

IMPROVING ABILITY TO KNOW THE CONCEPT OF NUMBER THROUGH COUNTING ACTIVITIES USING MEDIA BOTTLE CAP FOR CHILDREN IN GROUP B-2 KINDERGARTEN NEW CITY EMPLOYEES

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ABSTRACT

The ability to recognize the concept of numbers needs to be introduced from an early age, where at an early stage, children must first be introduced to simple number concepts. This study aims to determine the increased ability to recognize numbers through counting activities using bottle caps in children in group B-2 Kindergarten Employees of Kota Baru. This study uses a classroom action research design by adopting the Kemmis and MC Taggart models with four action stages: planning, implementation/action, observation, and reflection. The number of subjects is 20 children; data collection is done through observation and documentation. The results showed that there was an increase in numeracy skills through the media of bottle caps in children in group B-2 Kindergarten Employees, namely the pre-cycle results only developed 20%, increased to 55% in cycle I, in cycle II increased to 85% while exceeding the standard of participant development students set at 80%. The teacher's activity in learning to count using bottle cap media in cycle I was categorized as good with a score of 77.25%, increasing to very good in cycle II with a score of 98.25%. Children's activity in learning to count using bottle cap media in cycle I was categorized as sufficient with a score of 64%, increasing to very good in cycle II with a score of 88.25%. This study concluded that counting activities using bottle cap media can improve the ability to recognize the concept of numbers in kindergarten children.

Keywords: *Concept of numbers, counting, bottle caps.*

INTRODUCTION

Early Childhood Education (PAUD) is an effort to foster children from birth to the age of six through educational stimulation to help the physical and spiritual development of children so that they are ready to enter the next level of education (Mulyasa, 2014: 12). Aspects of child development that must be

developed have been emphasized in the Permendikbud including aspects of religious and moral values, physical-motor, cognitive, language, social-emotional, and the arts which are reflected in the balance of attitude, knowledge, and skill competencies (Permendikbud, 2014).

Early age is the right age to instill fundamental knowledge by the stages of child development. Early childhood is an individual experiencing a very rapid process of growth and development, even said to be a developmental leap. Cognitive is a highly mental activity that involves capturing, selecting, managing, and storing information from outside and using it when needed (Juita, 2012). Cognitive development is a process in which an individual or a person can improve their ability to use their knowledge.

Children's cognitive development begins early, through the ongoing interactions between children and their views on events in the environment. Cognitive skills, also called mathematical skills, include mentally processing logical problems and equations and understanding numbers and their relationships (Sher, 2013). Mathematical skills need to be introduced from an early age. Where at an early stage, children must first be introduced to how to recognize, count, add, subtract, and understand simple number concepts.

Based on initial observations made in November 2020 at the Kota Baru Employee Kindergarten, it was found that children in group B were not able to count correctly according to the criteria in Permendikbud Number 137 of 2014. Of the 20 children in group B, 60% (12 children) were not yet able to count, and 40% (8 children) could count, according to Permendikbud Number 137 of 2014. One indicator of a child's inability to count can be seen in the child's behavior. When asked about counting, he keeps quiet. Another thing that was encountered was when the researchers asked to guess the numbers written on the blackboard; the children said the numbers did not match the numbers pointed out by the researchers.

Based on these problems and considering the importance of numeracy skills for early childhood, teachers can choose various models, methods, and media for learning to count. Teaching methods appropriate to the characteristics of kindergarten-aged children include: playing, field trips, conversations, storytelling, demonstrations, projects, and giving assignments.

Teaching media must be attractive, varied, varied, and fun; one of the media that is believed to be effective is bottle cap media. Bottlecap media is one of the used goods. However, it can be used as a learning medium for learning arithmetic in early childhood, especially in mentioning number symbols 1-10, using number symbols to count, and matching numbers with number symbols.

METHODS

This study uses a Classroom Action Research design by adapting the Kemmis and MC Taggart models. There is no type, namely PTK participation, because, in this study, the researcher was directly involved in the research process from the beginning to the end (Muslihudin, 2010).

PTK can be interpreted as studying learning problems in the classroom through self-reflection to solve these problems by carrying out various planned actions in real situations and analyzing every treatment effect (Sanjaya, 2010). Arikunto et al. (2012) view CAR as a form of reflective research conducted by educators on curriculum, school development, improving learning achievement, and developing teaching skills. According to Arikunto (2012), CAR is an examination of learning activities in the form of an action, which is deliberately raised and occurs in a class together.

