

IMPLEMENTATION OF APE NUMERACY BOARD IN THE INTRODUCTION OF CHILDREN'S MATHEMATICS IN GROUP B OF DHARMA WANITA KINDERGARTEN TEBULTIMUR PEGANTENAN PAMEKASAN

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Abstract

This research is motivated by the researcher's interest in deepening the uniqueness of the media of counting board educational game tools in the introduction of children's mathematics, which was made by one of the teachers having the latest innovations to attract children's attention in teaching and learning activities to introduce mathematics learning so that it is not monotonous and easily bored, and children's abilities can develop optimally, one of which is by making a counting board APE media, where the APE made by one of the teachers at Dharma Wanita Kindergarten has its own uniqueness, because it is made of materials that are easy to find and do not cost a fortune, namely made of natural materials in the form of a sturdy cardboard which is shaped into a block and on it is given a triangle so that it is in the form of a house building. in the introduction of mathematics through the use of APE counting boards, the purpose of this study 1) describes the implementation of using APE counting boards in the introduction of children's mathematics, 2) describe the achievement of children's development in the introduction of mathematics through the use of APE counting boards. This research method uses qualitative methods, with descriptive research type, the data obtained is by means of observation (observation) interviews and documentation, as for the analysis technique using data reduction, data presentation and drawing conclusions while checking the validity of the data using extend the presence of researchers, persistence observation and triangulation. The results of this study indicate that the implementation of the APE counting board in the introduction of mathematics to children, the teacher starts learning activities by explaining in advance slowly and in detail repeatedly and in combination with singing and the teacher also provides examples so that children can understand it, on the achievement of development in the use of APE counting board children can develop aspects of development, and the creativity and potential possessed by children can be honed and trained through the introduction of mathematics.

Keywords: *APE Counting Board, Introduction To Mathematics, Early Childhood.*

Abstrak

Penelitian ini dilatarbelakangi oleh ketertarikan peneliti untuk mendalami keunikan media alat permainan edukasi papan hitung dalam pengenalan matematika anak yang dibuat oleh salah satu guru yang memiliki inovasi terbaru untuk menarik perhatian anak dalam kegiatan belajar mengajar. memperkenalkan pembelajaran matematika agar tidak monoton dan mudah bosan, serta kemampuan anak dapat berkembang secara optimal, salah satunya dengan membuat media APE papan hitung, dimana APE yang dibuat oleh salah satu guru di TK Dharma Wanita ini memiliki keunikan tersendiri, karena terbuat dari bahan yang mudah di cari dan tidak membutuhkan biaya yang mahal yaitu terbuat dari bahan alami berupa karton kokoh yang di bentuk balok dan di atasnya di beri segitiga sehingga berbentuk dari sebuah bangunan rumah. dalam pengenalan matematika melalui penggunaan papan

hitung APE, tujuan penelitian ini 1) mendeskripsikan implementasi penggunaan papan hitung APE dalam pengenalan matematika anak, 2) mendeskripsikan pencapaian perkembangan anak dalam pengenalan matematika melalui penggunaan papan hitung APE. Metode penelitian ini menggunakan metode kualitatif, dengan jenis penelitian deskriptif, data yang diperoleh dengan cara observasi (observasi) wawancara dan dokumentasi, adapun teknik analisisnya menggunakan reduksi data, penyajian data dan penarikan kesimpulan serta pengecekan keabsahan data menggunakan extend kehadiran peneliti, ketekunan observasi dan triangulasi. Hasil penelitian ini menunjukkan bahwa penerapan papan hitung APE dalam pengenalan matematika pada anak, guru memulai kegiatan pembelajaran dengan menjelaskan terlebih dahulu secara perlahan dan detail secara berulang-ulang dan dipadukan dengan nyanyian dan guru juga memberikan contoh agar anak dapat dimaklumi, pada pencapaian perkembangan penggunaan papan hitung APE anak dapat mengembangkan aspek perkembangan, serta kreatifitas dan potensi yang dimiliki anak dapat diasah dan dilatih melalui pengenalan matematika.

