t-table value was 1.761. It can be concluded that t-count > t-table. So that H_a was accepted and H_o was rejected. This means that the use of APE rotating to capture numbers was effective in learning numbers for children aged 4-5 years at PGRI Nurul Iman Tiwu Asem Kindergarten with an effect size of $2.7 > 1.00$ which included in the strong effect category. (2) Supported by qualitative data from interviews with teachers and school principals that there was an increase in the recognition of numbers in children aged 4-5 years at PGRI Nurul Iman Kindergarten between before and after being given treatment in the form of APE rotating to catch numbers. Based on the quantitative and qualitative data obtained, the two data complement each other and do not conflict, so it can be concluded that the use of APE rotary capture of numbers is effective in introducing numbers to children aged 4-5 years at PGRI Nurul Iman Tiwu Asem Kindergarten. This means that qualitative data supports and strengthens quantitative data, because there is no difference between the two data.</p>	<p>Article History:</p> <p>Received: December 3rd 2024</p> <p>Revised: December 18th 2024</p> <p>Published: December 2024</p> <p>Keywords:</p> <p>APE Rotate and Catch Numbers, Children Aged 4-5 Years, Introducing Numbers</p>

INTRODUCTION

Every human being has an obligation to seek religious knowledge, but this does not mean ignoring world knowledge. In living daily life, world knowledge is needed to increase insight in studying natural and social knowledge. One way that can be done to gain knowledge and increase insight is through education.

Education is defined as 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 morals, and the skills needed by themselves, society, nation and state. . Education is used as a very useful tool in creating superior future generations. Education is one of the steps that can be taken

to help develop children's growth and development in accordance with the child's needs, age and interests. Early childhood is an important period for children to receive education that suits their needs.

Providing education from an early age is aimed at preparing quality generations. Early childhood is often referred to as the golden age, where it is quicker and easier for children to receive stimulation from the environment around them. Therefore, it is important to teach children from the moment they are born into the world as preparation for higher education. In early childhood, one of the first forms of educational institutions implemented is called Early Childhood Education Institutions (ECEI). Early Childhood Education is a coaching effort aimed at children from birth to 6 (six) years which is carried out through providing educational stimuli to help physical and spiritual growth and development so that children are ready to enter further education. Early childhood education is used as the basis so that children can optimize every aspect of their development. There are six aspects of development that children have, namely aspects of religious and moral values, language, cognitive, artistic, social emotional and physical motor skills.

The cognitive development aspect is one of the aspects that must be developed in early childhood education at school. Cognitive development is important for children to develop so that children can think critically, think logically and solve problems. In this case, there is much that can be done to improve children's cognitive development, one of which is through introducing number symbols and recognizing the concept of numbers. In early childhood, cognitive aspects can be developed through introducing the concept of numbers 1-10. It is important to introduce numbers to children at an early age because children will more easily accept everything that is shown, exemplified and taught. At the age of 4-5 years, children experience good development in recognizing numbers, where children are able to name and count objects around them using their fingers, but it is important to remember that each child has different abilities so not all children experience good mathematical development. It is important to introduce numbers in early childhood because children's ability to know numbers is one of the key skills that is very important to master from an early age. This is done in order to increase children's intellectual intelligence, help children understand the world around them and to prepare for a successful future. By learning numbers at an early age, children can understand and understand the concepts of numbers, quantities and differences in size.

Introducing numbers to early childhood must be done in an appropriate way according to the child's needs and developmental characteristics. Early childhood children tend to have short attention spans. Usually children will find it difficult to focus on number learning activities for too long so it is necessary to ensure that teaching is carried out in a way that is fun, creative and appropriate to the child's level of understanding. The use of good strategies, methods, media and APE is a way that can be done in achieving learning goals. A safe, comfortable and conducive environment is also something that must be considered so that mathematics learning in introducing numbers to young children can run optimally.

But in reality, many schools do not utilize various media and tools such as educational games in the process of learning numbers. This causes learning to be uninteresting and monotonous so that children do not enjoy participating in learning activities because they quickly get bored. Without the use of media, children become less motivated to participate actively and can slow down children's understanding when learning about numbers because children have to think abstractly.

