

THE BENEFITS OF TRADITIONAL GAMES ON EARLY CHILDHOOD GROSS MOTOR DEVELOPMENT IN THE DIGITAL ERA

Rima Sofiani^{1*}), Eka Danik Prahastwi²

¹Institut Studi Islam Muhammadiyah Pacitan, Pacitan

²Institut Studi Islam Muhammadiyah Pacitan, Pacitan

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Abstract

This study aims to optimize the gross motor development of early childhood through the implementation of traditional games based on outdoor learning in the digital era. A qualitative approach with a case study design was employed in Kelompok Bermain Tunas Harapan. The research subjects consisted of children aged 4–6 years, teachers, and parents selected purposively. Data were collected through observation, in-depth interviews, documentation, and field notes, and were analyzed thematically using the Miles and Huberman model. The findings reveal that traditional games such as hopscotch, jump rope, and clogs effectively enhance children's balance, movement coordination, large muscle strength, and self-confidence. Outdoor activities also help reduce children's dependence on digital devices while promoting social interaction. Teachers and parents responded positively to this approach as it aligns with children's developmental needs. This study concludes that traditional game-based outdoor learning is an effective, contextual, and enjoyable strategy for improving gross motor skills while preserving local cultural values.

Keywords: traditional games, outdoor learning, gross motor, early childhood, digital era

Abstrak

Penelitian ini bertujuan untuk mengoptimalkan perkembangan motorik kasar anak usia dini melalui penerapan permainan tradisional berbasis outdoor learning di era digital. Pendekatan yang digunakan adalah kualitatif dengan jenis studi kasus yang dilakukan di Kelompok Bermain Tunas Harapan. Subjek penelitian terdiri atas anak usia 4–6 tahun, guru, dan orang tua yang dipilih secara purposive. Data dikumpulkan melalui observasi, wawancara mendalam, dokumentasi, dan catatan lapangan, kemudian dianalisis secara tematik menggunakan model Miles dan Huberman. Hasil penelitian menunjukkan bahwa permainan tradisional seperti engklek, lompat tali, dan bakiak mampu meningkatkan keseimbangan, koordinasi gerak, kekuatan otot besar, serta rasa percaya diri anak. Kegiatan outdoor juga mengurangi ketergantungan anak terhadap gawai serta meningkatkan interaksi sosial. Guru dan orang tua merespons positif pendekatan ini karena relevan dengan kebutuhan perkembangan anak. Penelitian ini menyimpulkan bahwa permainan tradisional berbasis outdoor learning efektif sebagai strategi

pembelajaran motorik kasar yang kontekstual, menyenangkan, dan berakar pada nilai budaya lokal.

Keywords: permainan tradisional, outdoor learning, motorik kasar, anak usia dini, era digital

INTRODUCTION

In today's digital era, early childhood is increasingly familiar with technological devices such as gadgets, tablets (Mulyaningtias, Ishma, & Jakarta, 2025), and television. This phenomenon slowly shifts the pattern of children's activities from active play to more passive and sedentary activities. This condition is a serious concern, considering that early childhood is a golden age in child development (Kiki Firda Auliyah, 2025) (Sopyan Sauri, Nina Nurhayati, 2024), especially in gross motor aspects which play an important role in body coordination (Kurniawan, Agus; Sari, 2025) (Fitri & Prahastiwi, 2025), muscle strength, and children's confidence in interacting with the environment (Krismawati, 2018) (Haris et al., 2025) Without adequate stimulation, children are at risk of delayed motor development, even health problems such as obesity due to lack of physical activity.

Empirical data shows that the use of digital devices in early childhood in Indonesia continues to increase (Melani & Prahastiwi, 2025). More than 60% of children aged 4–6 years use digital devices for more than two hours per day, exceeding the limits recommended by the World Health Organization (WHO) (Scott, 2025). As a result, many Early Childhood Education (PAUD) teachers and parents complain about the decline in children's physical endurance, lack of dexterity, and reduced interest in physical games (Ramahwanti & Mashudi, 2025) (Wilsa, Susilowati, & Rahayu, 2017). In fact, gross motor development is ideally stimulated through activities that involve active movements such as running, jumping, and kicking, which are very minimally found in screen-based activities.