Kata kunci: *Papan Hitung APE, Pengenalan Matematika, Anak Usia Dini.*

Introduction

Early childhood refers to children between the ages of 0 and 6 years old. This period is ideal for laying the groundwork for a child's development, as it is the "golden age" for personality formation (Ahmad Susanto, 2019: 1). Children ages 4 to 5 begin to form friendships. In these friendships, children want to be admired as much as possible by their peers. Children begin to comprehend that the purpose of friendship is to share and exchange members, in addition to developing a variety of social skills. Children also develop an understanding of right and evil. (Ilham Saputra & Alzena Masykouri, 2011: 9).

Early childhood is very curious and interested in the world around them, and early childhood also likes to fantasize and imagine, imagine what is on their mind and develop many things that go beyond the real world, and children can tell anything convincingly as if they experienced it, so that adults consider all the stories told by children to be false. (Lilis Madya Wati, 2016: 2)

Early childhood education is consistent with the concept of education (playing while learning) because young children frequently speak to themselves as if someone has invited them to do so. Still, young children learn through play, and one of the media used to stimulate his potential is the use of game tools. (Fadilla, 2016:6)

Game tools are any tools used to satisfy a player's playing instincts, whereas educational game tools are game tools that have been intentionally designed for educational objectives. Educational game tools for kindergarten students are tools that have been purposefully intended to promote child development. Parents or instructors can select age- or development-appropriate educational game tools for their children. Children can be introduced to APE with a certain degree of complexity as they age and, subsequently, as their mental development becomes more robust. Educational game tools are game tools that are designed specifically for educational purposes and possess particular characteristics. (Dian Rahma, 2017:3)

Mathematics is one of the tools for thinking, along with language, logic, and statistics. Mathematics is known as a deductive science, because it does not accept generalizations based on experimental observation, trial and error (inductive) as with other sciences. Mathematics learning is essential for early childhood, so that children can understand the fundamentals of mathematics learning and be better prepared to pursue mathematics learning at a high school level. (Sari P, 2013:46)

Mathematics learning is a strong determinant for children's academic success at the next level, mathematics learning is carried out in a variety of ways for early childhood so that children's abilities can be optimized and developed properly, and children can develop their experience with mathematics learning based on their age, including through teaching and learning activities involving learning activities while playing or playing while learning. (Adi Ningsih, 2008, 4)

According to Anggani Sudono (2000:1), play is an activity carried out with or without the use of tools that generate understanding or provide information, provide pleasure, or develop children's imagination. This skill will have a positive effect on the child's learning process if it is possible to comprehend and acquire the concept of play. When children are playing, we must know when to intervene and when to refrain from doing so.

Play is a medium for children when they are learning, and educational game instruments, such as APE counting boards, can be used as a medium for play. Play is a means to develop aspects of development that exist in children and their surrounding environment. (Mulyadi, 2004, 7)

The use of APE counting boards can provide children with easy-to-understand material for the introduction of mathematics, and by using this APE counting board, children will become more acquainted with the fundamentals of mathematics and learn more about the introduction of mathematics. In addition, APE counting boards can support children's creativity and reasoning ability in connecting numbers, recognizing number concepts, and learning other mathematics introductions. APE counting boards are helpful in stimulating children's thinking development and can increase their knowledge of mathematics recognition.

Based on the results of initial field observations conducted through direct observation. The observation took place in the Dharma Wanita Tebul Timur Kindergarten in the Pegantenan District. One of the teachers had the latest innovations to attract children's attention, so that children's abilities could develop optimally, by making APE counting boards, APE counting boards are not boa constrictors.

