

# Analysis of The Needs For Smart Board Media For Numbers To Improve The Ability To Recognize Numbers in Children Aged 4-5 Years at Rutosoro Kindergarten

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## ABSTRACT

*This article discusses the importance of early childhood education in supporting the overall development of children. PAUD is a development effort that begins from birth until the child is 6 years old, with an emphasis on physical and mental development. Qualitative research conducted at TKK Rutosoro using observation, interview and data collection methods. documentation to analyze media needs learning. The results of the study show that PaPiKa can be a solution to improve children's numeracy skills in a fun and interactive way, and provide guidance for educators in implementing it.*

**Keywords :** Smart, Board, Media AUD, Numbers

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## 1. INTRODUCTION

Education is a learning process that involves knowledge, abilities, and skills acquired through people's habits, which are inherited from previous generations to the present. Based on the National Education System Law Number 20 of 2003, education is an effort that is carried out deliberately and planned to create an atmosphere and learning process, so that students can actively develop their potential. This includes strengthening religious spirituality, forming good character, self-control skills, noble morals, and intelligence and skills needed for the benefit of themselves and society, nation, and state. Early childhood education is an individual figure who is undergoing a rapid development process that is fundamental for future life. (Sujiono, (2009:14)). Early childhood education is essentially education that is organized with the aim of facilitating the growth and development of children as a whole or emphasizing the development of all aspects of the child's personality.

Early childhood education (PAUD) is an effort to foster children from birth to 6 years of age. This development is carried out through the provision of educational stimulation to help growth and development. This growth and development include physical and spiritual aspects. Early childhood is a sensitive period or sensitive period in children, which is a period when a certain function needs to be stimulated and directed so that its development is not hampered. (Montesori (1978:20)). For example, if the sensitive period for speaking is missed at this time, the child will face difficulties in developing language skills in the following period. The golden period is a time when children experience very rapid development in their lives. STPPA (Standard Level of Child Development Achievement) is used as a guideline in developing the PAUD curriculum. The achievement of child development at the end of PAUD services is referred to as core competency. Meanwhile, basic competency refers to the achievement of child development related to core competency.

Smart board media is a learning media used in learning with the aim of attracting students' attention and making it easier for students to understand the material being

taught. Smart Number Board Media (PAPIKA) is a learning media in the form of a rectangular wooden board, colored and illustrated. The media developed was inspired by puzzle games. Smart number board media is one of the learning media that can be developed with the creativity of educators who can convey certain messages to students. This media will present number material, color material, geometric flat shape material (Hafshari & Arini, 2023; Putri & Kasrman, 2022; Zahwa). Smart board media is a learning media used in learning with the aim of attracting students' attention and making it easier for students to understand the material being taught. Four important reasons for the use of media in learning, namely (1) improving the quality of learning, (2) demands of a new paradigm, (3) meeting market needs, and (4) a global education vision. The urgency of using learning media can also be viewed from its influence on students' attitudes, knowledge and skills, its influence on an educator's ability to teach, and its influence in creating a certain learning atmosphere (Yaumi, 2018). visual learning media, namely learning media that uses the sense of sight only because it only shows images that do not move or are still such as writing, pictures, photos, and others (Cahyadi, 2019 p. 46). The learning media developed by researchers is a type of smart board media. Smart board learning is a learning media that can display specific information during learning activities. Smart board media is also flexible and can be adjusted to the needs of students. (Chenitya & Zulminiati, 2021).

Based on observations and interviews conducted by researchers at Rutosoro Kindergarten, researchers found a problem, namely that in the Kindergarten, the absence of smart board media hindered more interactive and interesting number teaching, so that children had difficulty understanding the concept of numbers visually and practically.

## 2. METHOD

This research is a qualitative research, which was conducted at TKK Rutosoro. The subjects in this study were children aged 4-5 years. In this study, the researcher used observation, interview, and documentation methods. Interviews can be conducted to obtain various information data, about the media needed at TKK Rutosoro. Observations were conducted by researchers to obtain direct data from the situation or object being observed. The data obtained through observation is in the form of information about the media needed at the school. Documentation at TKK Rutosoro is used as evidence that the researcher has conducted research.

## 3. RESULTS AND DISCUSSION

Based on the results of the analysis that has been done, the researcher obtained information about the condition of learning media for students at TKK Rutosoro. This learning media needs analysis aims to understand the situation of students more deeply. The findings from this analysis will be used as a basis for designing and developing learning media in the form of a smart number board. The media to be developed is intended for students.

Smart Board is a learning media in the form of pieces of images that are arranged to form a complete image (Sucahyo (2013: 0-216)). This media is an educational game tool (APE) that is expected to be able to develop the potential of early childhood. Smart Number Board (PaPiKa) is a learning media that can make it easier for teachers to provide interesting and fun learning materials for early childhood and is equipped with a media usage guide book that makes it easier for teachers to play the Smart Number Board (PaPiKa) media according to its stages.