The results of the researchers' initial observations in the Tunas Harapan Play Group show that outdoor learning activities have not become a priority. Teachers tend to emphasize the cognitive aspect more, while gross motor stimulation is still carried out in a limited and conventional way. On the other hand, traditional games that are loaded with physical activity, such as engklek, jump rope, and clogs, are starting to be abandoned because they are considered less interesting and not in accordance with the times. In fact, these traditional games have been proven to be effective in practicing balance, movement coordination, and the strength of children's large muscles (Yani & Rahmawati, 2020).

Previous research has generally addressed outdoor learning and traditional play separately. Maharani (2019) emphasized the role of outdoor learning in the formation of children's character, while Susanti and Nurfadilah (2021) examined the benefits of traditional games on children's social-emotional development (Siregar, Hidayati, Maharani, Afifah, & Liza, 2023)(Susanti & Eka Danik Prahastiwi, 2025). However, there is still limited research that specifically integrates traditional games in outdoor learning approaches to optimize children's gross motor development amid the dominance of digital technology. (Hariyanti & Prahastiwi, 2021) (Scott, 2025) This research gap shows the need for studies that combine cultural and contextual approaches in an integrated manner in early childhood learning.

Based on this description, this study aims to examine and implement traditional games based on outdoor learning as a strategy to optimize early childhood gross motor development. This research is expected to make a real contribution to the development of early childhood learning practices that are adaptive to the challenges of the digital era while strengthening educational local cultural values.

The hypothesis of this study is that the application of traditional games based on outdoor learning can significantly improve early childhood gross motor skills, which include balance, movement coordination, and muscle strength, and can reduce children's dependence on digital devices and increase social interaction.

METHODS

This study uses a qualitative approach with a case study type to examine in depth the process of early childhood gross motor development through the application of traditional games based on outdoor learning in the Tunas Harapan Play Group (KB). The research was carried out for approximately two months by adjusting the schedule of learning activities at the institution. The research subjects consisted of children aged 4–6 years, teachers, and parents who were selected using purposive sampling techniques based on certain criteria, namely children who actively participated in learning activities, teachers who were directly involved in the learning process, and parents who accompanied children in daily life. This technique is used to obtain relevant and in-depth data according to the research objectives.

Data collection was carried out through observation, semi-structured interviews, and documentation. Observation was carried out directly to observe children's activities while participating in traditional games based on outdoor learning, especially those related to gross motor development. Interviews were conducted with teachers and parents to gather information about behavioral changes, children's motor development, and responses to learning activities (Hak, Prahastiwi, & South, 2024). Documentation in the form of photos, videos, and field notes was used as supporting data to strengthen the results of observations and interviews (Haki et al., 2024).

The main variable in this study is early childhood gross motor development which is measured through several indicators, namely body balance, movement coordination, large muscle strength, and confidence in physical activity (Harjanto, 2024). The assessment was carried out qualitatively through observation sheets, field notes, and interview results which were then analyzed descriptively to see the developments that occurred. Data analysis uses Miles and Huberman's interactive model which includes data reduction, data presentation, as well as conclusion drawing and verification (Scott, 2017). To maintain the validity of the data, the researcher uses source triangulation techniques and techniques, as well as member checks with informants and peer debriefing with peers to ensure the credibility and validity of the research results (Musianto, 2002).