In carrying out research, PTK also has procedures or rules that must be considered. This procedure is helpful for teachers who will carry out PTK. Arikunto (2012) explains that, in general, there are four stages, namely planning, namely formulating the problem, determining research objectives and methods, and making an action plan. Actions are carried out as an effort to change using the chosen learning model/approach. Observation is carried out systematically to observe the results or impact of actions on the teaching and learning process with the chosen learning model or approach. Reflection, namely reviewing and considering the results or impact of actions taken).

This research is located at the Kota Baru Employee Kindergarten, which is located at Lampineung, Gampong Kota Baru, Kuta Alam District, Banda Aceh City. The time for this research was conducted in February 2021. The research subjects were people who were used as data sources or sources of information by researchers for their research. The subjects in this study were the children of group B-2 Kindergarten Employees of Kota Baru, totaling 20 people, consisting of 10 boys and ten girls. In addition to group B-2 children, the supporting subjects of this study were teachers who applied bottle cap media.

Data collection techniques are methods used by researchers to collect data (Arikunto, 2015, p. 134). Data collection techniques (observation) and documentation. Observations were made during the learning process by observing what was happening using observation sheets, namely the development of numeracy skills in children aged 5-6. At this stage, the teacher observes the actions' impact or results on students. Observations were carried out carefully, and records were made based on the observation sheets that had been prepared. Observations in this study were used to observe the learning of children's numeracy skills carried out before using bottle cap media during the study, as well as after implementing learning activities using bottle cap media.

The documentation in this study was carried out on learning to count through bottle caps in group B-2 TK Employees of Kota Baru in the form of

research documentation, school data, and other documents to complete this research data. The instrument used in collecting this data is an observation sheet. The observation sheets were arranged to obtain the observation value of the numeracy skills of group B-2 children through the bottle cap media; the assessment was used per the assessment guidelines in Kindergarten.

In this study, the data analyzed were the results of learning activities for numeracy skills. Children's learning was analyzed at each meeting in cycle I and II pre-cycle using a simple percentage technique. The formula used in data analysis with descriptive quantitative percentage techniques according to Sugiyono (2014: 43). To determine the increase in children's numeracy skills, a comparison of the percentage of scores obtained by children between pre-cycle, cycle I and cycle II was carried out through the media of bottle caps.

Indicators of success in this study were considered successful if there was an increase in children's activity in participating in learning. They showed an increase in the numeracy skills of children aged 5-6 years, namely the ability to say numbers from 1-20 and children's ability to connect or pair symbols of numbers with objects from 1-20. 20, the ability to count and point to objects from 1-20, and the ability to recognize number symbols from 1-20 with the condition that 80% of group B-2 children are categorized as developing according to expectations, plus excellent development.

RESULTS AND DISCUSSION

The ability to count is a part of mathematics that is needed to develop numeracy skills that are very useful for everyday life, especially the concept of numbers, which is the basis for developing mathematical abilities. Therefore, counting in kindergarten is carried out in an exciting and varied way using media. Media is the best way to learn numbers, develop numeracy skills, and improve children's reasoning skills.

According to the Ministry of Education and Culture Regulation No. 137 of 2014 concerning National Standards for Early Childhood Education on the standard level of achievement of the development of children aged 5-6 years in the scope of symbolic thinking, namely, (1) children can say the symbols of numbers 1-10, (2) use number symbols to counting, (3) matching numbers with number symbols.

The results of the pre-cycle showed that as much as 45% had not yet developed their numeracy skills, 35% had started to develop, and 15% had progressed as expected. Only 5% had very well-developed numeracy skills. This percentage has yet to reach the standard for developing students' numeracy skills which is set at 80%. Following up on the results of the teacher's pre-cycle using bottle cap media to improve children's numeracy skills.

Cycle I was held on April 5, 7, and 9, 2021, on the theme of water, air, and fire with the sub-theme of water types. The time allocation for 1 lesson

hour is from 08.00-10.00 WIB. Implementation of actions in cycle I includes three activities: initial, core, and final. In the main activity, the teacher prepared bottle cap media with various colors and then given to each child. Then the child knows the numbers 1-20 by using a bottle cap with a number and saying the numbers 1-20 orally; then, the child connects the number symbols with bottle caps, and children group bottle caps according to color.