This counting board APE is made from natural materials, such as cardboard from recycled materials, so the material is readily available and inexpensive. Furthermore, this counting board APE is essential for instructors because it is so useful in teaching and learning activities (KBM). This is evident when the teacher asks children to group objects and connect pictures with numbers; therefore, this counting board APE can support children's creativity and reasoning power in recognizing the relationship between pictures and numbers. In addition, children can recognize colors and understand the concept of numbers, and when children are taught to use APE counting boards, they are enthusiastic and excited. This can be seen when a teacher instructs children: the teacher asks the child to observe, and the child can automatically reason or arouse his thoughts; the teacher then asks the child to question the teacher, and the child is able to respond; consequently, the child can understand the introduction of mathematical concepts through the use of APE counting boards, and children can indirectly learn and reason with themselves. In addition, APE counting boards are utilized in groups at TK Dharma Wanita Tebul Timur, Pegantenan District, for the introduction of mathematical concepts in the form of children understanding the concept of numerals or numbers, grouping pictures based on their numbers, and simple addition and subtraction concepts. Therefore, based on the results of initial observations through direct observation in the field, there are the aforementioned issues, and the author is interested in studying it further under the title "Implementation of APE Numeracy Board in the Introduction of Children's Mathematics in Group B of Dharma Wanita Kindergarten Tebul Timur Pegantenan Pamekasan".

Method

This study employed a qualitative approach, whereas this study employed a descriptive approach. In qualitative research, the types of data that can be gathered are interviews, field notes, personal documents, memoranda, and other official documents. According to Lexy J. Moleong (2011:6). This study aims to gain a thorough comprehension of the Implementation of APE Numeracy Board in the Introduction of Children's Mathematics in Group B of Dharma Wanita Kindergarten Tebul Timur Pegantenan Pamekasan through descriptive qualitative research.

Interviews, observation, and documentation were used to collect data sources. The informants were the group B's principal and instructors. The subjects of the research were kindergarteners aged 5 to 6 at Dharma Wanita Tebul Timur. In East Tebul Village, Pegantenan District, Pamekasan Regency (Sugiono, 2014, 17). The type of interview used was a semistructured interview. With semistructured interviews, researchers can discover problems more openly by asking the interviewee for their thoughts and opinions. When conducting interviews, researchers must listen attentively and record what informants say (Muri Yusuf, 2017, p. 4).

In this investigation, researcher observations were based on participant observations. Additionally, researchers assisted APE learning counting boards in the introduction of mathematics for group B children of Dharma Wanita Kindergarten Tebul Timur, Pegantenan Pamekasan. This method of data collection is used to directly observe the research subject. This observation centered on observing and witnessing firsthand how the APE Board Implementation counts are utilized in the introduction of mathematics to children (at Dharma Wanita Kindergarten Tebul Timur Pegantean Pamasasan). Documentation was used to bolster data collected through interviews and documentation. In this instance, researchers will focus on the deployment of APE counting boards in the introduction of mathematics to children at Dharma Wanita Kindergarten Tebul Timur, Pegantenan, Pamekasan.

This study utilizes both primary and secondary sources of information. Children, principals, and classroom instructors were the major data sources for this study. While secondary data sources in this study consist of events, documents, and records related to the problem under investigation, such as images or photographs of learning activities, images and documentation of learning activities are also included. (Mamik, 2015, 8).

Result and Discussion

According to the results of research conducted through direct observation in the field, researchers made direct observations to observe how teachers implement APE Counting boards in the introduction to children's mathematics, researchers visited kindergarten institutions, and when researchers observed, they determined that learning APE counting boards in the introduction to mathematics is crucial to the development of certain aspects of children's development, and that APE counting boards are v. Kindergarten Tebul Timur employs APE numeracy board learning to introduce children to mathematics; therefore, learning APE counting board is crucial for the development of each child's skills.

Implementation of APE Counting Board in the Introduction of Mathematics for Group B Children of Dharma Wanita Kindergarten Tebul Timur Pegantenan Pamekasan.

Play is a natural need of early childhood that contains elements of pleasure and happiness. Without using tools that produce understanding or produce information through play, children's creativity will be awakened and developed optimally, and their imagination will grow. Play can also be used for children's learning, because playing is one of the ways children learn (Roestiayah, 1991,3). Educational games, which can be educational methods or

instruments, are beneficial for enhancing language skills, critical thinking, and social skills (Ismil, 2006, p. 9).

Educational game tools are play tools that can improve educational and entertaining functions. This means that educational game tools can stimulate children's activities to learn something without their learning it, using both modern and basic technology as well as traditional methods. Educational game tools can also increase children's knowledge and comprehension of a subject (Melani, 2018, 5).

