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Utilization of *Engklek* Game in Introducing the Concept of Numbers to Children Aged 4-5 Years

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Abstract

This research aims to determine the use of the *engklek* game in introducing the concept of numbers in children aged 4-5 years at the Islamic Kindergarten in Pontianak. The method used in this research is a descriptive method with a qualitative research form. The subjects in this study were 10 children aged 4-5 years. Data collection tools using observation sheets, interview guidelines and documentation. The results of the research show that: (1) When children say numbers corresponding to the numbers 1-10, (2) Count the number of objects with the help of visual media in the form of pictures, (3) Connect number symbols in sequence where the child holds a hook and matches the numbers the in the game boxes, (4) Write the number symbols in sequence starting by writing the number 1 by following the example beside it.

Keywords: *Engklek*, Concept of Numbers, Number Symbols

INTRODUCTION

Traditional games originate from folk games that were developed from generation to generation in every region in Indonesia. This is supported by the opinion of Iswinarti (2017), "traditional games are games that have been passed down from one generation to the next, which have certain historical and cultural values which contain good, positive, noble, human values and are not the result of industrialization". Traditional games make children strong physically, mentally, socially, and emotionally, never give up, and want to try and foster a leadership spirit.

According to Dharmamulya (2008), traditional games are elements that influence the development, character and life of children in the future, apart from having the benefits of traditional games, D*engklek* has become very popular among children, compared to other traditional games, games This game is very easy and practical to play, tools and materials are very easy to obtain, safe and easy to play, apart from that this game also involves the whole physical, psychological, mental, socialization and spiritual values in early childhood development. This is the reason the author chose to conduct a more in-depth research on the traditional game *engklek* compared to other traditional games.

According to Fauziddin, (2014), counting activities can be understood by children when they are carried out while playing". It is still difficult for children to understand the numeracy material.

This is due to several problematic factors, both from teachers, students and supporting learning methods. Ways and methods are needed that are appropriate to mathematical material, because children aged 4-5 years cannot yet understand actual counting activities.

According to (Susanto, 2011) Methods that can be used to teach children to count are implemented with fun games, encouraging learning conditions, and are able to make children want to learn. An encouraging and exciting atmosphere can make children learn creatively. The concept of numbers needs to be taught to children from an early age because learning about the concept of numbers influences children's learning to count. In lessons, there is a need for self-confidence in children because it has an impact on the child's ability to think. The ability to recognize number concepts in early childhood can be improved by playing *engklek*. With the *engklek* game, children are expected to be able to recognize the concept of numbers which are taught through the game method.

The traditional game of *engklek* in the Bengkulu regional language is Lompek Kodok which means Jumping Frog (Depdikbud, 1984). Meanwhile, according to Wardani (2010), "The *engklek* game is also called Somdah. Somdah is a game that uses rectangular images drawn on the floor or the ground. According to Susilowati & Soedjadi (2018), "The rules for playing *engklek* can be adjusted to the age of the player. For example, for young children, the rules of play can be simpler by simply kicking a seed or ball into a box. " According to Arnyani & Novitasari (2019), "The field used can be made using cloth or other materials that are easy to find. The size can be adjusted to the number of participants who will play. “

According to Ramaini, (2012) "The concept of number is a set of objects or numbers that can give a result. The concept of numbers is connected with learning to match both objects and number symbols. This explanation shows that the concept of numbers needs to be applied to children from an early age because learning the concept of numbers will be the first basis for further mastery of mathematics.

METHOD

The method in this research is descriptive qualitative research, namely a research procedure that produces descriptive data in the form of written or spoken words from the people and actors observed, directed from the individual's background as a whole (holistic) without separating individuals and their groups into variables but looking at them. as part of a whole. This research was conducted at Islamiyah Kindergarten Jl. Iman Bonjol No.88, Bansir Laut, Southeast Pontianak District, Pontianak City. Participants in this research involved teachers and students in B1 class aged 4-5 years, totaling 10 children.