Several problems in recognizing numbers also occur in early childhood children at the PGRI Nurul Iman Kindergarten. Researchers found this when conducting initial observations, where there were still many children who did not know numbers, either through objects or writing. The introduction of numbers in the classroom is carried out by the teacher by showing the objects he is holding. For example, the teacher holds 3 markers, then the children are asked to guess the number. With learning like this, it results in passive learning where the child just sits there guessing and the teacher just asks questions. So it can be concluded that learning at PGRI Nurul Iman Kindergarten originates more from teachers, meaning that there is less involvement of children in number recognition. The process that occurs is limited to questions and answers and only uses student worksheets, notebooks, blackboards, and rarely uses educational games.

The problem above was also confirmed by the results of an interview with Mrs. Ani (one of the teachers at PGRI Nurul Iman Kindergarten who said that students at the Kindergarten experienced many problems in learning, so they focused more on games that train physically. Apart from the child's ability factor, Of course, this is also due to facilities and the limited types of educational games developed in the kindergarten. Even though there are several games that train children's thinking, it is felt that there is a need for other game media that can train children's abilities, especially in remembering numbers so that children do not feel bored in learning.

Therefore, based on the problems above and as preparation for students in pursuing further education, it is deemed necessary to start introducing young children to numbers. One alternative method that can be used is by using the educational game tool of spinning and catching numbers. As mentioned by Meyke, educational game tools are game tools that are specifically designed for educational purposes. Furthermore, the Ministry of National Education, Director General of ECEI (2007) also explained that educational game tools are anything that can be used as a means or equipment for playing that contains educational (educational) value, and can develop all children's abilities.

There are several other reasons that researchers can put forward as to why it is important to conduct research at the PGRI Nurul Iman Kindergarten, including, (1) From initial observations it can be seen that learning uses more conventional methods, meaning that learning does not involve children much and only comes from the teacher, (2) There needs to be other alternatives in the learning process there that involve more active movement of students, such as the use of educational games.

So, it can be said that in order to try to overcome the problem of the lack of innovation in educational games and the lack of knowledge of students about numbers, it is deemed necessary to research further regarding "The Effectiveness of Using the Educational Game Tool Turn Catch the Numbers in Introducing Numbers to Children Aged 4-5 Years in PGRI Nurul Iman Kindergarten Tiwu Asem Central Lombok."

RESEARCH METHODS

The research method used in this research is a mixed methods approach. This research is intended to combine qualitative and quantitative research. According to Creswell, mixed research is a research approach that combines qualitative research with quantitative research. The research design used is a pre-experimental research design using a one group pretest-posttest design, namely research that only uses one group without a control group. This design carried out two measurements of the ability to recognize numbers in children aged 4-5 years at PGRI Nurul Iman Kindergarten. The first measurement (pre-test) was carried out to see the condition of the sample before being given treatment. The second (post-test) was carried out to determine changes in the ability

to recognize numbers in children aged 4-5 years at PGRI Nurul Iman Kindergarten after implementing the educational game tool of catching numbers. This research design can be described as follows:

O1	X	O2
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Figure 1 Research design: *One Group Pretest Posttest*

Description:

- O1: Pretest (initial test) to test the ability to recognize numbers before being given treatment using APE to rotate and catch numbers.
- X : Treatment, giving treatment with APE rotating to capture numbers.
- O2: Posttest (final test), to test the ability to recognize numbers after being given treatment using APE to rotate and catch numbers.

This research was conducted at the PGRI Nurul Iman Kindergarten in Tiwu Asem, Praya District, Central Lombok Regency, West Nusa Tenggara. Research implementation will start from November 2023. In this study, the population of children aged 4-5 years at the PGRI Nurul Iman Kindergarten was 15 students. Meanwhile, the sample taken was 15 students, where the technique used was called saturated sampling, that is, all members of the population were used as samples. In this research, the instrument used was in the form of a checklist in the form of an observation sheet on children's number recognition abilities. In this research, the data collection techniques used by researchers were observation, interviews and documentation.

RESEARCH FINDINGS AND DISCUSSION

After being given treatment in the form of APE rotating to catch numbers, a post-test (final test) was given at meeting 4 to see the child's ability to recognize numbers after being given the treatment. As for the results of the post-test, it is known that the child's score after being given treatment in the form of APE rotating and capturing numbers obtained a score in aspect (1). There was 1 child begin to develop category, 10 children in the Developing According to Expectations category, and 4 children in the Developing According to Expectations category. Developing According to Expectations In aspect (2) there are 7 children begin to develop category, 6 children in the Very Well Developing, and 2 children in the Developing According to Expectations category. In aspect (3) there are 9 children begin to develop category and 6 children in the Developing According to Expectations category. In aspect (4) there are 7 children in the Developing According to Expectations category and 8 children in the Very Well Developing category. In the last aspect, namely (5) there are 3 children begin to develop category, 9 children in the Developing According to Expectations category, and 3 children in the Developing According to Expectations category.

