



Implementation of the Traditional Game Mpa'a Gopa to Improve Gross Motor Skills Among Students at State Elementary School 1 Simpasai, Lambu District, Bima Regency

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Abstract

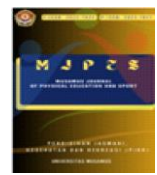
Objectives: The gross motor skills of students at SDN 1 Simpasai in Lambu District are still relatively low, while traditional games have not been optimally utilized in physical education lessons. This situation hinders the development of students' motor skills to their full potential. This research was motivated by the low gross motor skills of elementary school students and the lack of utilization of traditional games in physical education learning at SDN 1 Simpasai, Lambu District. This study aims to analyze the effect of implementing the traditional game Mpa'a Gopa on improving gross motor skills of elementary school students. The research was conducted at SDN 1 Simpasai, Lambu District, Bima Regency.

Materials and Methods: This research method used a quasi-experimental method with a one-group pretest-posttest design. The research subjects were 20 students selected using a total sampling technique. The research instrument was a gross motor ability test covering strength, balance, coordination, and agility. Data were collected through pretests and posttests, then analyzed using descriptive statistics, the Shapiro-Wilk Rayton AS R94 normality test, and a paired sample t-test using SPSS version 26 at a significance level of 0.05.

Results: The descriptive analysis results show that the average pretest score of 58.20 increased to 78.50 in the posttest. The results of the normality test indicate that the data is normally distributed with a significance value of > 0.05 . Furthermore, the results of the paired sample t-test showed a significance value of 0.000 (< 0.05) with an average difference of 20.30, which means there is a significant difference between the pretest and posttest results.

Conclusions: Thus, it can be concluded that the implementation of the traditional game Mpa'a Gopa has a significant impact on improving students' gross motor skills. This game is effective because it involves active, varied, and enjoyable movement activities, making it an alternative model for innovative physical education learning based on local wisdom. This study provides empirical evidence that traditional games based on local wisdom are effective as an alternative to physical education (PJOK) learning to improve the gross motor skills of elementary school students.

Keywords: Traditional games, Mpa'a Gopa, gross motor skills, physical education, elementary school.



Introduction

Gross motor skills are a fundamental component of children's physical development because they involve the coordinated use of large muscle groups to perform locomotor, non-locomotor, and manipulative movements, such as running, jumping, throwing, balancing, and changing direction. The development of these skills plays an essential role in supporting children's physical fitness, participation in sports, academic readiness, and social interaction. Children with well-developed gross motor skills tend to demonstrate higher levels of physical activity and greater engagement in physical education learning (B. Hussain & Cheong, 2022). Since elementary school represents a critical stage for motor development, physical education should provide meaningful, enjoyable, and developmentally appropriate movement experiences. Therefore, game-based learning has been widely recognized as an effective instructional strategy because it aligns with children's developmental characteristics while encouraging active participation (Kurniawan, 2022).

However, these expectations have not been fully realized in physical education practices. Rapid technological development and changes in children's lifestyles have reduced opportunities for direct physical play, as many children spend more time using digital devices than participating in outdoor activities. Consequently, students' physical activity levels have declined, negatively affecting the development of gross motor skills, particularly balance, coordination, agility, and locomotor competence (Insan & Yunisari, 2026). Previous studies also reported that physical education learning often lacks instructional variation, resulting in low student motivation to participate actively in movement activities (Pratama & Mutohir, 2021). found that insufficient physical activity during school learning negatively influences students' motor coordination, balance, and agility (Widiastuti, 2021). A similar condition was identified through observations at SDN 1 Simpasai, Lambu District, Bima Regency, where several students experienced difficulties performing fundamental movement tasks, particularly those involving balance, coordination, and agility during physical education lessons.

One alternative to overcoming these challenges is integrating traditional games into physical education learning. Traditional games naturally combine various movement patterns, including running, jumping, dodging, balancing, and coordinated body movements, making them appropriate learning media for developing gross motor skills. In addition to promoting physical development, traditional games create enjoyable learning environments that enhance students' motivation and active participation. Previous studies have consistently demonstrated that traditional games significantly improve children's gross motor abilities because they involve varied and meaningful movement experiences (Lubis, 2023). Other research also found that traditional games can improve agility, motor coordination, and balance in elementary school students through more active and participatory physical activities (Indrayana & Alfansari, 2021). Selain memberikan manfaat bagi perkembangan fisik, permainan tradisional juga memiliki nilai budaya yang penting karena merupakan bagian dari warisan budaya masyarakat yang perlu dilestarikan melalui proses pendidikan. Apart from providing benefits for physical development, traditional games also have important cultural value because they are part of the cultural heritage of the community which needs to be preserved through the education process (Hutomo & Kurniawan, 2025).