Data collection techniques in this research used observation, interview and documentation techniques. Therefore, the technique used is triangulation. The data collection instruments used are observation guides and interview guides. The data analysis used is data reduction, data presentation, and drawing conclusions or verification. Meanwhile, triangulation is used to check the data, namely observation techniques, interview techniques and documentation to obtain valid data.

RESULTS AND DISCUSSION

Results

The results of observations conducted at Pontianak Islamiyah Kindergarten regarding the development of number pronunciation skills through the use of the *engklek* game to introduce the concept of numbers. Researchers observed children's activities when children said numbers sequentially while jumping. The results of interviews with class teachers found that as many as eight children could pronounce numbers from 1 to 10 sequentially. However, two children are not yet able to pronounce the number symbols in sequence, and four children are still thinking and trying to remember the numbers 1 to 10.

The results of observations in the field showed that children from first to ten stood in boxes, each of which had a number written on it, and they said the number according to the gacuk they were holding. Thus, the 10 children were able to pronounce the number symbols 1-10 in sequence and they each stood in a box according to the number they showed from the gacuk which had numbers written on it.

Fig. 1 Saying Numbers

Figure 1 shows children from first to ten standing in a box, each of which has a number written on it, and they pronounce it according to the gacuk they are holding.

From observations carried out at the Pontianak Islamiyah Kindergarten regarding the ability to calculate numbers using the *Engklek* game. Researchers observed children's activities when children counted verbally and were assisted visually in the form of pictures of numbers in sequence. Based on research, it was found that 10 children were able to count the number of objects with the help of gacuk visual media in the form of pictures of numbers.

The observation results showed that a child was counting the number of objects arranged randomly and was able to arrange the number symbols sequentially from numbers 1 to 10 without guidance from the teacher. The results of interviews with B1 class teachers revealed that there was 1 child who still had difficulty counting the number of objects in sequence and needed guidance from the teacher.

Fig. 2 Counting the Number of Objects

Figure 2 shows a child counting the number of objects arranged randomly and being able to order the number symbols.

Based on observations made at the Pontianak Islamiyah Kindergarten regarding the ability to connect number symbols through the use of the *engklek* game, several activities were seen carried out by the children. They are active in recognizing, connecting, and ordering number symbols sequentially. Apart from that, there is interaction between children and teachers in this activity.

The research results showed that eight people were able to connect number symbols sequentially without guidance from teachers or peers. Apart from that, based on observations, it can be seen that a child has succeeded in connecting number symbols sequentially. The child uses a whisk and matches the numbers with the numbers in the number boxes. However, the results of interviews with B1 class teachers showed that two children were still unable to connect number symbols sequentially and needed guidance from the teacher.

Fig. 3 Connecting Number Symbols 1-10

Figure 3 shows a child has succeeded in connecting number symbols in sequence. The child uses a whisk and matches the numbers with the numbers on the game boxes.

Based on observations made at the Pontianak Islamiyah Kindergarten regarding the ability to write number symbols through the use of the *Engklek* game, researchers looked at several activities carried out by the children. They are active in writing number symbols on the surface, arranging number symbols in sequence, and utilizing visual media in the form of pictures of number symbols which helps them understand and remember number sequences.

The results of the research showed that out of 10 children, seven of them were able to write number symbols sequentially, one child could write number symbols sequentially. The child started by writing the number 1 and in the process was assisted by visual media which displayed the writing of the number 1. Meanwhile, 3 children could not yet write number symbols. The results of the B1 class teacher's question and answer session also revealed that some children were still unable to write number symbols in sequence.

Fig. 4 Child Writing Number Symbols

Figure 4 shows children who can write number symbols sequentially starting with the number 1 with the help of visual media.

Discussion

In the results of questions and answers and the results of observations carried out by the author on the ability to say, count, connect and write number symbols through *engklek* game in the introduction of number concepts in children aged 4-5 years at TK Islamiyah Pontianak, the following are the results of the discussion of observations, interviews and documentation conducted by researchers.

1. Utilization of *Engklek* Game in the Introduction of Number Concepts to Stimulate the Ability to Say Numbers in 4-5 Year Old Children at Islamiyah Kindergarten Pontianak.

