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## The Influence of the Traditional Game Koprak on the Football Shooting Ability of Elementary School Students

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Submitted: 2025-10-12

Revised: 2025-11-13

Accepted: 2025-12-24

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### ABSTRACT

Traditional games are forms of physical activity that can be utilized in physical education to develop students' fundamental motor skills, such as kicking or shooting abilities in football. This study aims to examine the effect of the traditional game Koprak on shooting skills in football learning among sixth-grade students at SDN Gayam 1. The research problem emerged due to the students' limited proficiency and accuracy in football shooting skills. This research applied a quantitative approach with a single-group pretest-posttest experimental design. The study involved the entire population of 20 students, employing total sampling, and the research instrument was a test measuring ball-kicking accuracy. The treatment was conducted over 12 sessions through the application of the Koprak traditional game, which trains leg muscle strength, balance, and movement coordination. The analysis results showed an increase in the average shooting score from 22.15 in the pretest to 26.40 in the posttest, indicating a 19% improvement. Analysis of normality confirmed that the data were normally distributed, and the Paired Sample t-Test produced a 2-tailed Sig. value of less than 0.05, suggesting a significant difference between the pretest and posttest outcomes. These findings demonstrate that the Koprak traditional game is effective in improving students' ball-kicking (shooting) skills. Therefore, physical education teachers are encouraged to utilize traditional games as engaging, contextual learning alternatives rooted in local cultural values.

**Keywords:** Traditional Games; Koprak; Shooting; Elementary School

### ABSTRAK

Permainan tradisional merupakan bentuk aktivitas fisik yang dapat dimanfaatkan dalam pembelajaran pendidikan jasmani untuk mengembangkan kemampuan motorik dasar siswa, seperti

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kemampuan menendang atau *shooting* dalam sepak bola. Penelitian bertujuan untuk mengkaji pengaruh permainan tradisional Koprak terhadap kemampuan *shooting* dalam pembelajaran sepak bola pada siswa kelas VI SDN Gayam 1. Permasalahan penelitian muncul karena keterbatasan kemampuan dan akurasi siswa dalam melakukan *shooting* sepak bola. Penelitian ini menggunakan pendekatan kuantitatif dengan desain eksperimen satu kelompok *pretest-posttest*. Penelitian melibatkan seluruh populasi sebanyak 20 siswa dengan menggunakan teknik *total sampling*, dan instrumen penelitian berupa tes yang mengukur ketepatan menendang bola. Instrumen penelitian berupa tes kemampuan menendang bola ke sasaran. Perlakuan dilakukan selama 12 kali pertemuan melalui penerapan permainan tradisional Koprak yang melatih kekuatan otot kaki, keseimbangan, dan koordinasi gerak. Hasil analisis menunjukkan peningkatan rata-rata nilai *shooting* dari 22.15 pada *pretest* menjadi 26.40 pada *posttest* dengan peningkatan sebesar 19%. Analisis normalitas memastikan bahwa data terdistribusi secara normal, dan uji *Paired Sample t-Test* menghasilkan nilai *Sig. 2-tailed* kurang dari 0,05, yang menunjukkan adanya perbedaan signifikan antara hasil *pretest* dan *posttest*. Temuan menunjukkan bahwa permainan tradisional Koprak efektif dalam meningkatkan kemampuan menendang bola (*shooting*). Dengan demikian, guru pendidikan jasmani disarankan untuk memanfaatkan permainan tradisional sebagai alternatif pembelajaran yang menarik, kontekstual, serta berakar pada nilai-nilai budaya lokal.

**Kata Kunci:** Permainan Tradisional; Koprak; *Shooting*; Sekolah Dasar

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## INTRODUCTION

Education plays a highly an essential function in advancing the competence and quality of Indonesia's workforce, enabling them to become a competent and globally competitive next generation (Abustang et al., 2023). Education is a planned process carried out by educators to foster a learning environment that allows students to fully develop their potential across cognitive, psychomotor, and affective domains (Wahyuningtiyas et al., 2023). Through education, a nation that is lagging behind can transform into a progressive, empowered, and character-oriented society (Noer et al., 2023). Moreover, education contributes to reinforcing social solidarity within society, helping to prevent conflicts both among individuals and between groups (Shabartini et al., 2023). One important form of education implementation is physical education, as through physical activity, students not only develop motor skills but also instill values of sportsmanship, cooperation, and social responsibility.

Among the different sports included in physical education, football stands out as one of the most popular and widely favored activities in Indonesia. This is supported by the observation that most schools and community members actively play football in public spaces (Ndaung et al., 2023). Football is defined as a team-based game played on a field with a ball, with each team consisting of eleven players, one designated as the goalkeeper (Girsang & Supriadi, 2021). Football is a sport that requires high technical skills, including the ability to perform accurate shooting (Jufrianis et al., 2024). Based on these statements, Football is considered a highly favored sport played between two teams, each consisting of eleven players, where mastery of basic techniques such as shooting, passing, and dribbling is essential for the overall effectiveness of the game.

Shooting is a fundamental technique that plays a dominant role in football. Shooting is the effort to score points or goals by striking the ball with the instep of the foot (Junaidi et al., 2019). To generate maximum power, shooting requires movements that are both fast and strong (Sarifudin et al., 2023). Shooting is a fundamental technique frequently employed by attackers

to score as many goals as possible against the opposing team (Dhimas et al., 2021). Shooting can also be defined as a movement in which the body is aligned with the ball, with one foot positioned in front of the other (Naufal et al., 2022). Kicking the ball (shooting) may appear simple, but it requires high accuracy to make it difficult for the goalkeeper to predict the direction of the shot (Anam et al., 2021). Based on these statements, shooting can be defined as an effort to score points in football, requiring accuracy and precision in kicking.

