AJEB
journal.amca2012.org

AMCA JOURNAL OF EDUCATION AND BEHAVIORAL CHANGE
e-ISSN 2776-1185
Vol 1, No 2, October 2021, 69-73
DOI 10.51773/ajeb.v1i2.268

PDKT: Introducing numbers 1-10 for kindergarten students using card media, does It improve?

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KEYWORDS
Cognitive Abilities
Know Numbers
Playing Cards

ABSTRACT Students who enter the school at the kindergarten level, commonly referred to as kindergarten, are at the stage where, at their current age, they can already use their ability to distinguish and remember in a tangible form. However, the problem is the need for language skills seen in some children who need help solving number problems. Teachers must choose a strategy for learning, especially mathematics. This study aims to improve the ability to introduce numbers through PDKT assisted by number card games in the children's group at TK 'Aisyiyah Bustanul Athfal 14 Samarinda. The type of research used was carried out collaboratively between researchers and classroom teachers and used qualitative and quantitative analysis. The method used is Classroom Action Research (CAR) with an observation approach. The research subjects were children aged 4-5 years consisting of 9 boys and six girls with six of 15 children. The results showed a significant change from cycle 1 to cycle two after improving learning by adding exciting media and fun and creative teacher strategies.

1. INTRODUCTION

Students who enter the school level at the kindergarten level, commonly referred to as kindergarten (Ahmed et al, 2021), are at the stage where at their current age (Darmayanti & Sah, 2020), they already can use their ability to distinguish and remember in a tangible form (Rahiem, 2021). However, the problem is the need for language skills seen in some children who have yet to be able to solve number problems (Gort, 2020; Vartuli et al, 2016). Choosing a strategy for learning (Rasmani et al, 2021; Widiastuti et al, 2021) is essential, especially in mathematics. This study aims to improve the ability to introduce numbers through PDKT assisted by number card games in group A children.

Early childhood education is a coaching effort aimed at children from birth up to the age of six, which is carried out by the stimulation of educators to shape physical and spiritual growth and development so that children are ready to enter further education (Cicconi, 2014; Szwimer, 2020). Children can distinguish between right and wrong (El-Laudza, 2021; Kustiani & Fauziyah, 2019), excellent and evil (Gobena, 2020; Joo et al, 2020), beautiful and destructive (Malik et al, 2019), good and evil and so on. Early childhood is an individual figure undergoing rapid and fundamental development for the next life (Cooley, 2018). Early Childhood Education (PAUD) provides opportunities for children to fully develop their personality and potential. PAUD institutions must give various aspects of development, such as cognitive, language, social-emotional, physical, and motor (Clarke-Midura, 2019; Magnuson et al, 2016). Early childhood education is critical because a child's growth and development will be able to develop according to their character and needs through learning programs designed by an educational institution (Agusniatih & Nurzuama, 2020; Larose-Grégoire, 2018).

Learning in early childhood is principally carried out by playing while learning or learning while playing. Play is essential for early childhood because play can develop aspects of development in children. These include religious and moral values, physical, language, social-emotional, cognitive, and artistic elements (Aryani et al, 2020; Juih et al, 2020). By playing, children will get pleasure and at the same time learn something new so that children can develop all aspects of their development properly. If done regularly and correctly, games will benefit children in the growth process, and social relations with friends will become more intimate because closeness is created when playing together (Felix, 2019; Schwerdtle, 2016).

According to Woolfolk, cognitive theory is one of the abilities to acquire and use knowledge to solve problems and adapt to their environment (Cataldo, 2021; Nobre, 2020). Cognitive development of early childhood is in the pre-operational phase, in which, at this stage, children are not yet able to think abstractly, so in introducing an object or learning, they must use concrete or natural objects, including number recognition activities. Cognitive devel-

opment can be obtained through counting, grouping, recognizing shapes, distinguishing things, etc. Based on the teacher's observations in the mental development field, it is complex material for children to understand, especially in counting activities. Recognizing the importance of cognitive development aspects in early childhood among other parts elements, the mental amount includes learning to count or count, which is very important in everyday life, so measuring or number recognition activities start early (Wechsler et al, 2016).