   The results of the interview showed that almost all children seemed to be able to pronounce numbers 1-10 so the existence of *engklek* game could help the process of introducing learning concepts and help increase concentration and be able to stimulate cognitive development. By including children in the activity of saying numbers in the *Engklek* game activity. They can gain valuable benefits for their development in number comprehension, speaking skills, concentration, social interaction, and cognitive stimulation.

   Based on the research, it can be seen that there is an increase in the development of pronouncing number symbols in group B1 children at TK Islamiyah Pontianak through the method of *engklek game*. Children involved in the game showed significant cognitive progress. The benefits of *engklek game* for children are that they can train and improve social skills, such as interacting with peers and working together in saying a number (Setiawan et al., 2019). According to Purwitasari's research (2016) "when children can pronounce number symbols in the form of numbers and count, the teacher can provide an assessment of the development of recognizing number symbols in children. In addition, children will better understand and easily understand the concept of number symbols through fun games.

   Based on observations, children can learn to say numbers sequentially as they jump from one number to the next in the game of *engklek*. Through this game, children can develop their ability to pronounce numbers precisely and smoothly. With continuous practice, they will become more skilled in recognizing and saying various numbers in various game contexts. This finding is supported by observations, interviews, and documentation conducted by researchers.

2. Utilization of *Engklek* Game in the Introduction of Number Concepts to Stimulate the Ability to Count Numbers in 4-5 Year-Old Children at Islamiyah Kindergarten Pontianak.

   Based on the results of the report on the ability to count numbers through the *Engklek* game, it was found that the game had a contribution to improving the development of children in group B1 at TK Islamiyah Pontianak. through the *Engklek* game children can actively learn to count and interact with the surrounding environment. They need to understand the sequence of numbers in each step of the game to determine the next step for example, when children jump to one number, they must understand that it is the first step, and so on.

   The results of research conducted by Ningsih and Wibowo (2018) showed that the *engklek* game has a positive impact on number counting excellence in preschool children. In the study, children who participated in the game showed improvement in their ability to count numbers and other math skills, such as recognizing balls and number sequences. For this reason, *engklek* is an effective and fun option to help preschoolers with math.

   In addition, the game can also strengthen children's counting skills as they need to do calculations in each step, such as jumping to a designated number or counting how many times they need to jump to reach the goal. By repeatedly being seen in this game, children will gradually gain expertise in counting numbers more quickly and accurately.

The utilization of *engklek game* in number concept recognition can also provide a fun and interactive learning experience for children. They can also play with their friends, build social skills, and feel a sense of excitement and achievement when they successfully overcome the challenges of the game.

The results of interviews with teachers show that children can count numbers and are assisted by media in the form of pictures of numbers 1-10. Children can count numbers with the help of visual media such as images because visual media provides a concrete representation of the concept of numbers.

According to Suryana (2019), the use of pictures in the *engklek* game can help children in learning to be easier. With the game, children will learn about numbers, counting, and applying number concepts in a fun context. In addition, the game can also help in improving children's social and motor skills. In addition, the results of the study stated that by implementing traditional *engklek game*, children can improve their cognitive abilities, especially in terms of understanding and applying number concepts. Therefore, *engklek* can be an interesting alternative to be applied in children's math education.

3. Ability to Connect Number Symbols from the Utilization of *Engklek game* in the Introduction of Number Concepts in 4-5 Year-Old Children at Islamiyah Kindergarten Pontianak.

   The ability to connect number symbols sequentially refers to the child's ability to recognize and associate number symbols in the right order. This is important in the introduction of number concepts in children because they need to understand that each number symbol has a specific order and has a different value. The importance of *engklek game* can be applied to improving the ability to connect number symbols to children.

   According to Saleh et al, 2021 state that "by providing problems related to number sequences, children are exposed to real situations that require them to connect number symbols in sequence". In the process of finding solutions, children will actively use their understanding of number symbols and sequences to reach the right answer.

   The ability to connect number symbols in the game *Engklek* is an important aspect of recognizing the concept of numbers in children. Through this game, children can develop their understanding of number sequences, associate number symbols with positions or steps in the game, and strengthen motor skills and coordination. According to Surya et al. (2018), "the *engklek* game provides a fun and interesting context for children to learn to connect number symbols with positions or steps in the game and connect number symbols visually with physical activities that help children understand number concepts better".