The analysis stages in this study are needs analysis, indicator/aspect analysis and material analysis. The needs analysis stage includes initial observation activities with one of the teachers at TKK Rutosoro. In accordance with the results of interviews and direct initial observations, researchers try to develop media that can be used in children's numeracy

skills, then researchers determine the right and relevant media according to the characteristics of the child and the learning objectives to be achieved, so that researchers prepare a plan for developing smart number board media (PaPiKa) which is used as a solution to the problems contained in this study.

One effective way to stimulate children's cognitive development, especially in the ability to think symbolically about numbers and their symbols, is through the Papika game. Papika is an educational game that can help children in arranging random numbers into the correct order, based on the appropriate pairs and colors. As a solution to the problems in the field, the use of Papika media is tried to optimize children's understanding of the concept of numbers one to ten. This study focuses on the play method, where children can learn in a fun way through play activities, using Papika media. This method is expected to improve children's cognitive abilities, especially in counting objects and recognizing number symbols.

Several studies that have been conducted previously have revealed that the use of smart board media is very effective in the learning process (Chentiya & Zulminiati, 2013).<sup>21</sup>). Other studies also reveal that media using various boards are effective for children's cognitive development (Widayati et al., 2021). Further research proves that number board media can increase the ability to recognize numbers in early childhood (Familiani & Suyadi, 2021). Based on several research results, it can be said that smart board media is very feasible to be developed and taught to students.

## CONCLUSION

Early childhood education plays an important role in preparing the foundation of children's development. The use of learning media such as the Smart Number Board (PaPiKa) has proven effective in attracting interest and improving children's numeracy skills. The needs analysis conducted at TKK Rutosoro showed an urgent need for media that can enrich children's learning experiences. By developing PaPiKa, educators can more easily deliver materials in a fun way, thus supporting children's cognitive and social emotional development optimally. This study recommends the application of creative learning media that are in accordance with children's characteristics to improve the quality of education in PAUD.

## REFERENCES

- Chentiya & Zulminiati, Z. (2021). Media Papan Pintar Terhadap Kemampuan Mengenal Lambang Bilangan Anak Usia 5-6 Tahun. *Edukids: Jurnal Pertumbuhan, Perkembangan, Dan Pendidikan Anak Usia Dini*, 18(2), 105-111. <https://doi.org/10.17509/edukids.v18i2.33992>
- Cahyadi, E. (2019). *Pengembangan media dan Sumber Belajar: Teori dan Prosedur*. Serang: Penerbit Laksita Indonesia.
- Chentiya, Z., & Zulminiati, E. (2021). media papan pintar Terhadap Kemampuan Mengenal Lambang Bilangan Anak Usia 5-6 Tahun. *Jurnal Pertumbuhan, Perkembangan, dan Pendidikan Anak Usia Dini*, 105-111 <http://journal.universitaspahlawan.ac.id/index.php/jrpp/article/view/30238>.
- Familiani, N., & Suyadi, S. (2021). Mengembangkan Kemampuan Mengenal Angka 1 Sampai 10 melalui APE Papan Angka pada Anak Usia Dini. *Martabat: Jurnal Perempuan Dan Anak*, 5(1), 114-126. <https://doi.org/10.21274/martabat.2021.5.1.114-126>.
- Hafshari, N. D., & Arini, N. W. (2023). Pengembangan Media Papan Sipat-Siput pada Pembelajaran Matematika untuk Siswa Kelas III Sekolah Dasar. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, 7(1), Article 1.

<https://doi.org/10.31004/cendekia.v7i1.1643>

Kasriman. (2022). Pengaruh Media Pembelajaran Papan Pintar (Smart Board) Terhadap Kemampuan Membaca Permulaan Peserta Didik Pada Mata Pelajaran Bahasa Indonesia Kelas 1 Sekolah Dasar. *Jurnal Cakrawala Pendas*, 8(4), Article 4. <https://doi.org/10.31949/jcp.v8i4.2716>

Sucahyo, Danang. 2013. Penggunaan Media Puzzle Untuk Meningkatkan Hasil Belajar di Sekolah Dasar. *Jurnal Ilmiah JPGSD Volume 01 Nomor 02 Tahun 2013*, 0-216

Sujiono, 2009. *Metode Pengembangan Kognitif*. Jakarta: Universitas Terbuka.

Widayati, S., Simatupang, N. D., Saroinsong, W. P., & Rusdiyanti, A. (2021). Pengembangan Media Stekpan Untuk Kognitif Anak Usia 4-5 Tahun. *Jurnal Anak Usia Dini Holistik Integratif (AUDHI)*, 4(1), 8. <https://doi.org/10.36722/jaudhi.v4i1.698>

Yaumi, D. M. (2018). *Media dan Teknologi Pembelajaran*. Prenada Media.