



DEVELOPING LOGICAL THINKING SKILLS FOR 4-5 YEAR OLD CHILDREN THROUGH COLORED BLOCK GAMES

Suaedah^{1✉}, Ulfiyah², Eti Juhaeti³

^{1,2,3,4}Universitas Islam Bunga Bangsa Cirebon, Indonesia

Email: suaedah12@gmail.com

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Abstract

This research is motivated by initial observations of 4-5 year old children at PAUD Tunggak Jati, Cirebon Regency, which indicate that the children's logical thinking abilities are still low due to inadequate and suboptimal learning. The objective of this research is to enhance the logical thinking skills of children aged 4-5 years at PAUD Tunggak Jati using color block games. The methodology of this research uses classroom action research. Data collection was carried out by observing and documenting every process and activity of the research. Data analysis used qualitative analysis consisting of data triangulation, observation persistence, and peer review. The qualitative analysis used percentages. The research results show that 1. The ability to think logically in children aged 4-5 years at PAUD Tunggak Jati, Cirebon Regency before the implementation of learning using colored block games has not developed as expected. 2. The implementation of logical thinking ability actions for children aged 4-5 years is included in the lesson plan and applied in the learning conducted by the teacher, using colored block games. 3. The ability to use colored block games in children aged 4-5 years as a result of the actions taken has significantly improved.

Keywords: *Games, color blocks, logical thinking.*

INTRODUCTION

Developing an understanding of color in early childhood is an important aspect in introducing colors to children. This is very crucial for children aged 0 to around 5 years, so parents need to understand various aspects of child development. Before providing stimulation for their development, it is important to know which areas need to be developed to improve children's abilities, which will be the basis for their future lives. At an early age, especially between 4 and 5 years, children are often unable to name the various colors that exist in everyday life.

Color block games are one type of educational game. In addition to providing fun for children, this game also plays an important role in improving understanding of color in early childhood. Children not only interact with various shapes, but also use the blocks as a tool to develop their logical thinking skills.

Cognitive development refers to a child's ability to understand something (Maslihah, 2005). Then Yusuf (2005:10) stated that the child's ability to think more complexly and to do reasoning and problem solving, the development of this cognitive ability will make it easier for the child to master broader general knowledge, so that he can function properly in everyday community life.

According to (Berk, 2006) cognitive comes from the word cognition which is related to the mental process that refers to the process of knowing. In the Big Indonesian Dictionary it is explained that cognitive is something related to or involves cognition based on empirical factual knowledge (Alwi, 2002). Cognitive abilities are very important for children to develop their knowledge of what they see, hear, feel, or smell through their five senses.

In the context of early childhood education and similar institutions, cognitive development is often referred to as the development of thinking power. Cognitive is closely related to intelligence; cognitive tends to be passive or static, functioning as the potential to understand something, while intelligence is active and is the realization of that potential in the form of activity or behavior. It is important to note that cognitive abilities have a significant impact on other aspects of learning. Pamela Minet stated that intellectual development is equivalent to mental development, while cognitive development refers to progress in thinking. Thought is part of the thinking process carried out by the brain, used to recognize, provide rational reasons, and overcome and understand important opportunities.

Low cognitive development in children is due to teachers not stimulating activities in introducing Colors or lack of variation in games for Children Aged 4-5 Years. Therefore, to overcome this problem. The researcher will conduct research with the aim of improving cognitive abilities and introducing colors through colored block games. Based on the description above, the researcher conducted a study entitled Development of Logical Thinking Skills in Children Aged 4-5 Years through Colored Block Games, with the research locus at PAUD Tunggak Jati, Cirebon Regency.

The purpose of this study is to obtain an overview of logical thinking skills in children aged 4-5 years before and after using colored block games at PAUD Tunggak Jati. As well as getting an overview of the application of colored block games at PAUD Tunggak Jati.

Playing colored blocks is a play activity that involves the use of blocks with different color variations. Color blocks of various shapes are small and large so that they have the same length and width. In playing with colored blocks, children can guess the color when the block is thrown and the color is guessed.

