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IMPROVING THE COGNITIVE DEVELOPMENT OF 5-6 YEARS OLD CHILDREN THROUGH FLAG ICE CREAM STICK GAMES

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Abstract:

This study aims to improve the cognitive and language development of children aged 5–6 years through the use of ice cream stick flag games. The background of this study is the low ability of children to recognize basic counting concepts and express themselves in simple language during learning activities. The method used is classroom action research (CAR) conducted in two cycles. The research subjects consisted of 18 children in group B at a kindergarten. The data collection instrument was a child development observation sheet, which was analyzed using quantitative descriptive methods. The results of the study show an increase in children's cognitive and language development from the pre-cycle to cycle II. In the pre-cycle, there were 10 children (55%) who showed development, increasing in cycle I to 12 children (67%), and in cycle II increasing significantly to 15 children (80%). This proves that the ice cream stick flag game medium is able to provide a fun learning experience, motivate children to be active, and is effective in improving the cognitive and language development of early childhood. Thus, it can be concluded that the flag ice cream stick game can be used as a creative and interactive learning medium that supports children's development, particularly in the cognitive and language areas.

Keywords: *cognitive development of early childhood, educational games, flag ice cream sticks*

Abstrak:

Penelitian ini bertujuan untuk meningkatkan perkembangan kognitif dan bahasa anak usia 5–6 tahun melalui penggunaan media permainan stik es krim bendera. Latar belakang penelitian ini adalah masih rendahnya kemampuan anak dalam mengenal konsep dasar berhitung serta mengungkapkan bahasa secara sederhana dalam kegiatan pembelajaran. Metode yang digunakan adalah penelitian tindakan kelas (PTK) yang dilaksanakan dalam dua siklus. Subjek penelitian berjumlah 18 anak pada kelompok B di salah satu Taman Kanak-kanak. Instrumen pengumpulan data berupa lembar observasi perkembangan anak yang dianalisis secara deskriptif kuantitatif. Hasil penelitian menunjukkan adanya peningkatan perkembangan kognitif dan bahasa anak dari pra siklus hingga siklus II. Pada pra siklus, anak yang berkembang berjumlah 10 anak (55%), meningkat pada siklus I menjadi 12 anak (67%), dan pada siklus II meningkat signifikan menjadi 15 anak (80%). Hal ini membuktikan bahwa media permainan stik es krim bendera mampu memberikan pengalaman belajar yang menyenangkan, memotivasi anak untuk aktif, serta efektif dalam meningkatkan perkembangan kognitif dan bahasa anak usia dini. Dengan demikian, dapat disimpulkan bahwa permainan stik es krim bendera dapat dijadikan alternatif media pembelajaran yang kreatif, interaktif, dan mendukung pencapaian aspek perkembangan anak, khususnya dalam bidang kognitif dan bahasa.

Kata kunci: *perkembangan kognitif anak usia dini, permainan edukatif dari stik es krim bendera*

INTRODUCTION

Early Childhood Education (PAUD) is the main foundation for child development. At the age of 5–6 years, children are in their golden age, which is crucial in determining the quality of their future development. During this period, children need to receive appropriate stimulation so that all aspects of their development, including cognitive, language, motor, social-emotional, and religious and moral values, can develop optimally.

Cognitive development is one of the important aspects that must be stimulated from an early age. According to Piaget, children aged 5-6 years are in the preoperational stage, where they learn through real experiences, concrete objects, and games. Children's cognitive abilities at this stage include recognizing number symbols, simple counting, grouping objects, and solving simple problems. However, in reality, not all children can understand numerical concepts well. Some children still have difficulty recognizing number symbols and relating them to the corresponding number of objects.

To overcome these problems, teachers need to provide fun, interactive learning activities and use concrete media that are easy for children to understand. One medium that can be used is the flag ice cream stick game. This medium is made from ice cream sticks with small colored flags attached to them, which are then matched with plastic cups marked with numbers. Through this game, children can learn to recognize number symbols and count the number of sticks according to the numbers.