RESULTS AND DISCUSSION

Implementation of Traditional Games in Outdoor Learning Activities

During the three weeks of research implementation at KB Tunas Harapan, the implementation of traditional games based on outdoor learning was carried out in a structured manner through a relay game system. Children take turns participating in engklek, jump rope, and clogs activities in the outdoor area. This pattern keeps the intensity of child involvement high and creates an active and fun learning atmosphere. The results of the observation showed that children were enthusiastically involved in each activity, with an increase in physical activity as seen from the frequency of movement, the courage to try, and the interaction between friends.

Changes in Children's Gross Motor Behavior

Changes in gross motor behavior are seen in several key indicators. Children who were previously hesitant to do physical activity began to show courage and confidence. The ability to maintain balance and coordination of

movements increases, which is shown through smoothness in completing the game. In addition, the ability to work together is also developed, especially in group games such as clogs.

Children's Gross Motor Development

Table 1. Children's Gross Motor Development Before and After Treatment

No	Name Children	Balance	Coordination	Agility	Muscle Strength	Previous Categories	Categories After
1	Stuttgart	2 → 4	2 → 4	2 → 3	2 → 4	Low	Good
2	Alpha	2 → 3	2 → 3	2 → 4	2 → 3	Low	Good– Enough
3	Aldebaran	3 → 4	3 → 4	3 → 4	3 → 4	Enough	Good
4	Arsya	2 → 3	2 → 3	2 → 3	2 → 3	Low	Enough
5	Arvin	2 → 4	2 → 4	2 → 4	2 → 4	Low	Good
6	Fitriansah	3 → 4	2 → 3	2 → 4	3 → 4	Enough	Good
7	Gaizhan	2 → 3	2 → 4	2 → 3	2 → 3	Low	Good– Enough
8	Ghibran	3 → 4	3 → 4	3 → 4	3 → 4	Enough	Good
9	Hanin	2 → 3	2 → 3	2 → 4	2 → 3	Low	Good– Enough
10	Imelda	3 → 4	3 → 4	2 → 3	3 → 4	Enough	Good
11	Rafathar	2 → 3	2 → 3	2 → 4	2 → 3	Low	Good– Enough
12	Syafaniya	2 → 3	2 → 3	2 → 3	2 → 3	Low	Enough
13	Tristan	2 → 3	2 → 3	2 → 3	2 → 3	Low	Enough
14	Virendra	2 → 4	2 → 4	2 → 4	2 → 4	Low	Good

Score Description:

1 = Very Low

2 = Low

3 = Enough

4 = Good

Table 1 shows an increase in gross motor skills in all children. Before treatment, most children were in the low category, while after treatment it increased to the good to good category. The most notable improvement is seen in the aspects of balance and agility.

Child and Teacher Responses to Learning

The results of the interviews showed that teachers considered this approach to be more fun, able to reduce learning boredom in the classroom, and increase children's social interaction. Children who were previously passive began to show active participation, and some of them were even able to take a leadership role in the game. In addition, the use of traditional games helps reduce children's dependence on gadgets.

Implementation Barriers and Solutions

Some of the obstacles found include limited playing grounds, uncertain weather conditions, and limited teachers' understanding of traditional game variations. To overcome this, schools schedule regular outdoor activities, make optimal use of available space, and provide training to teachers related to the development of traditional games that are relevant to learning.

The results of the study show that the application of traditional games based on outdoor learning has a strong relationship with the theory of child development, especially in supporting gross motor optimization. Physical activities carried out by children through play provide concrete experiences that are in accordance with the stages of cognitive-motor development in early childhood. This is in line with developmental theory that emphasizes the importance of direct interaction with the environment as the basis for learning.

These findings also reinforce the results of previous research that stated that active play activities can improve the function of the vestibular and proprioceptive systems that play a role in coordination and balance of the

body. Thus, the improvement of motor abilities found in this study is not only physical, but also related to the development of the child's neuromotor system.

In addition, this approach is relevant to early childhood development standards that emphasize the importance of physical activity as a key stimulus in motor development. The traditional games used have been shown to not only train the physical aspect, but also develop social skills such as cooperation, empathy, and responsibility. This shows that traditional game-based learning has a holistic contribution to child development.

