

## IMPROVING CALCULATING ABILITY WITH JARIMATIC MEDIA IN CHILDREN AGED 5-6 YEARS IN RA AL-FURQON PASAWAHAN DISTRICT PURWAKARTA REGENCY

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**Abstract:** The purpose of this study was to determine the increase in numeracy in RA AL-FURQON Pasawahan. This research method uses classroom action research with 15 students aged 5-6 years in class B. The results of the study show that the development of numeracy in students aged 5-6 years at AL-FURQON has demonstrated the ability to count using the media of jarimatika. this can be seen from several cycles. Cycle 1 showed that it was marked by the implementation of observations when children counted using Jarimatika. At that time the researchers paid close attention to each child's numeracy skills. This is what the researcher is doing to find out how effective this media is and from the results of the observations the researcher is doing, the researcher will correct the percentage of success in classroom action research based on the results. in cycle two the researcher will correct the percentage of successful classroom action research based on performance achievement. if it is not in accordance with the indicator, then the next cycle is carried out. In this first cycle, children still show 30% development in counting, developing better than before. And the results of cycle II were an increase of 60%, so the results obtained from cycle I and cycle II were 90%.

**Keywords:** numeracy development, media jarimatika, classroom action research

### Introduction

In Law No. 20 of 2003 concerning the National Education System it is explained that PAUD is a coaching effort aimed at children from birth to the age of six which is carried out through the provision of educational stimuli to help physical and spiritual growth and development so that children have readiness in enter further education. Early childhood education (PAUD) is a fundamental and strategic education in forming intelligent and superior people as well as having noble character who will determine the progress of a nation.

Fasli Jalal (2002) suggests that giving attention at an early age is important for obtaining quality human resources (HR). Awareness of the importance of early childhood

education to create a generation that is superior and has noble character has made early childhood education one of the priorities for education development in Indonesia.

Its manifestation is the government's commitment to expanding access and improving the quality of PAUD services. Evidence of the government's seriousness was realized by Indonesia's participation in The World Education forum in the Dakkar Declaration in Senegal in 2000 which resulted in the Education for All (EFA) program which was continued with the World Fit for Children commitment, New York May 8 2002. Policies in the country are shown by the birth Law of the Republic of Indonesia Number 23 of 2002 concerning Child Protection.

This seriousness is also confirmed by the existence of Article 28 of the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System and the emergence of the Directorate of Early Childhood Education in government, even now it has become a Directorate General of Early Childhood Education, Non-formal and Informal (DITJEN PAUDNI). This policy places Early Childhood Education in the governance structure and community life with clear legal force.

Early childhood is an individual who is experiencing growth and development which is very rapid and fundamental for the next life. Because their age is a golden age to get education, especially in honing their skills in arithmetic. According to Lila (Purwaningsih, Reswita, & Putri, 2018), early age is a golden age for the growth and development of children to obtain education. This education includes aspects of religious, moral, cognitive, psychomotor, social and cultural values. One of the areas of development carried out in early childhood is the aspect of cognitive development. Cognitive development according to the Ministry of National Education (Musi, 2016) aims to make it easy for children to understand the lessons conveyed by the teacher, can solve problems with various alternative solutions to problems, can develop mathematical abilities and can think logically. So that cognitive abilities, especially the ability to start counting must be developed since the child is at the early childhood education level. The ability to count is very important given to early childhood because this ability is very closely related to social life and is useful in everyday life. This is in line with the opinion of the Ministry of National Education (Musi, 2016) which states that counting is very useful for everyday life, especially in the concept of numbers which is the basis for the development of mathematical abilities. The concept of numeracy in early childhood education is needed to foster basic knowledge of mathematics which will be useful in the education that the child will take next. So that when children enter higher education, children will be ready to learn to count at a higher level. Meanwhile, according to (Oktariyani, 2017) states that counting is the basis of several sciences that are used in every human life whose activities are inseparable from the role of mathematics in it, starting from addition, subtraction, multiplication and division which are never separated from human life and are very useful in daily activities. By applying the concept of counting to children from an early age, it is hoped that children will be able to understand the concept of starting arithmetic well.