The flag ice cream stick game has several advantages. First, this medium is simple, easy to make, and environmentally friendly because it utilizes used ice cream sticks. Second, this medium can attract children's attention because it is shaped like a game. Third, this game integrates two aspects of development at once, namely cognitive (counting, recognizing numbers, matching quantities). Thus, learning becomes more meaningful, enjoyable, and in line with the principle of “learning through play” in early childhood education.

RESEARCH METHOD

This research was conducted at Trisula Perwari Kindergarten. The research was conducted in group B (5-6 years old). In group B, there were 18 children with varying abilities in learning arithmetic. Some children were already able to count, while others had not yet developed this skill. Therefore, this class was chosen as the research location. The observations were conducted in August and September 2025.

This study uses a Classroom Action Research (CAR) approach, as it focuses on improving the learning process in the classroom through concrete actions. This classroom action research was conducted collaboratively between the researcher and classroom teachers in planning, implementing, observing, and reflecting on the actions taken. The CAR model used is the Kemmis and McTaggart model, which takes place in two cycles. Each cycle consists of four stages, namely planning, implementation of actions, observation, and reflection. If the results in cycle I have not achieved the success indicators, then improvements are made in cycle II.

During the planning stage, researchers and teachers developed a daily lesson plan (RPPH) that included activities using ice cream stick flags. These flags were made from ice cream sticks with small colored flags attached, which were then matched with plastic cups marked with numbers. Next, an observation sheet was prepared to record the children's cognitive and language development during learning. In the implementation stage, the teacher conducted the learning by involving the children

in the flag ice cream stick game. The children were asked to match the sticks with the numbers on the cups, say the numbers, count the number of sticks, and recount the results obtained. The activity was carried out in a fun atmosphere, in accordance with the principle of learning through play in early childhood education.

During the learning process, researchers conducted observations by recording children's behavior, activities, and abilities based on cognitive and language development indicators. Observations were carried out using prepared assessment sheets, supported by documentation in the form of activity photos and field notes. The final stage was reflection, which involved analyzing the observation results to identify the strengths and weaknesses of the learning process. This reflection became the basis for improving learning in the next cycle. Thus, the actions taken are expected to be increasingly effective in improving children's cognitive and language development.

Data collection techniques in this study included observation, documentation, and field notes. Observation was used to assess children's abilities in recognizing numbers, matching sticks, simple counting, clearly stating numbers, and language skills such as answering questions and storytelling. Documentation in the form of photos of activities, children's work, and field notes was used to supplement the research data. The data were analyzed using quantitative and qualitative descriptive techniques. Quantitative analysis was performed by calculating the percentage of children who achieved the developmental indicators. Meanwhile, qualitative analysis was used to describe the learning process, children's involvement, and their enthusiasm in the flag ice cream stick game. The success indicator in this study is if at least 80% of children are able to achieve cognitive development indicators (recognizing number symbols, matching sticks with numbers, simple counting). With the achievement of these indicators, the flag ice cream stick game is declared effective in improving the cognitive and language development of children aged 5–6 years.

The subjects in this study were 18 children aged 5-6 years old in Group B at Trisula Perwari Kindergarten, consisting of 9 boys and 9 girls. These research subjects were selected based on the criteria of children who were in the process of learning arithmetic skills using ice cream sticks.

FINDINGS AND DISCUSSION

This classroom action research was conducted in group B of Trisula Perwari Kindergarten with 18 children (9 boys and 9 girls). The research was conducted in two cycles, each consisting of two meetings.

Initial Conditions (Pre-Cycle)

Based on pre-intervention observations, data shows that out of 18 children, most still have difficulty recognizing numbers, matching sticks with number cups, saying numbers clearly, and telling simple stories. Only 8 children (45%) showed expected development, while 10 children (55%) still did not develop optimally. This indicates the need for learning activities using ice cream stick flags as teaching aids.