Based on the data above, it can be concluded that the recognition of numbers using APE rotary capture numbers has increased. This can be seen from the number of scores in the Starting to Develop category totaling 20 scores, children in the Developing According to Expectations category totaling 38 scores, and children in the Developing According to Expectations category totaling 17 scores, where no children were found in the Undeveloped category.

From the pre-test and post-test data obtained by the researchers, it can be seen that there was an increase between before and after implementing APE to capture numbers. It can be seen from the results of observations made by researchers that the use of APE to rotate and capture numbers is considered good for use in introducing numbers. Children look enthusiastic in using APE to play and catch numbers. The child continues to try over and over again until the child begins to be able to recognize and order numbers both verbally and visually.

Like the interview conducted by the researcher with Mrs. Lidiyawati who stated that there had been a very positive change in increasing children's motivation in learning numbers after using APE to rotate and catch numbers. Children look interested and happy to be involved in learning activities using APE to play and catch numbers. The use of APE that is in accordance with the learning objectives is deemed effective to implement, as can be seen from how children respond to the presence of APE in the classroom.

The results of the post-test interview above are inversely proportional to the results of the pre-test interview, namely when children learn without using media. Where at the initial stage, there are still many children who are Not Yet Developing and Starting to Develop categories. Children feel that they are used to environmental conditions like that, which makes them disinterested and bored. However, when the use of APE to rotate and catch numbers was applied, children seemed happy and motivated to learn numbers. This can be seen from the number of children who show improvement in learning numbers, namely in the Developing According to Expectations and Very Well Developing categories.

From several observations and interviews conducted above, it can be concluded that before APE was used to capture numbers, children were less motivated to learn numbers, so it was found that several children did not know numbers well. However, after implementing the use of APE rotating to catch numbers in introducing numbers to children aged 4-5 years at PGRI Nurul Iman Tiwu Asem Kindergarten, the level of children's understanding of numbers can be said to be getting better and developing.

Based on observations made by researchers on children aged 4-5 years at PGRI Nurul Iman Kindergarten, two data were obtained, namely pre-test data and post-test data. The results of the pre-test data obtained an average value of 8.4 and the results of the post-test data obtained an average value of 14.8. This can be interpreted as meaning that there was an increase in scores between before (pre-test) and after (post-test) the APE game of catching numbers was implement

From the two data above, hypothesis testing was then carried out using the t-test and the value obtained was $t_{count} (12.8) > t_{table} (1.761)$ so that H_a was accepted and H_o was rejected. This means that the APE game of catching numbers is effective for introducing numbers to children aged 4-5 years at PGRI Nurul Iman Tiwu Asem Kindergarten with an effect size of $2.7 > 1.00$, which means it is in the strong effect category.

The quantitative data above is supported by the results of interviews conducted by researchers together with class A teachers and the principal at PGRI Nurul Iman Tiwu Asem Kindergarten. The interviews were carried out in two stages, namely the first stage on November 11 2023 before the implementation of APE to capture numbers and the second stage on November 13 2023 after the use of APE to capture numbers was implemented.

From the results of interviews that have been carried out, it can be concluded that initially before APE was applied in learning numbers, children's interest in

numbers was still low due to the lack of variety in the use of media or teaching aids. This can be seen from the quantitative data where there are still many children who are in the Not Yet Developing and Starting to Develop categories. However, there has been an increase after implementing APE to catch numbers in helping introduce numbers to children aged 4-5 years. This can be seen from children who are very enthusiastic and motivated in learning numbers in the Developing According to Expectations and Very Well Developing categories.

Based on the quantitative and qualitative data obtained above, it can be concluded that the use of APE rotary capture of numbers is effective in introducing numbers to children aged 4-5 years at PGRI Nurul Iman Tiwu Asem Kindergarten. This means that qualitative data supports and strengthens quantitative data, because there is no difference between the two data.

CONCLUSION

After implementing the number capture rotary APE, there was an increase in number recognition where there were many children in the Developing According to Expectations and Very Well Developing categories. The children seemed very enthusiastic and motivated in the process of learning numbers in class.

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