

The Influence of Limited Educational Game Tools (APE) on Early Childhood Learning at RA Nurul Jihad Kindergarten

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ABSTRACT

This study aims to examine the impact of limited Educational Play Equipment (APE) on the learning process of early childhood at RA Nurul Jihad Kindergarten. The study used a descriptive qualitative approach with observation, in-depth interviews, and documentation methods. The results showed that limited APE significantly impacted children's cognitive, motor, language, social-emotional, and religious-moral development. Teachers are required to develop creativity in creating APE from local and recycled materials. Strategies implemented include utilizing the surrounding environment, making simple APE from used materials, and collaboration with parents. This study recommends the need to increase the budget for APE procurement and ongoing creativity training for PAUD teachers

INTRODUCTION

Early Childhood Education (PAUD) is the primary foundation for developing quality human resources from an early age. During early childhood, between the ages of 0 and 6, children enter a golden age, characterized by rapid development across all aspects of life. This period is critical because a child's brain develops up to 80% of its total capacity, so appropriate and optimal stimulation is essential (Mulyasa, 2021). One learning medium that plays a crucial role in the process of stimulating early childhood development is Educational Play Equipment (EA). EEA is a play tool specifically designed to provide both learning and entertainment for children. According to Mayke S. Tedjasaputra (in Suyadi & Ulfah, 2020), EEA is anything that can be used as a play tool or equipment that contains educational value and can develop a child's full range of abilities.

However, the reality on the ground shows a concerning situation. Many ECE institutions in Indonesia, particularly those located in remote areas and privately owned institutions, face serious limitations in the availability of EEA. RA Nurul Jihad Kindergarten, a preschool and early childhood education (PAUD) institution operating in a lower-middle class community, is also not immune to these challenges. Budget constraints, minimal local government support, and low public awareness of the importance of early childhood education (APE) are key factors affecting the availability of APE at this institution. The limited availability of APE not only impacts the quality of learning but also directly impacts child development.

LITERATURE REVIEW

Children who do not receive adequate stimulation through APE tend to experience delays in cognitive, motor, language, and socio-emotional development (Fadlillah, 2021). Teachers, as the spearhead of learning in PAUD, are also required to innovate and be creative to overcome these limitations. The objectives of this study can be described as follows: 1.) To find out in detail the influence of the limitations of educational game tools on children, 2.) To find out what strategies teachers use when facing limitations of educational game tools, 3.) To describe teachers' creativity in facing limitations of educational game tools, 4.) To identify what obstacles are faced and solutions carried out by PAUD teachers in the process of dealing with the limitations of these educational game tools, and 5.) To find out the impact of the use of educational game tools on aspects of child development (Munawaroh & Sari, 2025) This study is present to examine in depth and comprehensively the influence of limitations of APE on early childhood learning at RA Nurul Jihad Kindergarten, the strategies implemented by teachers, teachers' creativity in dealing with limitations, obstacles faced and their solutions, and the impact of the use of APE on various aspects of child development.

METHODOLOGY

A qualitative approach can comprehensively explore teachers' perceptions and experiences while teaching. Data and information were collected using interviews. The data obtained from the interviews were then reduced, then the

information was grouped into categories and identified for relevance to the research focus. The focus of this research is the importance of APE, the causes of APE limitations, teachers' strategies for overcoming these limitations, and the use of technology (Munawaroh & Sari, 2025). A qualitative approach was chosen because it allows researchers to understand phenomena from the perspective of educational practitioners in a natural and contextual way. The research location was RA Nurul Jihad Kindergarten, considering that this institution represents the conditions of kindergartens in areas with limited resources. The study was conducted for one month, from January to February 2026, to provide sufficient observation time for various learning activities.

The research subjects consisted of the principal, four class teachers, and 25 students spread across two learning groups. This selection of subjects aimed to obtain data from various complementary perspectives. The principal provided information regarding school policies and general conditions, teachers provided data on daily learning practices, and students were directly observed during the learning process. Observations focused on how teachers used available educational tools, students' responses to learning media, and teachers' adaptive strategies when faced with limitations. In-depth interviews were conducted with the principal and three teachers using a semi-structured interview guide. They discussed the availability of educational tools, their impact on learning, and efforts made to address limitations.