Cycle I Results

In cycle I, learning activities were carried out by introducing the flag ice cream stick game. Children were asked to match the sticks with number cups, say the numbers, and count the number of sticks according to the numbers. The observation results showed an improvement compared to the pre-cycle. Of the 18 children, 12 children (67%) showed the expected progress, while 6 children (45%) still did not develop optimally.

The weaknesses found were that some children were still passive, i.e., they were still inaccurate when counting the number of flag ice cream sticks on the number

cups, and were not careful in matching the sticks with the numbers on the cups.

Cycle II

Based on reflections from Cycle I, teachers improved their strategies in Cycle II by providing clearer examples, using colorful flags, giving children the opportunity to take turns coming forward, and motivating children who succeeded with praise.

As a result, there was a significant improvement in Cycle II. Of the 18 children, 14 (80%) showed the expected progress, while 3 (25%) still did not develop optimally. Children who developed were able to:

1. Recognize number symbols correctly.
2. Match the flag sticks with the number cups.
3. Count simply from 1 to 10.
4. Say the numbers clearly.
5. Answer the teacher's questions, and
6. Be able to recount the game activities in simple terms.

Meanwhile, the 6 children who had not yet developed showed difficulties in concentration, still needed intensive guidance, and were less confident in speaking in front of their friends.

Research Results Summary

1. Pre-cycle: 10 children (55%) developed, 8 children (45%) did not develop.
2. Cycle I: 12 children (67%) developed, 6 children (35%) did not develop.
3. Cycle II: 15 children (80%) developed, 3 children (25%) did not develop.

Interpretation of Results

Based on the data above, there was an increase in the number of children who developed from the pre-cycle to cycle II. This proves that the use of ice cream stick flag games can help improve the cognitive development of number recognition and counting in children aged 5–6 years.

However, there are still some children who have not developed optimally. This is thought to be due to individual factors such as differences in ability, lack of concentration, and low self-confidence. Therefore, more intensive assistance and a variety of learning methods are needed so that all children can achieve the expected development.

DISCUSSION

This classroom action research aims to improve the cognitive development of children aged 5–6 years through the flag ice cream stick game. The research data shows an increase in children's learning outcomes from the pre-cycle, cycle I, to cycle II. At the initial stage (pre-cycle), only 10 children (55%) developed according to the indicators, while 8 children (45%) did not. This indicates that most children still had difficulty recognizing number symbols, doing simple calculations, saying numbers, and telling simple stories. After the intervention in cycle I, there was an improvement. The number of children who developed according to the indicators increased to 12 children (67%), while 6 children (35%) still did not develop. This improvement shows that the use of the flag ice cream stick game began to have a positive effect, although some children still needed guidance. Improvements to the strategy in cycle II were made by clarifying the instructions, providing more interesting examples, and motivating the children through praise. The results were more optimal, with 15 children (80%) developing according to the indicators, while 3 children (25%) did not yet develop.

Overall, there was an increase in the percentage of children who developed from 25% in the pre-cycle to 35% in cycle II, or an increase of 45%. This increase

proves that the flag ice cream stick game is effective in helping children develop cognitive abilities (recognizing numbers, counting, matching numbers). Although not all children have achieved optimal development, most children show enthusiasm, courage to speak, and accuracy in counting. Meanwhile, children who have not developed optimally require special attention, more intensive guidance, and repeated practice in order to achieve the expected indicators.

Thus, learning through the flag ice cream stick game has proven to be a creative, fun, and effective medium for improving the cognitive and language development of children aged 5–6 years.