In the context of the digital era, the results of this study show that outdoor learning can be a strategic alternative to reduce children's dependence on digital devices. The outdoor environment provides multisensory stimuli that cannot be obtained through screens, thus encouraging children to move actively and interact directly with peers.

However, the success of the implementation of this approach is inseparable from supporting factors such as the availability of infrastructure, teacher competence, and support from parents. Therefore, continuous collaboration between schools and families is needed to create a conducive learning environment and support children's development optimally.

Overall, the findings of this study support the hypothesis that the application of traditional outdoor learning-based games is effective in improving early childhood gross motor skills. This approach is not only pedagogically relevant, but also contextual in addressing educational challenges in the digital age, while contributing to the preservation of local cultural values.

CONCLUSION

This study shows that traditional games based on outdoor learning significantly contribute to the optimization of early childhood gross motor development in the digital era. Through the application of traditional games such as engklek, jump rope, and clogs packaged in outdoor activities, children obtain intensive and fun physical stimulation. These activities are not only able to improve aspects of balance, movement coordination, large muscle strength, and agility of children, but also form confidence and courage in active participation. Findings in the field show positive changes in motor behavior, especially in children who were previously less active in physical activity.

In addition, this learning approach has a positive impact on the social and emotional aspects of children. Children seem more enthusiastic, able to work together in groups, and experience a decrease in dependence on the use of gadgets. Teachers and parents also gave positive responses to this activity, because it was considered more contextual, fun, and relevant to

The Need for Early Childhood Development in the Midst of the Challenges of the Digital Era. Despite the limitations of outdoor facilities and weather factors, outdoor learning activities can still be adapted with creative and collaborative strategies.

Thus, traditional games developed through an outdoor learning approach are not only relevant as an effort to preserve local culture, but also effective as a meaningful medium for gross motor stimulation. This approach is worthy of being recommended to be applied more widely in learning in early childhood education units as a form of learning innovation that touches the needs of children's physical, social, and cultural development in an integrated manner.

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REFERENCES

- Fitri, I. L., & Prahastiwi, E. D. (2025). The Strategic Role of Teachers in Shaping Early Childhood Character: A Case Study at RA GUPPI Gondosari. *MASALIQ: Jurnal Pendidikan Dan Sains*, 5(2), 632–642.
- Haki, U., Prahastiwi, E. D., & Selatan, U. T. (2024). Strategi Pengumpulan dan Analisis Data dalam Penelitian Kualitatif Pendidikan. *Jurnal Inovasi Dan Teknologi Pendidikan*, 3(1), 1–19. <https://doi.org/10.46306/jurinotep.v3i1.67>
- Haris, F. I., Zaman, B., Kurniati, E., Apsari, N., Khoerunnisa, S., & Sidqia, T. L. (2025). *Universal Design for Learning (UDL) in Early Childhood Education*. 8(2), 248–257. <https://doi.org/10.23917/ecrj.v8i2.11119>
- Hariyanti, H., & Prahastiwi, E. D. (2021). Perubahan Dan Perkembangan Organisasi, Stress Serta Hubungannya Dengan Kinerja Guru Paud. *TAJDIR: Jurnal Pemikiran*, 5(2), 150–160. Retrieved from <http://ejournal.iaimbima.ac.id/index.php/tajdir/article/download/667/486>
- Harjanto, S. (2024). Metode Riset Kualitatif. *Jurnal Teologi Kontekstual Indonesia*, 5(1), 59–72. Retrieved from <https://journal.sttsimpson.ac.id/index.php/JTKI/>
- Kiki Firda Auliyah, D. P. L. (2025). IMPROVING MORAL VALUES THROUGH CHILDREN ' S STORYTELLING METHODS AFTER 5-6 YEARS AT RA MADINATUNNAJAH , JOMBANG ,. *Awladuna: Jurnal Pendidikan Islam Anak Usia Dini*, 3(1), 268–281. <https://doi.org/https://doi.org/10.61159/awladuna.v3i1.430>
- Krismawati, Y. (2018). Teori Psikologi Perkembangan Erik H. Erikson dan Manfaatnya Bagi Tugas Pendidikan Kristen Dewasa Ini. *Kurios*, 2(1), 46. <https://doi.org/10.30995/kur.v2i1.20>
- Kurniawan, Agus; Sari, D. (2025). *Systematic Literature Review: Implementasi*