APE numeracy board Important for the development of children's developmental aspects and counting board Learning is a process of increasing potential and thinking activities that can know new knowledge and also as an effort to have excellent mastery in the learning material provided by teachers and APE is very enjoyable for children. The counting board is an educational game tool in the form of a block with a triangle on it so that it resembles a house, and on each side of the board are four sub-themes, namely the theme of needs, the theme of transportation tools, the theme of communication tools, and the theme of plants.



Using APE counting boards to introduce mathematics to children at Dharma Wanita Kindergarten Tebul Timur is also beneficial. Connecting is the application of real mathematics learning in the real world or in daily life, such as the number of pairs of shoes and socks provided, and compare, which are taught as part of the Pegantenan Pamekasan curriculum. Understanding the differences between one or more provided objects, including thick and narrow, is required for comparing. APE counting board shown to children in Dharma Wanita Kindergarten Tebul Timur by the teacher is made of thick and sturdy cardboard which is shaped into blocks and coated with rainbow paper which is colorful Alaskan paper, and on

top of it is given cardboard in the shape of a triangle and has also been coated with colorful paper, and then in glue using fox glue so that it does not come off easily and remains sturdy, and connected with cardboard that has been masturbated.

According to the findings of field observation research, each side of the board provides an introduction to mathematics and teaches about the theme of the theme between them, grouping based on the same type, size, and color, plant theme with fruit sub-theme and connecting based on their needs, the theme of my needs clothing sub-theme, followed by sorting based on large to small and the theme of transportation equipment sub-theme land transportation.

According to Abdul Khoir, the counting board APE tool has multiple advantages, including the fact that the educational game tool can be used in individual or group activities and that learning materials are improved. In addition, it can be used on any learning theme, such as transportation plants, animals, my requirements, myself, etc., to recognize number symbols using educational game tools and counting boards. Assist educators with the explanation of learning materials.

And the educational game instrument of counting boards at Dharma Wanita Kindergarten Tebul Timur has numerous advantages for teaching and learning activities, including: Counting board educational game tools can be used to play in individual or group activities, so that learning materials are improved and can be used on any learning theme, such as transportation, plants, animals, my needs, myself, and so on. Counting board educational game tools can also be used to recognize number symbols and assist in teaching student material.

This is consistent with the theory of the importance of APE learning that was bolstered by Sudjono, according to which learning using APE is crucial to the success of teaching and learning activities (KBM) and can also inspire creativity in children and increase their enjoyment, so Suyadi's belief that learning using APE tools can motivate children to learn is supported.

(Musrikah, 2017, p. 3) Introduction to mathematics is a natural activity that teaches mathematical concepts through recreational activities in daily life. The purpose of introducing children to mathematics is to develop their ability to think logically and systematically, to have numeracy skills that can be applied in daily life, to comprehend the concept of space and time, to have the capacity for abstraction and appreciation, and to foster their creativity and imagination. (Yulina Nurani Sujiono, 2013,354).

Achievement of Child Development in Introduction to Mathematics Through APE Numeracy Board at Dharma Wanita Kindergarten Tebul Timur.

Implementation of Child Development Achievement in Introduction to Mathematics Through APE Numeracy Board at Dharma Wanita Kindergarten Tebul Timur, the introduction of mathematics learning in children aims to train reasoning ways of thinking in drawing conclusions, for instance through activities such as experimentation and exploration. In addition, developing creative activities that encourage children's imagination and critical thinking, as well as developing problem-solving skills and the ability to convey information and form, such as through oral communication.

In early childhood mathematics, the Ministry of National Education, through the Directorate of Early Childhood Education, identifies counting or numerical and one-to-one relationships or correspondence as the knowledge that children must possess in relation to mathematical material in the concept of numbers. Problem-solving skills and cognitive development are related. Using mathematical concepts to solve problems is a daily occurrence. For instance, when four children consider how to divide two pears, they are solving a problem.

According to research conducted at Dharma Wanita Kindergarten Tebul Timur on the development and abilities attained by children using APE counting boards in the introduction of mathematics, APE counting boards, in addition to their multifunctionality, can play an important role in assisting ongoing teaching and learning activities. Through this APE counting board, children can also develop aspects of development and basic mathematical concepts. Furthermore, children can solve simple problems, train concentration, and think systematically and logically, and they can also be creative according to their ability.

