



## The Effectiveness of Modified Long Clogs Traditional Game on Gross Motor Skills of Early Childhood 4-6 Years Old

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### Abstract

This study aims to determine the effectiveness of the modified traditional long clog game on improving gross motor skills in early childhood. The study used a quasi-experimental method with a One Group Pretest-Posttest Design. The subjects were 12 children in Group A at Putra Pertiwi Kindergarten, Bekasi Regency, selected by purposive sampling. Data were obtained through observations of children's gross motor skills using five main indicators: balance, leg muscle strength, coordination, social, and emotional. The analysis results using the paired sample t-test showed a significance value of  $0.000 < 0.05$  and  $t_{\text{count}} 9.58 > t_{\text{table}} 2.20$ , which means there is a significant difference between the pretest and posttest results. These findings indicate that the modified long clogs game effectively improves the gross motor skills of children aged 4-6 years. This activity not only strengthens motor coordination and body balance, but also trains children's cooperation, focus, courage, and social-emotional abilities. In addition to providing physical benefits, this game contributes to character building through fun and educational play activities. Thus, the modified long clogs game is worthy of being integrated into the Early Childhood Education (PAUD) curriculum as a local culture-based learning medium that is able to develop children's physical, social, and emotional aspects comprehensively.

### How to Cite

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## INTRODUCTION

Early childhood is a golden period for children's growth and development because during this period children's intelligence grows faster, around 50-80% compared to adults. Therefore, stimulation or encouragement is needed through education that is appropriate to the psyche of children at that age, namely through early childhood education. (Raihana, 2018) states that early childhood education (PAUD) is a development effort aimed at children from birth to the age of six years which is carried out by providing educational stimulation to help physical and spiritual growth and development so that children are ready to enter further education. According to (Rahmanto et al., 2023) early childhood education must pay attention to seven principles that greatly determine the quality of education, namely: oriented to children's needs, learning through play, a conducive environment, using integrated learning, developing various life skills, using various educational media and learning resources, and being implemented in stages or repeatedly (Parker & Thomsen, 2019).

Motor development is the process of growth and development of a child's motor skills (Delia and Yeni, 2020) developed (Nur Dwi 2022). Basically, this development develops in line with the maturity of the child's nerves, muscles, or cognitive abilities. Thus, every movement, no matter how simple, is the result of a complex interaction pattern of various parts and systems in the body that are controlled by the brain (Barnett et al., 2016). Children's motor skills can be improved through imitation bowling games, in addition, learning the gantar dance using the Formatively Fitting Hand (DAP) concept can also improve gross motor skills in early childhood. (Yuliandra et al., 2023) Exercises on gross and fine motor skills need to be carried out to improve the ability to perform and control body movements and its limbs effectively, which include activities to train eye-hand coordination, train concentration, coordinate senses and limbs, train self-confidence, body balance, courage, flexibility, and muscle strength, as well as train readiness to write.

Parents and teachers (educators) are advised not to always scold children when they are disobedient, as this is a period that every child will go through. Furthermore, if disobedience occurs, it is best to provide a cooling-down period, for example by stopping the child's activity and leaving the child alone in their room or in a corner. After some time, talk to the child and ask

for an explanation of why they did what they did. A child's disobedience is a manifestation of the emergence of the child's ego. They don't always have to obey what adults tell them to do (Sahudi & Nurhayati, 2025).

The traditional game of long sandals is known as a footwear. These long sandals are made of strong but lightweight wood. Their shape conforms to the soles of the feet, then they are tied with leather straps (Putri, n.d.). Long sandals have an elongated design and consist of several straps, the number of straps attached is adjusted to the number of participants. This game is not just a regular game, but also tests skill, because it relies on foot agility and cooperation between players. This traditional activity of long sandals can improve body coordination, because when children play, their body and foot movements must be in sync, training leadership, patience, and collaboration in a team (Sewi & Mailasari, 2020).

This game has emotional, intellectual and motoric aspects as part of physical and health education. The traditional long terompah game is a type of game that focuses on cooperation between teams and increasing the agility of each player. This long traditional game of terompah also develops physical skills and agility, and is useful in building friendship between friends (Rozana, 2020).

The purpose of this study is to determine the effectiveness of the modified traditional long clog game in improving the gross motor skills of children aged 4–6 years. This includes assessing improvements in balance, coordination, leg muscle strength, and social-emotional skills (Garaigordobil et al., 2022).