   In addition, there is an important role of teachers in supporting the ability to connect number symbols in children. According to Ridwan et al. (2017), "Teachers need to provide clear guidance and guidance in connecting number symbols with positions or steps in the *Engklek* game. Teachers can provide constructive learning and provide opportunities for children to practice repeatedly associating number symbols with the right order".

   The results of interviews with teachers show that most children can connect number symbols in sequence but there are 1 to 2 children who cannot yet. This is due to differences in individual development and cognitive abilities in connecting number symbols in sequence. In addition, experience and practice require more time and opportunities to practice to master the concept.

4. Ability to Write Number Symbols from the Utilization of *Engklek game* in the Introduction of Number Concepts in 4-5 Year-Old Children at Islamiyah Kindergarten Pontianak.

   Based on research on the ability to write number symbols in children through the *Engklek* game, it was found that there was a relationship between the *Engklek* game and improving

development in group B1 children at Islamiyah Kindergarten Pontianak. *Engklek* game activities play an important role in influencing children's cognitive development, which can be seen from the activities carried out by children before starting the *Engklek* game. At this stage, children write numbers sequentially in boxes (Figure 4.4). which have been provided by the teacher. The results showed that children were able to write numbers and sort numbers correctly after participating in the *Engklek* game.

Based on Pratiwi and Pratiwi's research (2018), it can be concluded that the game can be used as an effective learning media in developing the ability to write number symbols in group B kindergarten children. Through the use of *engklek game*, children can learn in a fun and interactive way it can help improve fine motor skills, concentration, and the ability to understand number concepts in early childhood. Therefore, crank games can be used as an alternative learning method that is interesting and effective in developing the ability to write number symbols in early childhood.

The results of observations and interviews with class B1 teachers show that out of 10 children, most of them can write number symbols and there are only 2 children who cannot write number symbols in sequence. This shows that there are individual differences in the development of the ability to write number symbols in children in the class. One study conducted by Nurhadi et al (2017) found that factors such as cognitive maturity, fine motor skills, and learning environment can affect children's ability to write number symbols sequentially. In that study, it was found that children who had better cognitive maturity and fine motor skills tended to have better numeracy skills. In addition, a learning environment that provides a variety of learning experiences and support from parents and teachers to pay attention to these factors in helping children develop their numeracy skills.

CONCLUSIONS AND SUGGESTIONS

Conclusions

From the results of research and discussion that researchers conducted on the use of *engklek game* in the introduction of number concepts in children aged 4-5 years at TK Islamiyah Pontianak. In general, it can be concluded that saying numbers to children aged 4-5 years in Islamiyah Pontianak Kindergarten has developed as expected because children can say numbers 1-10 in sequence. Counting the number of numbers in children aged 4-5 years in Islamiyah Pontianak Kindergarten has developed as expected because children can count the number of numbers with the help of visual media in the form of number pictures. Connecting number symbols in children aged 4-5 years in Islamiyah Pontianak Kindergarten has developed as expected because almost all children can match the numbers on the gacuk in the game boxes. Writing number symbols for children aged 4-5 years in Islamiyah Pontianak Kindergarten has developed as expected because when children write number symbols, children can sequentially write numbers by starting to write numbers 1-10.

Suggestions

From the results of the research and the conclusions described above, the authors will provide input that can be used as an observation reference for interested groups in terms of the utilization of *engklek game* in the introduction of number concepts in children aged 4-5 years. The input that the author can convey is that the teacher wants to be able to familiarize children with saying numbers in learning materials every day so that when children say numbers, children can say numbers correctly. Then the teacher can apply and create innovations in learning activities to count the number of numbers in children. Teachers can get used to connecting the number symbols taught by the teacher to children when throwing gacok according to the numbers in the game boxes is expected to help children recognize numbers 1-10 correctly and can familiarize children with writing number symbols in learning materials so that children can write numbers in sequence 1-10

correctly. It is hoped that school principals can run this program optimally because *engklek game* can help children's counting skills.

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