Conclusion

The above explanation of "Implementation of APE counting board in the introduction of mathematics to group B children at Dharma Wanita Tebul Timur Pegantenan Pamekasan Kindergarten" allows us to derive the following conclusions: The teacher implements the APE counting board in the introduction of mathematics to children in group B of Dharma Wanita Kindergarten Tebul Timur Pegantenan Pamekasan. Prior to learning, the APE of this counting board is prepared. The teacher begins the activity with marching rows, gross motor activities, and reading prayers, and then continues with learning the APE counting board.

Teachers gave assignments that were written on the board and adjusted to the learning on the APE media counting boards while combining singing to keep children from becoming bored. Continued with the assignment to children, the majority of children have been able to complete the tasks given by the teacher and have developed appropriately. Children are very enthusiastic and eager to participate in learning APE counting boards because the APE is unique and can be multifunctional, and the teacher is creative and entertaining when teaching children using APE counting boards.

The achievement of child development in Tebul Timur Dharma Wanita Kindergarten through the use of APE counting boards in the introduction of mathematics allows children to develop moral, social, motor, and cognitive skills. Through the use of APE counting boards, children's creativity and potential can be honed and trained, and they can also solve basic problems and develop their imagination and reasoning. Participation in learning makes children more receptive and enthusiastic, and with the use of APE media counting boards, teachers can teach more effectively and practically.

Reference

- Alzena, Masykouri dan Ilham, Saputra, (2011), *Membangun Sosial-Emosional Anak diUsia 2-4 tahun*. Jakarta: Dirjen Paudni.
- Moleong, Lexys, (2011), *Metode Penelitian Kualitatif, edisirevisi*, Bandung: PT.Remaja Rosdakarya.
- Anggino, Albi dan Setiawan, Johan, (2018), *Metodologi Penelitian Kualitatif*, Sukabumi: CV Jejak.
- Fadillah, M., (2017), *Bermain dan Permainan Anak Usia Dini*, Jakarta: Kencana.
- Sujiono, Yuliani Nurani, (2013), *Metode Pengembangan Kognitif*, Tangerang: Materi Pokok.
- Sugiono, (2014), *Metode Penelitian Kualitatif*. Bandung : Alfabeta.
- Mamik, (2015), *Metode Kualitatif*. Sidoarjo: Zifatma Publisher.
- Muri Yusuf, (2017), *Metode Penelitian Kualitatif, Kuantitatif dan Peneltian Gabungan*, Jakarta: Kencana.
- Roestiyah, (1991), *Strategi Belajar Mengajar*, Jakarta: Rineka Cipta.
- Mulyadi, (2004), *Bermain dan Kreativitas*, Jakarta: Papas Sinar Sainanti.
- Lestari KW, (2011), *Konsep Matematika Anak Usia Dini*.
- Ismail, (2004), *Menjadi Cerdas Ceria dengan Perminan Edukatif*, Yogyakarta:Pilar Media.

- Ningsih, Adi, (2008), *Permainan Kreatif Asah Kecerdasan Logis Matematis*, Bandung: Semesta Prenting.
- Wati, Lilis Madya, (2016), *Strategi Pengembangan Bahasa Pada Anak*, Jakarta: Kencana.
- Rahma, Dian, (2017), *Penggunaan Alat Permainan Edukatif untuk Mendukung Perkembangan Anak Usia 5-6 Tahun di Paud AL Fikri*, Artirel Penelitian.
- Sari, R.P. (2013), *Kegiatan Bermaian Matematika*, *Jurnal Pendidikan Anak Usia Dini*, Vol 1 No 2.
- Musrikah, (2017), *Pengajaran Matematika Pada Anak Usia Dini*, *Jurnal Perempuan dan Anak*, Vol 1 No 1.
- Melani, (2018), *Pengembangan Alat Permainan Edukatif Ular Tangga Materi Matematika untuk Anak usia 5-6 tahun*, Program Studi Pendidikan Islam Anak Usia Dini Fakultas Keguruan dan Ilmu Pendidikan Universitas Sri Wijaya Palembang .