The results of the first observation cycle showed that three children (15%) had not yet developed, and six children (30%) began to develop. Six children (30%) developed as expected, and five (25%) developed well. Counting ability. The value of BSH plus BSB obtained was 55%; even though there was a significant increase, this value had yet to reach the standard of student development, which was set at 80%. In response to this, the researchers and colleagues encouraged the students more so that they were motivated to group bottle caps according to color and count the number of bottle caps based on color. In the implementation of the actions in cycle I, there were still deficiencies and obstacles, so improvements were needed in the next cycle.

Based on the results of the actions taken in cycle I, the improvement that will be used is to give assignments to form from a superficial difficulty level to a more complex form and use a variety of bottle cap media that can improve children's numeracy skills.

Cycle II was held on April 12, 14, and 16, 2021, on the theme of water, air, and fire with the sub-theme of types of water. The implementation of cycle II action activities can be seen in RPPH cycle II (RPPH Cycle II is attached). The time allocation for 1 lesson hour is from 08.00-10.00 WIB. Implementation of actions in cycle I includes three activities: initial, core, and final.

The results of the second cycle of observation, it is known that as many as one child (5%) have not yet developed, as many as two children (10%) are starting to develop, then as many as eight children (40%) are developing as expected, and as many as eight children (40%) are developing very well counting ability. The value of BSH plus BSB obtained was 85%; there was a significant increase from the next cycle and exceeding the standard of student development, which was set at 80%, so this action research was limited to cycle II only or not continued in the next cycle. The improvement in the numeracy skills of group B children in Banda Aceh City Employee Kindergarten can be seen in the following graph.

Improving the numeracy skills of B children of Kindergarten Employees in Banda Aceh City as seen from the pre-cycle results that only 20% of the aspects studied developed. After the first cycle of action, there was an increase in children's numeracy skills, namely to 55%; even though they had not yet reached the established standards of student development, there was a significant development. By carrying out various improvements from the pre-cycle results, there was an increase in children's numeracy skills,

namely as much as 85%, and at the same time exceeding the development standards of students, which were set at 80%.

In the process of teaching and learning, between teachers and students is very closely related to one another. With a teacher or student, the activities in the teaching and learning process can take place. Students as an element that is taught or who receive while the teacher is an element of teaching or giving lessons.

To carry out their duties effectively and efficiently, before teaching, the teacher must make preparations in advance by mastering the material to be taught before dealing with it in front of the class, so the teacher must prepare well. The results of observing teacher activity in learning to count using bottle cap media are as follows.

The results of observing teacher activity in learning using bottle cap media in group B of Banda Aceh City Employee Kindergarten show that in cycle I, teacher activity was good with a percentage of 77.25%. The observations in cycle II showed increased teacher activity in learning to count using bottle cap media, which was included in the outstanding category with a percentage of 98.25. The increase in teacher activity in learning is inseparable from the improvements made by the teacher by the results of reflection with the observer teacher and the accompanying teacher. A teacher must have good teaching skills; skills are also needed in giving assessments to students.

One of the most essential elements in learning is an adjustment to get the proper response to solve the problem. Meaningful learning is not repeating things that must be learned but understanding or gaining a clear understanding of specific concerns and relationships in the subject matter that contains a problem. Children's activities in learning to count using bottle cap media.

From observing children's activities in cycle I, it is known that children's activities in learning to use bottle caps are in the sufficient category with a percentage of 64%. This is by the results of improving children's numeracy skills which still need to reach the development standard of students, which is set at 80%.

This shows an increased ability to count using bottle caps for children in group B Kindergarten Employees in Banda Aceh City. One of the characteristics of a successful teacher is seen in the activities of students in learning. The more active the student is learning, the higher / greater the chances of success of the teaching. Student learning activities are divided into 3 (three) categories, namely: student activities in independent/ individual learning, student activities in group learning, and student activities in classical learning (Roestiyah, 2014).

CONCLUSION

There is an increase in ability through the media of bottle caps in children in group B-2 Kindergarten Employees of Banda Aceh City, namely, the results of the pre-cycle only 20% develop, increase to 55% in cycle I, but have not reached the standard of student development set, increase in cycle II to 85% while at the same time exceeding the student development standards set at 80%. The teacher's activity in learning to count using bottle cap media in cycle I was categorized as good with a score of 77.25%, increasing to very good in cycle II with a score of 98.25%. Children's activity in learning to count using bottle cap media in cycle I was categorized as sufficient with a score of 64%, increasing to very good in cycle II with a score of 88.25%.

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