Although various studies have shown that traditional games are effective in improving students' gross motor skills, most of these studies still focus on commonly known traditional games such as engkel, gobak dodor, Bentengan, and jump rope. These studies show that traditional games can improve students' gross motor skills through movement activities that involve body coordination and balance. In addition, research on the integration of local traditional games in physical education learning is also still limited in



the context of developing gross motor skills in elementary school students (Kusumawati, 2022).

One local traditional game with considerable educational potential is Mpaa Gopa, a traditional game originating from the Bima community, West Nusa Tenggara, Indonesia. This game requires players to perform complex movement patterns involving sprinting, single-leg hopping, rapid directional changes, dynamic balance, and body coordination, all of which are essential components of gross motor skill development. Moreover, (Firdaus et al., 2025) reported that Mpaa Gopa significantly improves children's interpersonal intelligence through intensive social interaction during gameplay, suggesting that the game promotes both physical and psychosocial development. Nevertheless, despite these promising characteristics, studies specifically examining the effectiveness of Mpaa Gopa in improving elementary school students' gross motor skills within physical education learning remain scarce.

This study is important because it addresses two contemporary educational challenges simultaneously: declining physical activity among elementary school students and the limited integration of local cultural heritage into physical education learning. The novelty of this study lies in examining the effectiveness of the Bima traditional game Mpaa Gopa as a structured physical education intervention to improve four essential components of gross motor skills—strength, balance, coordination, and agility—using a quasi-experimental pretest–posttest design. Unlike previous studies that mainly emphasized cultural preservation or general physical activity, this study provides empirical evidence regarding the effectiveness of a local indigenous game as an innovative, contextual, and culturally responsive physical education learning model. Therefore, the findings are expected to contribute to the advancement of physical education and sports science while simultaneously supporting the preservation of local cultural heritage through formal education.

Based on the above description, this study aims to analyze the effect of implementing the traditional game Mpaa Gopa on improving elementary school students' gross motor skills. The findings are expected to provide empirical evidence supporting the integration of local traditional games into physical education learning and serve as a reference for teachers in implementing innovative, enjoyable, and culturally relevant learning strategies to improve students' gross motor development.

Materials and Methods

Study Design

This study uses a quantitative approach with a quasi-experimental method that aims to test the effect of the implementation of the traditional game Mpaa Gopa on the gross motor skills of elementary school students. The research design used is a One Group Pretest-Posttest Design, given a pretest, treatment, and posttest to see changes in students' gross motor skills before and after being given treatment. **Study Participants**

The research location was at SD Negeri 1 Simpasai, Lambu District, with a total of 20 students as subjects using a total sampling technique, with the research subject criteria including: (1) active students who participate in PJOK learning, (2) are in the elementary school age range, (3) are in a physically healthy condition and are able to participate in physical activities, and (4) participate in the entire series of research from the initial to the final stage.

Research instruments

The instrument used in this study was a gross motor ability test designed to assess four components of gross motor skills: muscle strength, balance, motor coordination, and agility. Muscle strength was measured using a standing long jump, balance through a one-leg standing test, motor coordination through movement tasks requiring eye–hand–foot coordination, and agility using a zigzag run test. Each component was scored based on



standardized performance criteria, and the total score represented students' overall gross motor ability. The study was conducted in three stages: pretest, intervention, and posttest. Initially, all participants completed a pretest to determine their baseline gross motor ability. They then participated in physical education learning integrated with the traditional Mpaa Gopa game as the intervention. After the intervention, students completed the posttest using the same instrument and assessment procedures to ensure measurement consistency. The pretest and posttest results were subsequently analyzed to evaluate the effect of the Mpaa Gopa traditional game on students' gross motor skills.

Study Organization

The research procedure was carried out through several systematic stages as follows:

1. Preparatory stage

At this stage the research makes initial observations, prepares research tools, and prepares the test instruments that will be used. Apart from that, the research also coordinated with the school regarding the implementation of the research.

2. Pretest Implementation Stage

All students were given an initial test to measure gross motor skills before being given treatment. The pretest was carried out using instruments that had been prepared and followed the same measurement procedures for all students.

3. Stage of Providing Treatment (Treatment)

The treatment was given by applying the traditional game Mpaa Gopa in PJOK learning during several meetings. In this stage, students are actively involved in games designed to train various aspects of gross motor skills, such as running, jumping, maintaining balance and motor coordination. Learning activities are carried out in a structured manner by paying attention to safety principles and active student participation.

4. Posttest Implementation Stage

After the treatment has been given, students are tested again using the same instruments as in the pretest. The aim of this stage is to determine changes or improvements in students' gross motor skills after participating in Mpaa Gopa game-based learning.