Data validity was ensured through source triangulation, comparing data from the principal, teachers, and observations. Method triangulation was also conducted by confirming observation findings with interview results. Member checking was conducted by asking teachers to confirm the researcher's interpretation of the learning conditions in their classrooms.

RESULTS

This research was conducted at RA Nurul Jihad Kindergarten involving 25 children aged 4-6 years. Data collection was carried out through observation, interviews, and documentation to identify the condition of educational tools and their impact on the learning process of early childhood.

DISCUSSION

The Impact of APE Limitations on Early Childhood Learning at RA Nurul Jihad Kindergarten

Based on observations and interviews conducted at the Nurul Jihad Kindergarten (TK RA Nurul Jihad), the limited availability of PPE significantly impacts the learning process and quality. This limitation encompasses several dimensions: quantity (insufficient PPE for all children), quality (damaged or unusable PPE), and variety (very limited types of PPE available and not covering all developmental aspects).

According to the Principal of Nurul Jihad Kindergarten, in an interview conducted for this study, the institution only has no more than 40% of the minimum PPE standard stipulated by Minister of Education and Culture Regulation No. 137 of 2014. This situation requires that all students share a set of

PPE, severely limiting the amount of time each child can use PPE. The impact of limited PPE on learning can be seen from several aspects. First, from the learning process perspective, the limited PPE makes it difficult for teachers to implement child-centered learning. Learning often shifts to conventional teacher-centered methods, even though these methods are less effective for early childhood (Nugraha, 2021).

Second, in terms of learning motivation, children who do not have a turn using the Early Childhood Education (APE) show a decrease in interest and concentration in learning. Fadlillah (2021) suggests that the intrinsic motivation of early childhood children is highly dependent on the availability of engaging and stimulating play media. Without adequate APE, children tend to get bored easily and lose focus during the learning process.

Third, in terms of competency achievement, child development data at RA Nurul Jihad Kindergarten shows that most children are in the "Starting to Develop (MB)" category on several developmental indicators, even though, by age, they should have reached the "Developing According to Expectations (BSH)" or even "Developing Very Well (BSB)" stage. This aligns with the findings of Oktaviani & Pratiwi (2022), which showed a positive correlation between the availability of APE and children's competency achievement in Early Childhood Education (PAUD).

Furthermore, the limited availability of APE also impacts teachers' psychological stress. Teachers feel unable to provide optimal learning to their students, leading to frustration and decreased teaching motivation. This condition ultimately creates a cycle of suboptimality in Early Childhood Education (PAUD) learning (Sari & Dewi, 2023).

Teacher Strategies in Facing APE Limitations

Teachers at RA Nurul Jihad Kindergarten are not standing idly by in the face of limited resources for teaching and learning. Various creative and innovative strategies have been developed to ensure children continue to receive optimal learning experiences. These strategies include:

1. PPE Rotation and Scheduling Strategy

Teachers implement a structured PPE rotation system, where each small group of children (3-5 students) has the opportunity to use the PPE alternately during a learning session. According to Hasanah (2021), a well-planned rotation strategy can optimize the limited use of PPE while also training children to wait their turn and share, which are part of their social-emotional development.

2. Natural Environment Utilization Strategy

Teachers utilize materials available in the surrounding environment as alternative PPE. Rocks, leaves, sand, tree branches, and seeds provide effective learning media for various activities. This approach aligns with the nature-based learning concept proposed by Sobel (in Masnipal, 2020), which emphasizes that nature is the best learning laboratory for early childhood.

3. Group Project-Based Learning Strategy

With limited PPE, teachers have turned to group project-based learning, where a group of children work together using a set of PPE to complete a shared project. This strategy not only optimizes the use of limited PPE but also develops children's collaboration, communication, and leadership skills (Wiyani, 2022).

