ICECEM INTERNATIONAL CONFERENCE ON EARLY CHILDHOOD EDUCATION IN MULTIPERSPECTIVE

IMPROVING COLOR KNOWLEDGE ABILITY THROUGH COLOR MIXING ACTIVITIES IN GROUP B4 AT SEJAHTERA KINDERGARTEN CITEKO PLERED-PURWAKARTA

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Abstract. The purpose of this research is to improve the ability to recognize colors through the activity of mixing colors in Citeko Prosperous Kindergarten for children aged 5-6 years. Based on the problems that exist in the Sejaheta Citeko Kindergarten, namely the low ability to recognize colors and the lack of innovation in learning activities at the Sejahtera Citeko Kindergarten school through experimental activities can make it easier for students to improve their ability to recognize colors. The experimental method is a learning method that provides opportunities for children to have experience in carrying out an experimental process. The method used in this study used classroom action research methods, the research subjects were group A children, totaling 12 people consisting of 3 boys and 9 girls. The research procedures used are planning, action, observation, and reflection. The results of classroom action research showed that the average value of increasing children's color recognition ability in pre-action was 11% in the Undeveloped (BB) category, the first cycle was 50% in the Starting to Develop (MB) category, the second cycle was 50% in the Developing Appropriate category Hope (BSH), with the category of Very Good Development (BSB). Based on the results of the classroom action research carried out, it can be concluded that the activity of mixing colors can improve the ability to recognize children's colors in group B4 TK Sejahtera Citeko.

Keywords: Recognizing colors, experiments, early childhood

INTRODUCTION

Early childhood education is a coaching effort aimed at children from birth up to the age of 6 which is carried out through the provision of educational stimuli to help physical and spiritual growth and development so that children are ready to enter further education. Thus the target of early childhood education according to the law is 0-6 years, and can be implemented either through formal, non-formal, and/or informal education (Sujiono, 2012). Kindergarten is a formal education before entering elementary school. This institution is

considered important because educating children at an early age is very important because at this time a sensitive period appears that only comes once. It is in this kindergarten that various aspects of development are taught, namely, the development of religious and moral values, cognitive, language, physical motor (gross and fine motor), social-emotional and art. Cognitive development is one important aspect that must be developed for children's thinking skills. Cognitive development aims to enable children to manage their learning acquisition, find various alternative problem solving, develop mathematical logic skills, knowledge of space and time, the ability to sort and classify and prepare for developing the ability to think carefully (Gunarsa, 2008).

Introducing color to children aged 5-6 years, can be adapted to the child's development according to the level of developmental achievement. The level of developmental achievement can be categorized as follows: (a) Recognizing objects by grouping them based on color; (b) Able to sort five or more variations by color; (c) Classify objects based on 3 color variables. Cognitive abilities – the logic of early childhood includes classifying, naming, distinguishing and counting objects, colors, distances, time, sizes, weights and shapes. Recognizing colors through experimenting with mixing colors is one of the indicators that science is included in the field of cognitive development (Santrock, 2012). Getting to know colors for children can form cognitive structures, in the learning process children will get more information so that their knowledge and understanding will be richer and deeper. In this case the child knows color conceptually based on his learning experience. Color recognition is one of the cognitive developments that must be developed from an early age. The introduction of color from an early age has many benefits, including that children can develop and hone their memory, imaginative skills, cognitive skills, and creative thinking patterns. Knowing colors can help children lure and stimulate children's visual sensitivity. Here the teacher's role is to provide continuous stimulation to children, one of which is to provide direct experience to children through mixing colors so as to produce striking new colors so that children can easily remember what they have seen and learned (Seriadi, 2019).

Early childhood is very sensitive to the sight of interesting and striking objects, such as objects or red, purple, yellow, blue, green. These colors are very sensitive to their eyesight so that they will have an effective impact on the development of the ability to build a level of concentration of vision that will be stored in their brain's memory properly and for a long time. So it can be concluded that the benefits of learning color recognition include adjusting shapes and colors, color combinations, developing creativity, developing sensory, training hand-eye coordination, and increasing learning motivation. Color is one of the elements that cannot stand alone, color is the first physical appearance that reaches the eye to distinguish the variety of things, both inanimate and living things. Of the various colors available, the most basic are red, blue and yellow (Annisa & Sutapa, 2019). Of the three colors, it can be turned into thousands of different colors by mixing them in a certain ratio according to the desired color. In accordance with the theory above, it can be concluded that colors consist of primary colors, secondary colors, and tertiary colors. Primary colors are the original colors or primary colors consisting of red, yellow and blue, while secondary and tertiary colors are the result of a mixture of colors that will produce other colors or other than red, yellow and blue. Experimental method (experiment) is a learning method that gives students the opportunity to conduct their own experiments about the process in question. According to Supriyati, the experimental method is teaching and conducting experiments, then observing the process of the experimental results. Based on some understanding of the experimental method that has been described above, it can be concluded that the experimental method is giving children experience with experiments and then practicing to conclude the experiments they have done (Saroinsong et al., 2022).