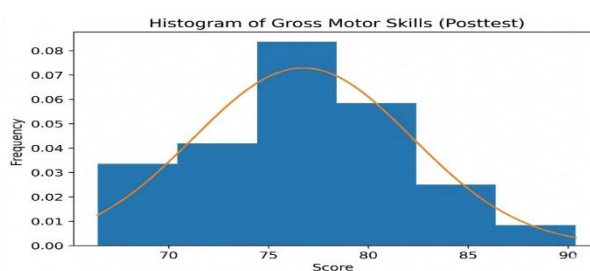
Statistical Analysis

The data obtained in this study were analyzed using descriptive statistical analysis which aims to provide a general overview of the data, including the average value, standard deviation, and minimum and maximum values. Next, a normality test was conducted to ensure that the data were normally distributed as one of the requirements for using parametric tests. After the normality assumption was met, the analysis continued with a paired sample t-test to determine whether there was a significant difference between the pretest and posttest results. The entire data analysis process was carried out using SPSS version 26 software using a significance level of $\alpha = 0.05$.

Results

Descriptive Statistical Analysis

To provide an overview of students' gross motor skills before and after treatment, a descriptive statistical analysis was conducted. The results of the analysis can be seen in Graph 1.



Graph 1. Average Motor Skills of Students



From the graph 1 above, in general, there was an increase in students' gross motor skills after being given the treatment. This is evident from the increase in the average score from 58.20 in the pretest to 78.50 in the posttest, or an increase of 20.30 points. In addition, the increase is also reflected in the change in the minimum score from 45 to 65 and the maximum score from 70 to 90, indicating that development occurred not only in students with high abilities, but also in students with lower initial abilities. The relatively similar standard deviation value (from 6.45 to 6.10) indicates that the distribution of the data remained stable, so that the increase occurred evenly across most students. These findings reinforce that Mpaa Gopa traditional game-based learning is able to consistently increase students' physical engagement and have a positive impact on the development of their gross motor skills.

Normality Test Results

A normality test was conducted to determine whether the research data were normally distributed as a requirement for using parametric tests using the Shapiro-Wilk Rayston AS R94 type. The results of the normality test are presented in Table 1.

Table 1. Results of the Shapiro-Wilk Normality Test

Variabel	Statistic	df	Sig.
Pretest	0.962	30	0.331
Posttest	0.971	30	0.572

From Table 1 above, the results of the normality test show that the significance value for the pretest data is 0.331 and the posttest is 0.572, both of which are greater than the 0.05 significance level. This indicates that the data is normally distributed and there are no significant deviations from the normal distribution. Thus, the assumption of normality has been met, allowing the analysis to proceed using the metametric test, namely: *paire sample t-test*.

Paired Sample t-Test Results

This test was conducted to determine whether there was a significant difference between the results before and after treatment. The results can be seen in Tables 2, 3, and 4.

Table 2. Paired Sample t-Test Analysis Results

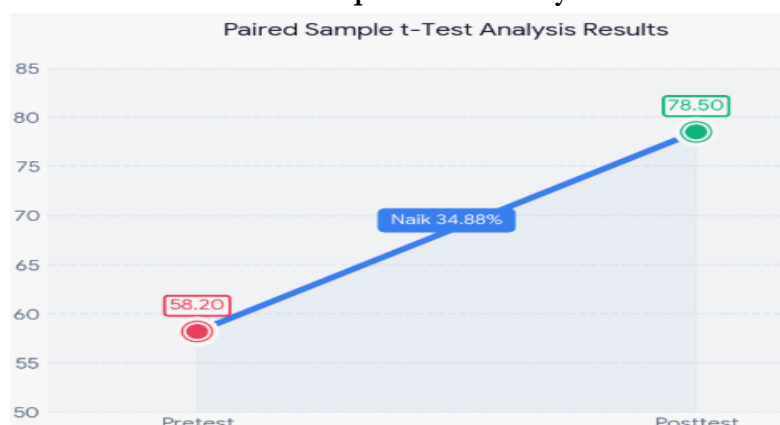


Table 3. Paired Correlation Analysis Results

N	Correlation	Sig.
30	0.721	0.000

Table 4. Paired Samples Test Analysis Results

Paired Differences	Mean	Std. Dev	Std. Error Mean	t	df	Sig. (2-tailed)
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Pretest -	-20.30	5.10	0.93	-21.80	29	0.000
Posttest						

Based on the results of the Paired Samples Statistics analysis, it is known that the average gross motor skills of students increased from 58.20 at the time pretest to 78.50 on posttest, with the number of respondents as many as 30 students. The increase in the average value shows that students' gross motor skills have developed after being given treatment in the form of implementing traditional games. Mpaa Gopa. Results Paired Samples Correlations shows a correlation value of 0.721 with a significance value of 0,000, which means there is a strong and significant relationship between the pretest and posttest results. Furthermore, the results of the Paired Samples Test show a value $t_{hitung} = -21,80$, $df = 29$, And Sig. (2-tailed) = 0,000 < 0,05, so that H_0 is rejected and H_1 is accepted. Thus, it can be concluded that the implementation of the traditional game Mpaa Gopa has a significant influence on improving the gross motor skills of students at SD Negeri 1 Simpasai, Lambu District, Bima Regency. These results indicate that the traditional game Mpaa Gopa can be an effective alternative physical education learning to develop students' gross motor skills through active, fun play activities that involve various basic movements.