The novelty of this research lies in the modification of the traditional long clog game into a structured motor learning activity specifically designed for early childhood. Unlike previous studies that focused solely on physical skills, this study also integrates social-emotional indicators such as cooperation, patience, and emotional regulation. Moreover, the modified long clog game is evaluated as a local culture based educational medium (Laksana, 2024), highlighting its dual function as both a motor skill intervention and character-building strategy suitable for PAUD settings. This provides new insights into how traditional games can be adapted into modern educational practices for holistic child development.

## METHOD

This study employed a quasi-experimental

method with a One Group Pretest–Posttest Design to determine the effect of playing a modified long clog traditional game on the gross motor skills of early childhood (Al Muhandis & Riyadi, 2023) The population consisted of 20 children in Group A at Putra Pertiwi Kindergarten, Bekasi Regency. A purposive sampling technique was used to select 12 children who met the criteria of being able to participate in physical activity regularly. The independent variable in this study was the modified long clog traditional game, while the dependent variable was gross motor skill development, which included balance, leg muscle strength, coordination, social skills, and emotional control (Barnett et al., 2016).

Data were collected using an observation sheet that assessed five gross motor indicators on a Likert scale ranging from 1 to 5. The research procedure began with a pretest, where children's gross motor skills were measured before the intervention. This was followed by a treatment phase conducted over eight activity sessions within two weeks, during which children participated in the modified long clog game. After the intervention, a posttest was conducted using the same indicators to evaluate changes in motor abilities. Data were analyzed using the paired sample t-test through SPSS version 25 to determine whether significant differences existed between pretest and posttest scores (Afifah et al., n.d.).

## RESULTS AND DISCUSSION

**Table 1.** Descriptive Statistics Pretest and Posttest

Variable	N	Mean	Std. Deviasi
Pre test	12	72.25	6.12
Post Test	12	83.12	6.36

**Table 2.** Test Results Paired Sample t-Test

Variable	Mean Difference	t_count	df	Sig.2-tailed
Gross Motor (Pre-Post)	-10.87	9.58	11	0.000

Since the Sig. (p) value is  $0.000 < 0.05$  and the calculated  $t(9.58) > t(2.20)$ , there is a significant difference between the pretest and posttest scores.

This means that playing with modified long sandals significantly improves the gross motor skills of early childhood.

Research indicates that a modified version of the long sandal game can improve children's gross motor skills, particularly balance, leg muscle strength, and body coordination. This activity requires group cooperation and rhythmic movement, allowing children to learn to synchronize their steps with their teammates.

These results align with the findings of (Putri, n.d.) and (Raihana, 2018), which state that traditional games provide positive stimulation for children's gross motor coordination and social interaction. Furthermore, repeated physical activity during exercise strengthens lower limb muscles and increases endurance (Sahudi & Nurhayati, 2025).

Field observations also revealed an improvement in social-emotional skills. Children demonstrated greater patience, cooperation, and mutual assistance in maintaining group balance. This supports Vygotsky's theory, which emphasizes the importance of social interaction in children's cognitive development (Garaigordobil et al., 2022).

Thus, (Sudaryanti et al., 2024) the modified long clog game is not only a means of recreation, but also an effective physical learning strategy to stimulate the physical, social, and emotional development of early childhood.

## CONCLUSION

A modified version of the traditional long clog game has been shown to be effective in improving gross motor skills in early childhood. Through regular play using clogs, children receive movement stimulation that emphasizes body coordination, leg muscle strength, balance, and the ability to consciously control movement. The improvements seen after treatment indicate that this game can offer a meaningful motor skill learning experience through a fun, safe, and appropriate physical activity for children aged 4 to 6 years.

Besides its positive impact on physical development, playing with long sandals also contributes to children's social and emotional development. During this activity, children learn to collaborate, communicate, wait in line, and manage their emotions while facing the challenges of the game. This demonstrates that traditional games can be a viable medium for physical education, focusing not only on motor skills but also on building character and social attitudes in children.

Therefore, the modified long terompah game is very suitable to be included as an activity in early childhood education learning, because it can provide comprehensive stimulation for children's development. Teachers and educators are encouraged to continue using traditional games as a means of learning that is creative, innovative, and can maintain local culture in the school environment.