However, the reality on the ground is that some children at an early age still have difficulty understanding the concept of calculation because it is limited to learning methods that still use lecture methods and games about calculations that are less varied. So that some children look bored and not interested in learning to count. This is in line with the results of observations made by (Patintingan, 2015) which stated that some children still have difficulty understanding the concept of objects that are more or less in number, have difficulty understanding the meaning of the numbers 1 to 10 sequentially

forward or backward, have not been able to distinguish symbols and numbers so that it has an impact on the low ability of children to understand basic arithmetic concepts. To improve the concept of numeracy skills in children, an innovative and creative learning strategy is needed by the teacher in the learning process so that the learning process is not monotonous and students are more active in participating in class learning. With this strategy, the learning objectives can be achieved in accordance with what is wanted and the learning process can be more fun and conducive. One method of learning to count that is often used in learning in kindergarten is to use the jarimatics method. The jarimatics method is a method that uses fingers and is made more fun for children because it can provide visualization of arithmetic operations to children.

Learning methods have a very important role in the success or failure of educational goals because, without interesting learning methods, learning will not work well. The selection of the method to be used must be relevant to the purpose of mastering concepts, transitions and symbols with a variety of materials, media and forms of activities to be carried out. The finger method is a method of calculating that appears as a solution to solving math problems. Jarimatika comes from the word finger and arithmetic which means how to count, (which includes: operations times, division, plus, minus) using the fingers. Jarimatika introduces children that mathematics, especially counting, is very fun. And in this joyful process, children are guided to be skilled at counting correctly. Jarimatika is a method that can be used in learning, especially in arithmetic. From the results of observations, researchers felt interested in taking the title "improving numeracy skills with the media of jarimatics at the age of 5-6 years at RA AL-FURQON.

## Methods

This research uses Classroom Action Research where researchers try to implement techniques and strategies efficiently and effectively during learning. In addition, researchers want to see how effective the use of learning media is to stimulate students' numeracy development. Researchers assume that this media can increase students' interest in numeracy.

The research subjects here were group B2 RA Al-furqon Pasawahan students, totaling 17 people with details of 10 girls and 7 boys. The selection of research subjects as the place to carry out the research was based on several considerations, namely the level of numeracy skills was still low. This research lasted for approximately 3 months from September 5 to November 19, 2022. Meetings held 3 times a week during this period were focused on preparing data collection, organizing, and preparing articles.

Through the results of observations and observations of researchers on the field, researchers decided to use the classroom action research method (CAR). The research design that has been compiled by researchers is planning, such as observation, planning learning, preparing the media to be used, making achievement indicator sheets and making observation sheets. Furthermore, the implementation of the action, in its implementation the researcher as a teacher during the learning took place who carried out an action and was fully responsible for this research.

In the first cycle of planning, the researcher prepared the media and then the teacher gave examples of the use of arithmetic using the media, followed by the students. Followed by observations made during the use of media jarimatika. The purpose of the observations made by researchers is to find out how effective the media is. From the results of observations that researchers do, researchers will correct the percentage of PTK success based on achievements.

In cycle II of planning, the researcher drew up a plan and provided the media of jarimatika. Followed by the implementation, educators condition children and explain the use of multimedia media then followed by students. Reflecting on the results of observations made by researchers,

researchers will correct the percentage of success of PTK based on the achievement of performance indicators. If it is not in accordance with the indicator, then the next cycle is carried out.

### **Discussion**

The initial condition of the meeting before the research was carried out, the numeracy skills at RA AL-FURQON in some students were still in the developmental stage. Some students still have difficulty when there are counting activities. This can be seen in the learning activities of students in class. When the educator asks about the sum of some students, it is difficult, causing students to think for a long time. This happens because of the lack of use of arithmetic media and the methods used do not attract children's attention.