The ability to recognize number symbols is one of the abilities of cognitive development. Psychology uses Cognitive terms to describe all mental activities related to perception, thought, memory, and information management, allowing a person to gain knowledge and solve problems (Chan et al, 2021; Sabol et al, 2018). Ability related to counting or initial arithmetical concepts such as knowing numbers (number symbols), mentioning the order of numbers, counting objects, imitating number symbols, learning simple sets with different values, addition, subtraction, multiplication, and division by using abstract concepts, connecting symbols of numbers and the idea of numbers and create the shape of objects according to the concept of numbers (Banack & Berger , 2020; Crosnoe & Ansari, 2015). Recognizing the idea of number symbols can develop thinking, reasoning, and problem-solving skills. This is because, in their daily lives, children are directly involved in using number symbols (Reynolds et al, 2021). The number is a set in the form of symbols or symbols that are closely related to values that represent the number of objects. A symbol number is a symbol that represents the number. Symbols or symbols representing a number are called numbers used for enumeration and measurement. This number symbol or symbol will later make it easier for us to perform number operations (Kim et al, 2020).

Learning to count is also the most important part for children if counting activities can be carried out with various kinds of actions using more interesting media or using games that can affect interest in learning to trust (Hagan, 2020). Number recognition in improving children's cognition takes work. Introducing numbers to children requires using media with learning activities while playing. This is because the learning process in early childhood is more effectively carried out while playing. Playing is an enjoyable thing for early childhood; by playing, children's cognitive enhancement abilities can be improved in a fun way (Keith, 2017; Srivastava & Dev, 2019).

Media in the learning process for early childhood can be interpreted narrowly as anything used to help achieve early childhood learning goals in the form of various aids and play tools, including tools to demonstrate a process so that it is more easily understood by children (Agusniatih & Nurzuama, 2020). Number card media is needed to develop basic knowledge of mathematics, especially the symbols of numbers or numbers, so that children are mentally ready to participate in further mathematics lessons, such as introducing number symbols, colours, shapes, and sizes. Number cards are one of the essential tools for training and strengthening the ability to recognize numbers and improve the ability to call while developing the ability to recognize number symbols. Therefore, this research aims to improve the ability to recognize numbers 1-10 through the media of number cards.

2. METHOD

This type of research is in the form of classroom action research, and this method is used primarily based on problems that arise every day in the classroom. Action research is practical research that can improve classroom learning. InThisesearch is classroom action research (PTK). This is used mainly because what is studied comes from problems that occur in learning in the classroom. This study's design model uses planning action, observation, and reflection. In this study, the research process in 2 cycles was carried out according to the changes to be achieved (Grindal et al, 2020).

The following is an instrument for assessing the ability to recognize numbers to give values to indicators of developmental achievements carried out by students using the techniques used in recording/considering: Checklist. This study uses qualitative and quantitative descriptive analysis techniques. The data in this study were obtained through direct observation and documentation of the learning process of recognizing numbers through the media of number cards in group A children.

Next, the researcher implements the solution in the cycle process to improve the process and learning outcomes. The data to be collected in this study is the ability to recognize the concept of numbers in children. The collection method is done by observation and documentation. The instrument is an observation sheet. Comments were made objectively so that the results of this study could be described in detail so that it could be concluded whether the increase in the ability to recognize numbers 1-10 showed significant results. Documentation is carried out to collect documents on the assessment results and photos of activities. The observational assessments were documented as the results were carried out repeatedly to obtain an overview of how children's cognitive abilities recognize numbers through the media of number cards in group A children.

The research location was conducted at TK 'Aisyiyah Bustanul Athfal 14 Samarinda, which is in Sungai Kunjang District. This study uses a descriptive qualitative approach. Descriptive qualitative research is an approach to describe and analyze events and phenomena, social events, and actual conditions in the field (Ghani et al, 2020; Madden, 2018). This research was conducted at TK 'Aisyiyah Bustanul Athfal 14 Samarinda. In this study, researchers used 15 early childhood subjects aged 4-5 years. This study uses observation to see where and how young children use number cards to recognize numbers 1-10. Number cards are a technique or method to help individuals learn numbers by remembering them using coloured number cards (Smith, 2020; Zhang, 2020). Data collection techniques in this study were observation and documentation in the form of photos or videos. The instrument used is an observation sheet through direct or indirect observation.

3. RESULTS

The data from the research results on number recognition activities using number card media in group A children at TK 'Aisyiyah Bustanul Ethical 14 has three indicators: children sorting numbers with number cards, mentioning numbers randomly with number cards, and complete numbers. Before carrying out Study Action Class on cycle I in research, this especially formerly do pre-action as a reflec-

tion for implementation cycle I. Pre-action: This was done to see if the little one knew the number on child group A before applying media number cards at TK 'Aisyiyah Bustanul Athfal 14 Samarinda. Results of Classroom Action Research on Pre Action carried out on Monday, May 8, 2021, with the eme Beast sub-theme-heme fish. Four pre-action indicators want to improve the ability to recognize numbers: sort the symbol numbers 1-10, mention symbol random numbers 1-10, and complete the numbers using a number card.