Pembelajaran Sosial Emosional di PAUD (Cetakan Pe). Padang: Widya Padang Press.

- Melani, M., & Prahastiwi, E. D. (2025). The Effectiveness of Illustrated Storybooks in Stimulating Creativity and Language Skills of Early Childhood Children at Mardi Utomo Kindergarten, Purworejo Village. *-PELANGI: Jurnal Pemikiran Dan Penelitian Islam Anak Usia Dini*, 7(1), 149–165. <https://doi.org/10.52266/pelangi.v7i1.4062>
- Mulyaningtias, P. N., Ishma, N., & Jakarta, D. (2025). IMPROVING FINE MOTOR SKILLS OF 4 – 5 YEAR OLD CHILDREN. *Awaladuna: Jurnal*, 3(2), 309–320. [https://doi.org/DOI: https://doi.org/10.61159/awladuna.v3i1.276](https://doi.org/DOI:https://doi.org/10.61159/awladuna.v3i1.276)
- Musianto, L. S. (2002). Perbedaan Pendekatan Kuantitatif Dengan Pendekatan Kualitatif Dalam Metode Penelitian. *Jurnal Manajemen Dan Wirausaha*, 4(2), 123–136. <https://doi.org/10.9744/jmk.4.2.pp.123-136>
- Ramahwanti, I., & Mashudi, E. A. (2025). Efektivitas Permainan Ular Tangga Raksasa Terhadap Perkembangan Motorik Kasar Anak Usia Dini. *Ash Shobiy*, 4(1), 28–34. Retrieved from <https://ejurnal.iiq.ac.id/index.php/Ash-Shobiy/article/view/2156>
- Siregar, A., Hidayati, C., Maharani, L., Afifah, N., & Liza, N. (2023). Menumbuh Kembangkan Motivasi Menulis Siswa SD Dengan Mading (Studi Kasus di Desa Karya Jadi). *Jurnal Ilmiah Wahana Pendidikan*, 9(2), 103–109.
- Sopyan Sauri, Nina Nurhayati, T. (2024). Sosialisasi Pentingnya Pencegahan Stunting Untuk Mewujudkan Generasi Emas 2045 Di Desa Cikalong Kecamatan Cibitung Pandeglang. *KALANDRA: Jurnal Pengabdian Kepada Masyarakat*, 03, 44–52.
- Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, Dan R&D*. Bandung: Alfabeta.
- Sulistiyawan, D. (2025). Pemanfaatan Interactive Flat Panel (Ifp) Sebagai Media Pembelajaran Interaktif Pada Mata Pelajaran Ipas. *Jurnal Tumbuh Kembang Anak Usia Dini*, 5(2), 75–79. Retrieved from <https://doi.org/10.23887/paud>
- Susanti, & Eka Danik Prahastiwi. (2025). Optimalisasi Pendampingan Orang Tua Terhadap Kedisiplinan Belajar Anak. *Al-ATHFAL: Jurnal Pendidikan Anak*, 6(1), 49–58. <https://doi.org/10.46773/alathfal.v6i1.1663>

Wilsa, A. W., Susilowati, S. M. E., & Rahayu, E. S. (2017). Problem Based Learning Berbasis Socio-Scientific Issue untuk Mengembangkan Kemampuan Berpikir Kritis dan Komunikasi Siswa. *Journal of Innovative Science Education*, 6(1), 129–137.