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Jarimatika is a fast and easy way of counting in kabataku operations (multiply, divide, add, subtract). According to Prasetyono in (Nasution & Surya, 2015) jarimatika is one of the fastest growing fast and accurate counting techniques and is in great demand. On the other hand, the learning atmosphere will be more lively, communication between teachers and students can be well established so that in the end it will improve students' arithmetic operations skills (Fitriyani, 2015).

In line with that Wulandari in (Sitio, 2017) states that jarimatika is a way to perform arithmetic operations. If we do the counting exercise repeatedly together with the students, they will definitely master this skill well. Jarimatika can help students to recognize the process of counting and counting procedures in an easy and fun way.

Benefits of Jarimatika for children According to Lisa Puspitasari in (Sitio, 2017) explained that the benefits of the Jarimatika method are the Jarimatika methods which place more emphasis on mastering the concept first and then to the fast way, so that children master knowledge in a mature way. In addition, this method is delivered in a fun way, so that children will feel happy and easy like a "study trip". Learning it is also very exciting, because the math does not burden the memory of the brain and the "tools" are always available.

Based on the research results obtained in the first cycle, children's numeracy conditions increased by 30%. because they have not reached the completeness criteria, the researcher continues the class action research into cycle II. based on children's numeracy abilities, it can be concluded that in the first cycle, children's numeracy skills are still in the developmental stage or have not yet reached the set minimum completeness criteria.

In cycle II the researcher increased the development of arithmetic by increasing the number of numbers to be counted, for example from cycle I only numbers 1-5 in cycle II 1-10. In cycle II the researchers obtained the results of children's numeracy skills increasing by 60% from cycle I, this was because most of the students already knew how to count using this media. In cycle II, students' numeracy developments began to develop. By showing the intention and seriousness of the child during the process of learning to count, students can develop more than before, namely 60%. Seeing from the results of achievements and field observations, researchers have great hopes for the development of students.

Techniques and data collection tools carried out by researchers is to use observation and documentation techniques. Where the researcher went directly into the field to observe the development of students through several treatments carried out by the researcher during the research. At the data analysis stage, all data previously obtained by researchers from research instruments on children's creativity were combined with other supporting data. The supporting data referred to include observational data, performance, scale of child development achievements, works, anecdotal notes, and documentation. Analysis of data from observations of role playing activities to increase children's creativity can be done by looking at the development scale and looking at the scoring rubric. Data analysis is the process of processing data obtained from the results of data collection. Data analysis is the process of arranging data sequences, organizing into patterns, categories, and basic descriptive units (Moleong, 2006:88). Data analysis used includes qualitative and quantitative data analysis. Qualitative Analysis In qualitative analysis of this study, researchers adopted the technique of Miles and Hubberman (1992: 16). Data reduction Data reduction is a simplification process through the stages of selecting, focusing, abstracting raw data into meaningful information. The results of this study stated that the development of students' numeracy was still at the developmental stage, but through the techniques and media used the researchers had succeeded in increasing children's motivation in learning. So that this can be progress for students.

### **Conclusion and Recommendations**

The ability to count can be developed through the media of jarimatika. This is because the media can be implemented very easily. The effectiveness of the subsequent results in the use of the media media tools has been well implemented according to direct observation and can be said to be "accomplished". The results of the use of educational educational play tools to improve early childhood numeracy skills.

In the next implementation the children were able to follow the activities well, counting using the jarimatika method the children were more enthusiastic and able to count quickly without scribbling in their books, while the teacher always accompanied the children when they were doing counting activities. The effect of using this method is very large for early childhood, even though they can count with simple numbers, but children are able to understand how to use this method, so that when children enter the next level of education, children are able to count according to what has been taught using this method. So the use of a jigsaw game tool is very effective for early childhood learning to count and makes it very easy for children.

Based on the results of classroom action research, to increase children's numeracy motivation, creative and varied learning is needed so as to increase children's interest in learning mathematics without feeling bored and distressed. Therefore the researcher hopes that in the future educators will further increase their creativity in making the learning atmosphere of numeracy varied and not monotonous.

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