In this study the experimental method in question is a learning method by conducting simple experiments which include activities of trying, doing something, observing and

conveying the experimental process which is adapted to the characteristics of children aged 5-6 years (Ahmad Susanto, 2011). The ability to recognize color is one aspect of cognitive abilities, the ability to recognize colors in early childhood is very important for the development of a child's brain, because color recognition in early childhood can stimulate the sense of sight. Besides being able to stimulate the sense of sight, color recognition can also increase children's creativity and thinking power which affects intellectual development, namely the ability to remember. Based on initial observations at the Citeko Prosperous Kindergarten, it shows that children's cognitive abilities in recognizing colors are still low, of course this is due to the process of knowing meaning for children (Asmuddin et al., 2022). Teachers are more likely to show color by using the lecture method, the lack of variety of methods used by teachers in learning activities results in the cognitive development of children being less trained and the lack of opportunities for children to have direct experience doing simple experiments. From the main factors causing the low ability of children to recognize these colors, it is necessary to improve them using methods that are suitable or in accordance with their development. For this reason, color recognition can be done by experimental methods or simple experiments (Martinis Yamin, 2013).

Based on the problems that occur in Citeko Prosperous Kindergarten, children's cognitive abilities in recognizing colors need to be developed by providing opportunities for children to carry out simple experiments to introduce colors to children so that their cognitive abilities increase. The results of observations made by researchers at the Citeko Prosperous Kindergarten school lack learning innovation in recognizing colors, therefore researchers are interested in conducting research to improve the ability to recognize colors in the Prosperous Citeko Kindergarten in group B4.

RESEARCH METODH

This type of research is Classroom Action Research (CAR). Classroom action research is a study of social situations with a view to improving the quality of action through the process of diagnosing, planning, implementing, monitoring, and studying the effects it causes. The subjects of this study were group B children aged 5-6 years at Sejahtera KindergartenCiteko, totaling 12 children, consisting of 3 boys and 9 girls. This research was conducted on group B children in the 2022/2023 academic year. In this study, data collection techniques were carried out through direct observation by researchers by directly recording the abilities of the children to be observed. According to Wina Sanjaya observation is a data collection technique by observing every ongoing event and recording it with an observation tool about the things to be studied (Wina Sanjaya, 2009). Data analysis is the process of systematically searching for and compiling data obtained from interviews, field notes and other materials so that they can be easily understood and the findings can be informed to others. To determine the effectiveness of a method in learning activities, in this classroom action research used qualitative description analysis and quantitative analysis (John, 2013). Analysis of qualitative descriptive data is a research method that aims to determine the extent to which children are involved in mixing colors together, while analysis of quantitative data is to find out the average increase in children's learning outcomes. Percentage will be analyzed using descriptive statistics presented in the form of tables or graphs. According to Suharsini Arikunto (2009: 126), data research instruments are tools that are selected and used by researchers in their activities to collect data so that these activities become systematic and made easier by them. In this study, researchers used observation and documentation sheets. Sanjaya (2011: 84) states that a research instrument is a tool that can be used to collect research data. The instruments used in this research are: observation, documentation (Fitrah, 2017).

Subjects of Classroom Action Research (CAR) which were carried out at Sejahtera Citeko Kindergarten Semester I of the 2022/2023 Academic Year. There were 12 students in group B, consisting of 3 boys and 9 girls. The object of Classroom Action Research (CAR) in Citeko Prosperous Kindergarten is group B aged 5-6 years, totaling 12 children. This study uses a class action research design (CAR). The determination of the research design was based on the researcher's desire to improve the ability to recognize colors in Citeko Prosperous Kindergarten children.

RESULT AND DISCUSSION

Initial observation is a pre-action activity carried out to determine the initial state of the child's ability to recognize colors. To improve the ability to recognize children's colors can be done through the experimental method. The ability to recognize colors observed by researchers is focused on the elements of mentioning colors, conducting experiments and presenting experimental results, and classifying colors. The researcher also made preliminary observations regarding the teacher's teaching activities. The results of the initial condition observations can be seen in the following table:

Table 1
Preliminary Observation / Practice Of Students In Knowing Color

Component	Teacher Teaching Activities Preaction
Percentage average (%)	44,44%
Criteria	Enough

Table 2
Preliminary Observation / Practice Of Students In Knowing Color

Indicator	Pre-action Percentage (%)	criteria
Child can name color	43,33%	start growing
Children are able to conduct experiments and convey the results of experiments	40%	start growing
Children are able to group colors	41,66%	start growing
The average percentage knows color	41,66%	start growing

The results of observations at the first, second and third meetings in cycle I showed that the teacher's teaching activity increased gradually and the ability to recognize children's colors increased gradually. From the results of observations in cycle I which were carried out for three meetings, the researcher presents them in the following table:

Table 4.3 Teacher Teaching Activities

Component	**Teacher Teaching Activities**

	Meeting I	Meeting II	Meeting III
Percentage (%)	50%	66,66%	77,77%
Average Percentage (%)	64,81%		
Category	Enough		

Table 4.4 Observation Data of Cycle I Ability to Recognize Color

Indicator	Cycle I			Average Percentage	Category
	Meeting I	Meeting II	Meeting III		
Child can name color	51,66%	60%	71,66%	61,10%%	growing as expected
Children are able to conduct experiments and convey the results of experiments	46,66%	51,66%	61,66%	53,32%	growing as expected
Children are able to group colors	48,33	60%	71,66%	59,99%	growing as expected
The average percentage knows the color of cycle I				58,13%	growing as expected

From the results of research on activities that occur during the learning process in cycle I, it shows that there are some children who have not been able to name colors and classify colors and there are still many children who have not been able to carry out experiments and convey the results of simple experiments. This is in accordance with the results of observations or observations made. By looking at the results achieved by all students in learning cycle I, the reflections found are as follows: 1) Planning is generally good but needs to be prepared even better, such as preparing experimental materials that are more interesting so that children are more interested in doing experiments. Because many children are less interested in the materials used during the experiment; 2) Implementation, as a whole, has started well, but the teacher still needs to explain the stages of the experiment using language that is easy for children to understand and not too fast when explaining to children, and showing one by one the tools and materials to be used so that children will find it easier later understand. Teachers do not motivate and provide assistance to students in dealing with difficulties during the learning process. 3) Observation, it is still seen that the child does not understand the activities carried out and the teacher is still focused on carrying out learning activities without paying attention to whether the child understands the activities provided. Based on the analysis and reflection above can refer to indicators of success, it can be concluded that learning is still not successful. Therefore this learning needs to be repeated in cycle II with some improvements as follows: 1) Planning, preparing interesting experimental materials so that children are interested in carrying out experimental activities; 2) Implementation, the teacher needs to provide a more concrete explanation in language that is

easily understood by children and provide a detailed explanation of experimental activities. Teachers need to motivate children so that children are enthusiastic about carrying out experimental or experimental activities and help children who have difficulty carrying out experimental activities; 3) Observation, the teacher must be careful and thorough in observing each student so that learning can run well and the child understands the material provided. The results of observations at the first, second and third meetings in cycle I showed that the teacher's teaching activity increased gradually and the ability to recognize children's colors increased gradually. From the results of observations in cycle I which were carried out for three meetings, the researcher presents them in the following table:

Table 4.5. Data from Observation Results of Cycle II Teacher Teaching Activities

Component	**Teacher Teaching Activities**		
	Meeting I	Pertemuan II	Meeting I
Percentage (%)	83,33%	88,88%	94,44%
Average Percentage (%)	88,88%		
Category	Good		

Table 4.6 Observation Data of Cycle II Ability to Recognize Color

Indicator	Cycle I			Average Percentage	Category
	Meeting I	Meeting II	Meeting III		
Children are able to conduct experiments and convey the results of experiments	78,33%	86,66%	91,66%	85,55%	very well developed
Children are able to group colors	71,66%	81,66%	90%	81,10%	very well developed
Children are able to conduct experiments and convey the results of experiments	78,33%	86,66%	91,66%	85,55%	very well developed
The average percentage knows the color of cycle II				84,06%	very well developed

From the results of research on the activities that occur during the learning process of this second cycle, it shows maximum results and it is very clear to see the difference in the results achieved with the previous learning. Where in cycle I and the results of the

implementation of cycle II experienced a significant increase when compared to learning in the previous cycle. This is based on the reflections found, namely: 1) Planning by changing the materials in the experiment turns out to be able to attract children's attention, besides that variations of the experiments carried out can also focus children's attention in learning; 2) The implementation of learning activities is very good and in accordance with the concept of procedures that have been made in carrying out experimental or experimental activities, the teacher is very good at explaining the stages of the experiment with detailed explanations and is not in a hurry to explain. The teacher is very good at motivating children when carrying out learning activities and is quick to provide assistance to children who have difficulty carrying out experimental or experimental activities.

CONCLUSION

Based on collaborative classroom action research between researchers and class teachers, it can be concluded that there is an increase in the ability to recognize colors using experimental methods in children aged 5-6 years (group B) in Citeko Prosperous Kindergarten. The increase in the ability to recognize colors in children can be seen from the results of observations in pre-action, cycle I and cycle II. Improving the ability to recognize colors in children aged 5-6 years through the experimental method is carried out by giving children the opportunity to experiment with colors. The experiments carried out are simple and interesting for children. The learning steps taken so that there is an increase in the ability to recognize colors include the teacher preparing the tools and materials used in the experiment, then the teacher explains the experimental steps to the child, then the child does the experiment. The data obtained showed an increase in the ability to recognize color, a gradual increase from pre-action with an average percentage of 41.66%, cycle I an average percentage of 58.13% and cycle II which achieved an indicator of success with an average percentage of 84.06%.

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