The first step before this research held is to do observation First form activity pre-action to determine the initial state of the ability to recognize children's numbers students using observation sheets. In addition, Researchers evaluate during activity learning medium child going on. Based on the results of the pre-action carried out by researchers in kindergarten 'Aisyiyah Bustanul Athfal 14, Samarinda obtained something described that the ability to the numbers on child group A in TK 'Aisyiyah Bustanul Athfal 14 had not developed optimally. It can be seen that there are still some children who experience difficulties when asked to name random numbers. Kid Still back and forth in mentioning it, and there are still children who need help to complete the numbers sequentially. According to analysis, the Researcher matter is caused by a lack of methods and media used in the learning process at Kindergarten 'Aisyiyah Bustanul Athfal 14 Samarinda, specifically in the ability to know numbers. Because of That, learning needs appropriate methods and attractive interests children. For the following wisdom, the ability to recognize numbers in group A children can increase.

TABLE 1. Assessment of children's achievements in cycle I

Evaluation	BB	MB	BSB	MB	Total
Sort the numbers 1-10	4	7	3	1	15
say numbers randomly	4	7	3	1	15
completes the numbers	4	7	3	1	15

From the data above, children's learning activities use number card media. Children say numbers 1-10, namely with a percentage of 26.7% BSB, 46.7% BSH, 20% MB, 6.7% BB, for the activity of mentioning random numbers shown by the teacher in the form of number cards with a percentage of 26.7% BSB, 40% BSH, 26.7% MB, 6.7 BB, for children's activities to complete the numbers that are lacking using number cards, the percentages are 0% BSB, 46.7% BSH, 33.3% MB, and 20% BB.

This aligns with the research article (Agusniatih & Nurzuama, 2020), which states that research shows an increase in recognizing numbers using number card media.

The lack of percentage of children's assessment of the average value in the aspect of children's numeracy skills in cycle I is very far from the expected value. Then, it will be continued in cycle II.

From the data above, children's learning activities use number card media. Children sort numbers with number cards with a percentage of 73.3% BSB, 26.7% BSH, 0% MB, 0% BB for the activity of calling numbers randomly using these number cards with a percentage of 73.3% BSB, 26.7% BSH, 0% MB, 0% BB To complete the numbers using number cards; the rates are 60% BSB, 26.7% BSH, 13.3% MB, and 0% BB.

TABLE 2. Assessment of children's achievements in cycle II

Evaluation	BB	MB	BSB	MB	Total
Sort the numbers 1-10	11	4	0	0	15
say numbers randomly	11	4	0	0	15
completes the numbers	9	4	2	0	15

This aligns with (Agusniatih & Nurzuama, 2020), which states that research shows an increase in recognizing numbers using number card media.

From the percentage of cycle II, children experienced changes from cycle I and began to understand numbers. Based on the implementation of learning activities using the number card method in cycle II, the results of 15 children were excellent. There are several advantages in this learning process, including that children can remember the sequence of numbers, children can say numbers randomly according to the number cards shown, children complete numbers, and the learning process is more interesting because it is something new that is fun. All children involved in learning activities feel happy and can retell what they have learned. This is in line with research articles. Based on the research results, it can be concluded that using number cards as media can improve children's ability to recognize number symbols 1-10, which is in line with research (Franchett et al, 2019; Saima Malik et al, 2021). They revealed that playing dominoes can improve the ability to recognize numbers for children aged 4-5 years.

4. CONCLUSION

Based on the study results about the enhanced ability to get to know numbers through number cards in group A children in kindergarten 'Aisyiyah Bustanul Athfal 14 Samarinda, card media is used by students individually. Use card media number when learning moment introduces number 1-10 done with several activities Which varies during learning, namely learning while playing. The purpose of the various activities is so that students are easily bored while following the lesson. In addition, learning is also interspersed by singing "numbers" to add to the child's experience in learning to know from numbers 1-10. The analysis of the results shows that number cards can improve the ability to recognize numbers in group A at Kindergarten 'Aisyiyah Bustanul Athfal 14 Samarinda.

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