Cycle 1 was conducted on Wednesday, August 20, 2025, with the following results:

Table 1: Data matching ice cream sticks to glasses at the start of Cycle 1

No	Nama Anak	Pra Siklus	Siklus 1	Keterangan Akhir
1.	HKL	BSH	BSH	Berkembang sesuai harapan
2.	AGM	BSH	BSB	Berkembang sangat baik
3.	KLS	BSH	BSB	Berkembang sangat baik
4.	ASH	BSH	BSH	Berkembang sesuai harapan
5.	ARQ	BSH	BSB	Berkembang sangat baik
6.	ATV	BB	BB	Belum berkembang
7.	ATY	BSH	BSB	Berkembang sangat baik
8.	AYK	BSH	BSH	Berkembang sesuai harapan
9.	FHR	BSH	BSH	Berkembang sesuai harapan
10.	KNN	BSH	BSB	Berkembang sangat baik
11.	BGA	BSH	BSB	Berkembang sangat baik
12.	KNC	BB	BB	Belum berkembang
13.	RFF	BB	BB	Belum berkembang
14.	RZK	MB	MB	Mulai berkembang
15.	RYC	BSH	BSH	Berkembang sesuai harapan
16.	ZYN	MB	MB	Mulai berkembang
17.	SHM	BSH	BSH	Berkembang sesuai harapan
18.	ZRA	MB	MB	Mulai berkembang

Explanation:

BB = Not yet developed
MB = Beginning to develop
BSH = Developing as expected
BSB = Developing very well

Cycle 2 was conducted on Wednesday, August 27, 2025, with the following results:

Table 2: Data matching ice cream sticks to glasses at the start of Cycle 2

No	Nama Anak	Siklus 1	Siklus 2	Keterangan Akhir
1.	HKL	BSH	BSB	Berkembang Sangat baik
2.	AGM	BSH	BSB	Berkembang sangat baik
3.	KLS	BSH	BSB	Berkembang sangat baik
4.	ASH	BSH	BSH	Berkembang sesuai harapan
5.	ARQ	BSH	BSB	Berkembang sangat baik
6.	ATV	BB	MB	Mulai berkembang
7.	ATY	BSH	BSB	Berkembang sangat baik
8.	AYK	BSH	BSH	Berkembang sesuai harapan
9.	FHR	BSH	BSH	Berkembang sesuai harapan
10.	KNN	BSH	BSB	Berkembang sangat baik
11.	BGA	BSH	BSB	Berkembang sangat baik
12.	KNC	BB	BB	Belum berkembang
13.	RFF	BB	BB	Belum berkembang
14.	RZK	MB	BSH	Berkembang sesuai harapan
15.	RYC	BSH	BSH	Berkembang sesuai harapan
16.	ZYN	MB	BSH	Berkembang sesuai harapan
17.	SHM	BSH	BSH	Berkembang sesuai harapan
18.	ZRA	MB	BSH	Berkembang sesuai harapan

Figure 1: Lecturer Quality Coaching

The result of data analysis is explained correctly in the article. The discussion part logically explains the findings, associated with the relevant sources.

CONCLUSION

Based on the results of the action research and discussion, it can be concluded that counting using flag ice cream sticks as a medium can improve cognitive abilities, namely counting flag ice cream sticks, in children aged 5-6 years at Trisula Perwari Purwakarta Kindergarten.

Classroom action research conducted through the application of the flag ice cream stick game on children aged 5–6 years showed a significant increase in cognitive development. In the pre-cycle stage, most children still experienced difficulties, as evidenced by the results that only 10 children or about 55% had developed, while 8 children or 45% had not yet developed. After the intervention in cycle I, there was an improvement in the children's development. The number of children who developed increased to 12 children or 67%, while the number of children who had not yet developed decreased to 6 children or 33%. This shows that the use of the flag ice cream stick game began to have a positive impact on the children's learning process.

In cycle II, the children's development increased significantly. A total of 15 children or 80% showed the expected development, while only 3 children or 20% had not developed optimally. This data shows an increase of 25% from the pre-cycle to cycle II.

Thus, it can be concluded that the use of the ice cream stick flag game is

effective in improving the cognitive abilities of early childhood. In addition, this game also provides a fun, interactive learning experience and encourages children to be more active in learning activities.

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