4. Strategy for Making PPE with Children

Teachers encourage children to work together to make simple PPE from readily available materials. The process of making PPE itself is a valuable learning experience for children, fostering fine motor skills, creativity, and the ability to follow instructions (Mulyasa, 2021). PPE created by children also has high emotional value, making them more motivated to use them.

5. Strategy for Collaborating with Parents

Teachers actively involve parents in procuring PPE through the "Sumbang PPE" program, where parents are asked to bring used toys from home or participate in a workshop on making PPE together. According to Hasanah (2021), parental involvement in the provision of Early Childhood Education (ECE) not only helps address resource constraints but also increases parental understanding of the importance of ECE for child development.

6. Digital Technology Utilization Strategies

Despite limited devices, teachers occasionally use educational digital content via smartphones or simple tablets to supplement physical ECE. Educational animated videos, children's songs, and simple game apps can provide varied learning experiences for children. However, the use of this technology remains limited and adjusted to the child's age, referring to the American Academy of Pediatrics (AAP) recommendation of a maximum of 1 hour per day for children aged 2-5 years (Putri & Rahman, 2022).

Teacher Creativity in Facing APE Limitations

Teacher creativity is a key aspect in overcoming limitations in the use of educational materials (APE). At RA Nurul Jihad Kindergarten, teacher creativity is manifested in various forms of innovation that demonstrate strong adaptability and problem-solving skills. First, creativity in making APE from recycled materials. Teachers at RA Nurul Jihad Kindergarten have successfully created various innovative APEs from used materials that would normally be discarded. Used plastic bottles are used as a medium for introducing colors and shapes, used cardboard is processed into puzzles and concept maps, and old newspapers are used as a medium for collages and origami.

According to Suyadi (2021), making APE from recycled materials not only overcomes financial constraints but also instills environmental values and creativity in children from an early age. Teacher creativity is also evident in the innovative use of multifunctional APEs. One type of APE is modified and used for a variety of different learning purposes. For example, simple wooden blocks are used not only for building structures (cognitive and motor development), but also for learning basic math concepts such as addition and subtraction (cognitive development), telling stories about the structures they build (language development), and role-playing (social-emotional development). Rohmah (2021) calls this approach "multidimensional APE," which is highly effective in the context of limited resources.

Teachers also demonstrate creativity in developing APE based on local wisdom. They utilize traditional games such as congklak, engklek, ular tangga, and dakon as APE rich in cultural values while simultaneously fostering various aspects of child development. The selection of these traditional games also aligns

with the agenda of preserving local culture, which is increasingly being eroded by globalization (Anggraini & Purnama, 2022).

Furthermore, teachers' creativity is demonstrated in the development of APE based on learning themes. Each week, teachers create simple APE relevant to that week's learning theme. For example, when the theme is "transportation," teachers create miniature vehicles from used materials; when the theme is "plants," teachers create picture cards depicting various types of plants found around the school. This thematic approach ensures alignment between APE and the ongoing curriculum (Kuswandi et al., 2020).

Teachers' creativity is also evident in their storytelling skills using simple APE. Finger puppets made from patchwork, puppets made from used cardboard, and simple masks made from cardboard are effective storytelling tools. Teachers' ability to tell stories using these simple APEs has been shown to retain children's attention and significantly develop their language skills and imagination (Rahardjo & Sulistiawati, 2023).

Obstacles Faced and Solutions by Early Childhood Education Teachers

In the process of overcoming the limited availability of PPE, teachers at RA Nurul Jihad Kindergarten faced various complex obstacles. The identified obstacles and solutions are as follows:

a. Financial Barriers

The most fundamental obstacle is the school's limited operational budget. The BOP (Early Childhood Education Operational Assistance) funds received by the institution are often insufficient to procure adequate PPE, as they must be allocated to various other operational needs. The relatively high cost of factory-made PPE is a real obstacle for institutions with limited financial capacity (Munastiwi, 2021).