The stages of playing with colored blocks can vary depending on the approach or theory used. In general, the general stages in playing with colored blocks are with Exploration and Introduction of Colors, Combination of Colors, identification and classification of colors, Modeling or Reproduction of Images and creation and imagination.

Playing with colored blocks can provide various benefits in children's cognitive development. The following are some of the main benefits of playing with colored blocks in cognitive development: Development of Fine Motor Skills, Recognition and Understanding of Colors, Development of Problem Solving Skills, Improvement of Special Skills, Cognitive Stimulation and Creativity, and Improvement of Attention and Focus.

The ability to think logically includes various differences, classifications, patterns, taking the initiative, planning and recognizing cause and effect. The following are indicators of logical thinking ability: 1. Ability to recognize and apply logical patterns, 2. Ability to apply inductive reasoning, 3. Ability to think identification of logical errors, 4. Ability to organize information in a structured manner.

METHODOLOGY

In this study, the method used is a gradual process that starts from the planning and design stage of the research. Writing the research results is carried out using the Classroom Action Research (CAR) approach. Kemmis & McTaggart (Suwarsih Madya, 2013) explain that CAR is a form of collective reflective research carried out by teachers in a certain context to improve reasoning, fairness in educational practices, and understanding of practices and situations in the place of practice.

This study involves teachers collaboratively in the classroom to improve learning conditions. Teachers take action to solve problems in the classroom, so that the learning process can run smoothly and learning objectives are achieved properly. With this approach, problems faced by teachers in the field can be solved through appropriate solutions. Basically, this section explains how the research was conducted.

Data collection was carried out by observation, documentation and through research instruments in the form of checklists. Qualitative descriptive is intended to describe the results of observations by researchers and collaboration with class teachers regarding balance, strength, and flexibility abilities aimed at determining the increase in cognitive abilities in children aged 4-5 years through colored block games

RESULTS AND DISCUSSION

Logical thinking skills include understanding the concept of shape, color, and size, which are important for children to master as a basis for education towards the next level. Based on the results of observations in the first cycle, the logical thinking skills of children aged 4-5 years at PAUD Tunggak Jati are still relatively low. The use of limited and less varied learning media during direct teaching and learning activities makes children tend to feel bored and less focused on learning. Therefore, it is necessary to improve children's logical thinking skills through interesting and fun activities in order to increase children's interest during the learning process.

Based on the results of the study, it shows that there is an increase in logical thinking skills in children aged 4-5 years through colored block games at PAUD Tunggak Jati. This increase can be seen from the increase in pre-cycle and after class action. The results of

observations in the pre-cycle were that children who met the criteria were developing very well or who received presentations that met expectations.

In cycle II, children became more enthusiastic, looked active and focused in participating in logical thinking learning through colored block play activities, and the classroom atmosphere was increasingly conducive. This is because all children play colored blocks together. This is in accordance with the opinion of Soegeng Santoso in Anita Yus (2005:23), that playing is an activity or behavior carried out by children individually or in groups and using tools or not to achieve certain goals.

Game tools or Educational Game Tools (APE) used in logical thinking learning, such as blocks, function as game media to support the smooth running of teaching and learning activities. The purpose of their use is to help children develop logical thinking skills. This is in line with the opinion of the Ministry of National Education (2006:3), which states that demonstration game tools include all objects or tools, both moving and non-moving, which are used to support the smooth running of learning, playing, and working activities at school. Thus, activities can take place regularly, effectively, and efficiently, so that the educational goals at PAUD Tunggak Jati can be achieved.

Colored blocks that have various color variations are designed to improve aspects of children's cognitive development, especially in terms of logical thinking. This opinion is in line with Mayke Sugianto's statement quoted by Cucu Eliyawati (2005:62), that educational game tools (APE) are related to games for early childhood, which are designed for the purpose of improving various aspects of children's learning. One aspect that can be developed is cognitive development. In general, the development of children's cognitive abilities in recognizing colors is one of the important aspects that must be applied and developed in early childhood.