Discussion

The results of a study conducted at SDN 1 Simpasai, Lambu District, Bima Regency, showed that the implementation of the traditional game Mpaa Gopa significantly improved students' gross motor skills. This improvement indicates that game-based learning can be an effective stimulus in developing elementary school students' basic motor skills. Conceptually, this occurs because Mpaa Gopa involves complex physical activities such as running, jumping, and maintaining balance, thus directly training the main components of gross motor skills, namely strength, coordination, agility, and balance.

This finding is in line with research (Yulianto et al., 2025) shows that traditional games can improve gross motor skills through active and repetitive movement activities. Traditional games have been proven effective in improving children's balance, agility, and motor coordination through a fun and participatory learning approach. In addition, other studies have shown that systematically modified traditional games can significantly improve gross motor skills through structured practice (Rusnah et al., 2026). The research results are also supported by the finding that the integration of traditional games in learning is able to improve the motoric aspects as well as students' social interactions (Wulandini & Kartika, 2025). A fun game approach has been shown to increase student engagement resulting in a higher frequency of movement activities (Darussalam et al., 2025). In addition, traditional games also contribute to motor development through physical activities that involve various basic movement components (Arfanda et al., 2024). The similarity of these findings shows that traditional games have an important role as an effective and contextual learning medium.

However, several studies have shown different results, where the improvement of gross motor skills is not always optimal if learning is not carried out in a structured and consistent manner. Physical activities that are not well programmed can hinder the development of children's motor skills. In addition, the effectiveness of game-based learning is greatly influenced by the design of the exercises and the frequency of activities given to students (R. Hussain, 2022). Other studies have shown that game interventions conducted systematically over a period of time provide more significant results than unstructured activities (Sun & Chen, 2024). In addition, the role of the teacher in managing the game is also an important factor in the success of motor learning (Adi et al., 2022). In fact, recent research shows that traditional games will be more effective if



accompanied by variations in instructions and increased student motivation in the learning process (Sasaudah, 2025). This difference in results can be explained because in this study, the implementation of the Mpaa Gopa game was carried out in a structured, repeated manner, and in accordance with student characteristics, thus providing an optimal learning experience.

On the other hand, the results of this study also need to be understood in light of its limitations. The use of a one-group pretest-posttest design without a control group limits the ability to conduct broader comparisons of treatment effectiveness. Furthermore, the limited sample size from a single school limits the generalizability of the study results. The relatively short duration of treatment also does not fully reflect the long-term impact on students' gross motor development.

Nevertheless, this study makes important contributions both theoretically and practically. Theoretically, this study strengthens recent empirical evidence that traditional games are an effective approach to improving students' gross motor skills. Practically, the results of this study can serve as a reference for physical education teachers in developing innovative, enjoyable, and locally-based learning models. Furthermore, this study also contributes to the preservation of traditional games as part of local culture that can be integrated into elementary school learning.

Conclusions

It can be concluded that the implementation of the traditional Mpaa Gopa game significantly improved elementary school students' gross motor skills. This improvement was reflected in students' enhanced performance after participating in game-based learning involving running, jumping, balancing, and body coordination activities, which effectively developed the core components of gross motor skills, namely strength, agility, coordination, and balance. Furthermore, Mpaa Gopa created an active, enjoyable, and contextual learning environment that encouraged students' active participation in physical education. These findings indicate that the game can serve as an innovative and effective local wisdom-based learning model for improving gross motor skills among elementary school students. However, this study was limited by its relatively small sample size, implementation in a single elementary school, and the use of a one-group quasi-experimental design without a control group, which may limit the generalizability of the findings. Therefore, future research is recommended to involve larger and more diverse samples from different regions, apply randomized or controlled experimental designs, and examine the long-term effects of Mpaa Gopa on students' motor development and other learning outcomes, such as physical fitness, cognitive performance, and social skills.

Acknowledgments

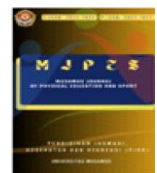
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Conflict of Interest

The author declares that there is no conflict of interest in this research.

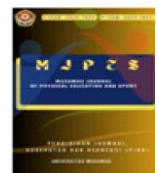
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