Solution: Teachers overcome financial obstacles by utilizing inexpensive and readily available materials to make their own PPE. Furthermore, teachers actively submit PPE procurement proposals to the local education office, non-governmental organizations, and donors. Some teachers even use their own funds to purchase much-needed basic PPE, a sacrifice that demonstrates high dedication to the profession.

b. Competency and Skills Barriers

Not all teachers have the skills to make PPE from recycled materials. Diverse educational backgrounds and a lack of training in PPE making present significant competency barriers. According to Yus (2022), early childhood education (PAUD) teachers require specialized competencies in designing and creating PPE that is not only visually appealing but also safe and developmentally appropriate.

Solution: School principals hold regular in-house training activities where more creative teachers share their skills with their colleagues. Furthermore, teachers actively participate in workshops and training organized by the Education Office, IGTKI (Indonesian Kindergarten Teachers Association), and other PAUD organizations.

c. Time Constraints

Creating PPE requires a significant amount of time, while teachers also have a significant administrative burden. Creating lesson plans, implementing

lessons, conducting evaluations, preparing child development reports, and simultaneously creating PPE are all very demanding tasks for early childhood education (Syakir & Purnawati, 2021).

Solution: Teachers optimize their time by collaboratively creating PPE within teacher working groups (KKG). By working together, the burden of creating PPE can be shared, making it more efficient. Furthermore, teachers can involve parents in the PPE creation process through regularly scheduled parenting activities.

d. Barriers to Understanding PPE Standards

Some teachers experience difficulty ensuring that the PPE they create meets safety and age-appropriateness standards. Unsafe PPE can be harmful to children (toxic materials, small parts that can be swallowed, sharp edges), while age-inappropriate PPE can provide inappropriate stimulation for children's development (Suyadi, 2021).

Solution: Teachers proactively increase their knowledge of PPE safety and appropriateness standards through various sources, including early childhood education literature, the Ministry of Education and Culture website, and online PPE teacher communities. Before using homemade PPE, teachers conduct a simple safety test to ensure it is safe for children.

e. Barriers to Classroom Management

Limitations on PPE make classroom management more complex. When there is only one set of PPE for many children, scrambling, conflicts between children, and classroom disorganization often occur. This disrupts the learning process and drains teachers' energy (Fitri & Handayani, 2022). Solution: Teachers developed an innovative classroom management system, including the use of a "center" system, where children are divided into small groups that rotate from one activity corner to another. This system allows for more effective management of the limited APE (Educational Resource Planning) because each activity corner has a different APE or activity.

The Impact of Using APE on Aspects of Child Development

Despite the limitations, the use of educational materials (APE) at RA Nurul Jihad Kindergarten, both standard and teacher-created, continues to have a measurable positive impact on various aspects of child development. These impacts can be described as follows:

a. Cognitive Development

APE has been shown to significantly impact the cognitive development of early childhood. Through the use of APE such as puzzles, building blocks, and matching games, children develop logical thinking skills, problem-solving skills, and an understanding of basic mathematical concepts. Research by Oktaviani & Pratiwi (2022) shows that children who regularly use APE have higher cognitive development scores than children who rarely use APE. At RA Nurul Jihad Kindergarten, despite limited APE, children who have the opportunity to use APE show improved classification, seriation, and number concept recognition skills.

b. Language and Communication Development

APE plays a vital role in children's language development. Picture books, letter cards, hand puppets, and puppet simulations encourage children to communicate, express ideas, and expand their vocabulary. According to Mulyasa (2021), children who actively interact with language-based educational materials (APE) demonstrate broader vocabulary development and more fluent speaking skills. Teachers at RA Nurul Jihad Kindergarten reported that children were very enthusiastic about telling stories and engaging in dialogue when using teacher-made hand puppets, which significantly increased their confidence in communication.