The improvement of logical thinking skills in children aged 4-5 years at PAUD Tunggak Jati has achieved the success indicators set by researchers. The first indicator shows that children are able to recognize the concept of cause and effect in activities, the second indicator shows children's ability to classify objects based on color and size, and the third indicator shows that children can sort objects according to color and size.

The results of this study are in line with the guidelines for developing learning programs in the 2020 early childhood education curriculum, which states that at the age of 4-5 years, the standard for the development of logical thinking in children includes the ability to recognize cause and effect relationships, classify objects based on shape, color, and size, and sort objects based on color and size (without writing).

Based on pre-cycle data on improving children's logical thinking skills, it was found that 4 children (87%) were in the very good category, 3 children (75%) developed as expected, 2 children (65%) began to develop, and 6 children (60%) were still not developing. In cycle I, there was a fairly good increase. The average logical thinking ability of children through the use of colored block media in cycle I had reached the indicators expected by the researcher, so that further action was taken in cycle II. The obstacles identified in cycle I were overcome by including corrective steps in cycle II, which increased the percentage of children's logical thinking ability to 87%. This figure has met the set success target.

Based on the results of the research that have been described, it can be concluded that the use of colored block game media is effective in improving children's cognitive abilities, especially in the aspect of logical thinking, in children aged 4-5 years at PAUD Tunggak Jati, Cirebon Regency. At the end of each lesson, children always want to play with colored blocks

again. In fact, when their parents come to pick them up, the children ask for blocks to be made from used materials covered with colored paper. This shows that the logical thinking learning process has run according to the goals and plans made by the researcher.

In the colored block game, children are invited to arrange blocks from the largest to the smallest so that they remain stable. Children are able to move blocks from a high place to a lower place and form a series like a train that stops at a station, and interact with their friends while playing. The other abilities are as follows:

1. Ability to Classify Objects Based on Color and Size

Research shows that children can classify blocks by grouping them according to their color. Children are able to separate blocks based on their respective colors.

2. Ability to Sort Objects by Color and Size

Children can also sort blocks from largest to smallest, and match blocks by color.

The initial step taken by the teacher is to show the colored block media while giving appreciation and introduction, then giving directions on how to use the colored blocks. The teacher gives examples by singing songs such as "Pelangi-Pelangi" in the first meeting, "One Right Finger One Left Finger" in the second meeting, and "Lingkaran Besar Lingkaran Kecil" in the third meeting, accompanied by body movements.

In the second step, the teacher shows the colored block media to the children. This block media is made of plastic and used goods such as toothpaste and soap packaging, which are coated with attractive colored origami paper. The teacher then introduces the colors and asks the children to guess the color of the block.

The third step is a relay game, where the teacher provides shapes such as circles, squares, and triangles from red, blue, and yellow origami paper. Other children group the blocks according to color.

During direct practice, the children look very enthusiastic and imitate happily according to the example. The teacher provides motivation and helps children who have difficulty in practice.

The last step, the teacher asks the children to sit back down and ends the activity by concluding the material that has been learned. The teacher also gives suggestions for children to remain enthusiastic in improving their ability to recognize colors and shapes, and gives prizes to children who succeed in arranging the blocks. With the use of colored block media in the learning process, children are interested in understanding the material and learning activities are more optimal and enjoyable.

CONCLUSION

Based on the researcher's observations regarding the use of colored block games to improve logical thinking skills in children aged 4-5 years at PAUD Tunggak Jati, Cirebon Regency, the conclusion is that PAUD Tunggak Jati, Cirebon Regency in terms of curriculum has not fully implemented early childhood education as a whole. The curriculum still focuses on Children's Worksheets (LKA), writing, and reading. Colored block games to improve logical thinking skills are carried out in two cycles consisting of four stages: planning, action, observation, and reflection. The use of colored block games has been proven to improve the ability of children aged 4-5 years to recognize colors at PAUD Tunggak Jati. This can be seen

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from the increase in children's logical thinking skills which initially reached 65% in the pre-cycle, increased to 75% in cycle I, and reached 87% in cycle II.

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