## REFERENCES

- 4.+Isep,+Nur+Dwi+(33-45). (n.d.).
- Afifah, S., Mudzakir, A., & Nandiyanto, A. B. D. (n.d.). How to Calculate Paired Sample t-Test using SPSS Software: From Step-by-Step Processing for Users to the Practical Examples in the Analysis of the Effect of Application Anti-Fire Bamboo Teaching Materials on Student Learning Outcomes.
- Al Muhandis, M. A., & Riyadi, A. (2023). Analisis Efektivitas Customer First Quality First Approach Pada Training Quality Dojo Dengan Metode Quasi Eksperimen One Group Pretest Posttest Design. *Journal Of Applied Multimedia And Networking*, 7(2), 98–106. <https://doi.org/10.30871/jamn.v7i2.6931>
- Barnett, L. M., Lai, S. K., Veldman, S. L. C., Hardy, L. L., Cliff, D. P., Morgan, P. J., Zask, A., Lubans, D. R., Shultz, S. P., Ridgers, N. D., Rush, E., Brown, H. L., & Okely, A. D. (2016). Correlates of Gross Motor Competence in Children and Adolescents: A Systematic Review and Meta-Analysis. *Sports Medicine*, 46(11), 1663–1688. <https://doi.org/10.1007/s40279-016-0495-z>
- Garaigordobil, M., Berrueto, L., & Celume, M.-P. (2022). Developing Children's Creativity and Social-Emotional Competencies through Play: Summary of Twenty Years of Findings of the Evidence-Based Interventions "Game Program." *Journal of Intelligence*, 10(4), 77. <https://doi.org/10.3390/jintelligence10040077>
- Laksana, D. N. L. (2024). Pengembangan Media Pembelajaran Literasi Dan Numerasi Berbasis Budaya Lokal Untuk Siswa SD Kelas Rendah. *JKTP: Jurnal Kajian Teknologi Pendidikan*, 7(1), 012. <https://doi.org/10.17977/um038v7i12024p012>
- Parker, R., & Thomsen, B. S. (2019). Learning through play at school: A study of playful integrated pedagogies that foster children's holistic skills development in the primary school classroom. LEGO Foundation.
- Putri, A. A. (n.d.). Pengaruh Permainan Tradisional Terompol Panjang terhadap Kemampuan Motorik Kasar pada Anak Usia 4-5 Tahun.
- Rahmanto, A. A., Salshabella, D. C., & Rahmawati, D. R. (2023). Tinjauan Pustaka Media Pembelajaran Interaktif Di Pendidikan Indonesia.
- Raihana, R. (2018). Urgensi Sekolah Paud Untuk Tumbuh Kembang Anak Usia Dini. *Generasi Emas*, 1(1), 17–28. [https://doi.org/10.25299/ge.2018.vol1\(1\).2251](https://doi.org/10.25299/ge.2018.vol1(1).2251)
- Rozana, S. (2020). Pengaruh Inovasi Permainan Tradisional "Engklek" Terhadap Perkembangan Anak Usia Dini Di Tk Melati Jl Klambir V Psr II Desa Klambir V Kebon Kab. Deli Serdang. 13(1).
- Sahudi, U., & Nurhayati, M. (2025). Pendidikan Jasmani Anak Usia Dini Berbasis Kearifan Lokal: Strategi Pengembangan Gerak Dasar Motorik.
- Sewi, R. M., & Mailasari, D. U. (2020). Pengembangan Keterampilan Kolaborasi pada Anak Usia Dini melalui Permainan Tradisional. *ThufuLA: Jurnal Inovasi Pendidikan Guru Raudhatul Athfal*, 8(2), 220. <https://doi.org/10.21043/thufula.v8i2.8796>
- Sudaryanti, S., Prayitno, P., Arifiyanti, N., & Maharani, O. (2024). Pengembangan Kemampuan Motorik dan Sosial Emosional Anak Usia Dini Menggunakan Permainan Tradisional. *Jurnal Pendidikan Anak*, 13(1), 114–125. <https://doi.org/10.21831/jpa.v13i1.387>
- Yuliandra, R., Gumantan, A., & Pratomo, C. (2023). Meningkatkan Motorik Kasar Anak Usia Dini Ditinjau dengan Model Permainan Ladder. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 7(4), 4190–4198. <https://doi.org/10.31004/obsesi.v7i4.4391>.