c. Physical Motor Development

APE for motor development includes activities that train gross motor skills (balls, ropes, stepping stones) and fine motor skills (playdough, crayons, small puzzles, beads). Both types of motor skills are crucial for balanced development. Haryanti (2022) states that good fine motor development is positively correlated with children's future writing readiness. At RA Nurul Jihad Kindergarten, teachers use wet sand and clay instead of manufactured playdough, which has proven effective in developing children's fine motor skills while providing rich sensory experiences.

d. Social-Emotional Development

APE used in the context of collaborative play has a significant impact on children's social-emotional development. Through collaborative play, children learn to share, take turns, negotiate, and cooperate. Sari & Dewi (2023) suggest that cooperative play with educational materials (APE) is one of the most effective ways to develop emotional intelligence and social skills in early childhood. Interestingly, the limited availability of APE at RA Nurul Jihad Kindergarten inadvertently creates more opportunities for social interaction, as children must share and take turns using the available APE.

e. Development of Religious and Moral Values

APE containing religious and moral values, such as prophet story cards, calligraphy puzzles, and images of commendable behavior, positively contribute to the internalization of religious and moral values in children. Teachers at RA Nurul Jihad Kindergarten integrate Islamic religious values into the various APE they create, in keeping with the institution's identity as a Raudhatul Athfal (RA). According to Eliyawati (2021), APE that integrates religious and moral values can help children understand and internalize these values in a more concrete and enjoyable way.

f. Art Development

Art-related arts and crafts (APE) such as crayons, watercolors, playdough, and simple musical instruments provide opportunities for children to explore and express their creativity. Wiyani (2022) states that arts activities through APE not only develop children's aesthetic abilities but also provide a medium for healthy emotional expression. Teachers at RA Nurul Jihad Kindergarten use stamps made from various natural materials (leaves, flowers, tubers) as a substitute for factory stamps, producing unique works of art while providing valuable sensory experiences for children.

CONCLUSIONS AND RECOMMENDATIONS

Based on the discussion outlined, it can be concluded that the limited availability of educational materials (APE) at RA Nurul Jihad Kindergarten significantly impacts the quality of early childhood learning, particularly in terms of the limited variety of children's learning experiences and challenges in achieving optimal developmental competencies. However, the creativity and dedication of teachers have successfully minimized these negative impacts through various innovative strategies.

Teachers at RA Nurul Jihad Kindergarten have demonstrated extraordinary creativity in addressing the limited availability of APE, including creating APE from recycled materials, utilizing natural materials, developing traditional games, and involving parent participation. Despite facing financial, competency, time, and classroom management challenges, various pragmatic solutions have been successfully developed.

The use of APE, both standard and creatively designed, continues to have a measurable positive impact on children's cognitive, language, physical motor skills, social-emotional, religious-moral, and artistic development. These findings confirm that APE is an essential component that cannot be ignored in the early childhood learning process.

FURTHER STUDY

This research still has limitations, so it is necessary to conduct further research related to the topic of The Influence of Limited Educational Game Tools (Ape) on Early Childhood Learning at RA Nurul Jihad Kindergarten in order to perfect this research and increase insight for readers.

REFERENCES

- Anggraini, S., & Purnama, S. (2022). Revitalisasi permainan tradisional sebagai alat permainan edukatif untuk anak usia dini. *Jurnal Pendidikan Anak Usia Dini Undiksha*, 10(1), 45-53. <https://doi.org/10.23887/jpaud.v10i1.44112>
- Fadlillah, M. (2021). *Bermain dan permainan anak usia dini*. Jakarta: Kencana Prenada Media Group.
- Fitri, A. Z., & Handayani, T. (2022). Manajemen kelas PAUD berbasis permainan edukatif dalam mengatasi keterbatasan sarana prasarana. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(4), 3112-3124. <https://doi.org/10.31004/obsesi.v6i4.2143>
- Hasanah, U. (2021). Pengembangan kemampuan fisik motorik melalui permainan tradisional bagi anak usia dini. *Jurnal Pendidikan Anak*, 8(1), 21-34. <https://doi.org/10.21831/jpa.v8i1.28133>
- Kementerian Pendidikan dan Kebudayaan. (2020). *Pedoman pengembangan APE PAUD*. Jakarta: Direktorat PAUD Kemendikbud.
- Kuswandi, D., Ulfa, S., Susilo, H., & Wedi, A. (2020). The development of thematic learning media based on educational games for early childhood. *Journal of Physics: Conference Series*, 1464(1), 012020. <https://doi.org/10.1088/1742-6596/1464/1/012020>

- Masnipal, M. (2020). Siap menjadi guru dan pengelola PAUD profesional. Jakarta: Elex Media Komputindo.
- Mulyasa, H. E. (2021). Manajemen PAUD. Bandung: PT Remaja Rosdakarya.
- Munastiwi, E. (2021). Pengaruh penggunaan metode STEAM terhadap keterampilan kreativitas anak usia dini 5-6 tahun. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 5(2), 1395-1407. <https://doi.org/10.31004/obsesi.v5i2.971>
- Munawaroh, F. Z., & Sari, D. U. (2025). Strategi Guru PAUD Mengatasi Keterbatasan Alat Permainan Edukatif untuk Perkembangan Anak Di TK NUR ALIFA. *Kumarottama: Jurnal Pendidikan Anak Usia Dini*, 5(1), 44-58. <https://doi.org/10.53977/kumarottama.v5i1.2539>
- Nugraha, A. (2021). Pengembangan pembelajaran sains pada anak usia dini. Bandung: JILSI Foundation.
- Oktaviani, R., & Pratiwi, R. D. (2022). Pengaruh alat permainan edukatif terhadap perkembangan kognitif anak usia 4-5 tahun di PAUD Sabilul Muttaqin. *Jurnal Ilmiah VISI PGTK PAUD dan DIKMAS*, 17(1), 43-52. <https://doi.org/10.21009/JIV.1701.4>
- Putri, R. A., & Rahman, A. (2022). Pengaruh media digital terhadap perkembangan anak usia dini: Tinjauan sistematis. *Jurnal Ilmu Pendidikan*, 28(1), 78-89. <https://doi.org/10.17977/um048v28i12022p078>
- Rahardjo, M. M., & Sulistiawati, A. (2023). Efektivitas mendongeng dengan boneka tangan terhadap perkembangan bahasa dan kreativitas anak usia dini. *Jurnal Pendidikan dan Kebudayaan*, 8(1), 14-26. <https://doi.org/10.24832/jpnk.v8i1.2854>
- Rohmah, N. (2021). Bermain dan pemanfaatannya dalam perkembangan anak usia dini. *Jurnal Tarbiyah*, 28(1), 137-156. <https://doi.org/10.30829/tar.v28i1.892>
- Sari, I. N., & Dewi, R. S. (2023). Burnout guru PAUD dalam kondisi keterbatasan sarana dan prasarana: Studi fenomenologi. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 7(2), 1867-1878. <https://doi.org/10.31004/obsesi.v7i2.4182>
- Suyadi, H. (2021). Teori pembelajaran anak usia dini dalam kajian neurosains. Bandung: PT Remaja Rosdakarya.
- Suyadi, H., & Ulfah, M. (2020). Konsep dasar PAUD. Bandung: PT Remaja Rosdakarya.
- Syakir, A., & Purnawati, S. (2021). Beban kerja dan kesejahteraan psikologis guru PAUD: Studi komparasi antara lembaga negeri dan swasta. *Jurnal Psikologi Pendidikan dan Konseling*, 7(1), 44-55. <https://doi.org/10.26858/jppk.v7i1.17987>
- Wiyani, N. A. (2022). Manajemen program kegiatan PAUD berbasis otak kanan. Yogyakarta: Gava Media.
- Yus, A. (2022). Model pendidikan anak usia dini. Jakarta: Kencana Prenada Media Group.
- Zaman, B. (2020). Media dan sumber belajar TK. Tangerang Selatan: Universitas Terbuka.