Based on field observations of sixth-grade students at SDN Gayam 1, it was found that the majority of students were unable to perform shooting accurately. According to the ball-kicking (shooting) ability test, 2 students were classified as very poor, 11 students as poor, 6 students as sufficient, and 1 student as good. The data indicate that most students fall into the poor category. This is attributed to a limited variety of learning patterns and the narrow teaching approaches applied in the learning process.

Balance, eye coordination, and leg muscle strength have a significant impact on the accuracy of football shooting. When performing shooting, one must maintain good balance, leg muscle strength, and eye coordination (Arridho et al., 2021). Therefore, it is important to enhance these basic motor skills to achieve effective learning outcomes in football shooting. In line with this, the implementation of traditional game models in physical education can significantly enhance both gross and fine motor development of elementary school students (Sunanto et al., 2024). Leg muscle strength can be effectively enhanced through plyometric training that combines Front Cone Hops and Rope Jumps in a 1:1 and 1:2 ratio (Da'i et al., 2020). In addition, the traditional game of Rope Jumping has been proven to improve eye coordination (Mu'mala & Nadlifah, 2019). The traditional game Egrang Tempurung Kelapa is also believed to enhance dynamic balance in children (Agun, 2021). Therefore, it is essential to improve learning outcomes in football shooting, particularly through traditional games within the context of physical education.

Traditional games have long been recognized as an alternative method for addressing various learning challenges. The traditional game Pecle has an impact on kicking (shooting) strength in football learning (Fauzi et al., 2022). Moreover, the integration of physical activities such as traditional games in physical education has been shown to significantly support motor development in elementary school students (Oktadinata et al., 2023). Previous studies have primarily focused on traditional games as a method to develop fundamental motor skills, encompassing aspects such as coordination, agility, and strength. However, there is limited research specifically examining the relationship between traditional games and kicking (shooting) ability in football. This indicates that no study has specifically investigated the influence of the traditional game Koprak on football shooting skills among elementary school students.

International literature has increasingly emphasized the pedagogical value of traditional and culture-based games, demonstrating their significant contributions to children's motor coordination, movement proficiency, and engagement in physical activity (Fitri et al., 2024; Muñoz-Gómez et al., 2023; Saefullah et al., 2024). Nevertheless, these studies predominantly concentrate on general motor development outcomes, with limited attention to the application of traditional games for enhancing sport-specific technical skills. To date, no international research has explicitly examined how a particular traditional game may be systematically adapted to improve football shooting performance. This gap underscores the scientific urgency

and practical importance of conducting research that integrates culturally rooted movement patterns into targeted football skill training, particularly shooting accuracy.

On the other hand, the traditional game Koprak features movement characteristics that resemble football kicking techniques, particularly during the striking phase, which demands balance, leg strength, and target accuracy (Suyami & Sukari, 2017). Based on the similarity of movement patterns, the game Koprak is believed to have great potential as an alternative learning method that can effectively enhance students' football shooting skills. Therefore, this study is important to empirically demonstrate the effectiveness of the traditional game Koprak in improving football shooting skills among elementary school students. Based on the theoretical framework and the gaps identified in previous studies, this research proposes the following hypothesis: the Koprak traditional game has a significant effect on improving the football shooting accuracy of sixth-grade elementary school students.

The issue of low shooting ability among students can be addressed through various previously developed learning methods. Therefore, this study aims to analyze the influence of the traditional game Koprak on shooting ability in football learning among sixth-grade students at SDN Gayam 1. Furthermore, this study is expected to provide practical solutions on how to utilize traditional games as a contextually relevant learning method rooted in local culture.

## METHODS

### Type and Design

This study combines a quantitative method with an experimental approach. The experimental approach was chosen to examine the influence of the traditional game Koprak on football shooting skills among elementary school students. The experimental design allows for a comparison of pre- and post-treatment results, enabling the effectiveness of the intervention to be measured objectively (Syahrizal & Jailani, 2023). This study employed a one-group pretest-posttest design, comparing conditions before and after the intervention to obtain accurate results (Hardani et al., 2020).

### Population and Sample

This study involved all sixth-grade students of SDN Gayam 1 in the 2025/2026 academic year as the sample, totaling 20 students. This approach employed a total sampling technique, allowing the entire population to participate so that the data obtained reflect the actual conditions of all students. Therefore, using the entire population as the sample is considered appropriate to enhance data validity and strengthen confidence in the research findings (Sukwika, 2023).

### Research Instrument

The instrument used to measure the dependent variable was the standardized football shooting accuracy test developed by (Nurhasan, 2000). The protocol requires participants to kick a ball toward a target from a distance of 16.5 meters, with three attempts performed at each of three predetermined shooting points. Scores obtained from these attempts were summed to determine each student's shooting accuracy. Previous research has shown that this instrument has a Pearson correlation coefficient of  $r = 0.565$ , indicating statistically significant validity ( $p < 0.05$ ) (Efendi & Widodo, 2019). The instrument has also been widely applied in physical education research contexts, further supporting its appropriateness for assessing football shooting performance.

## Research Procedure

The research procedure consisted of three main stages. First, the pretest, which measured students' initial shooting ability using a predetermined shooting test to determine their skill level before the intervention. Second, the treatment, which involved twelve sessions of practice through the traditional game Koprak. The implementation of Koprak was divided into four stages: the first stage involved throwing the gacu from point III; the second stage involved throwing the gacu from the point where it landed in the first stage; the third stage, called getak, involved striking the gacu from point II to point I using one foot while stepping forward with the other foot first; and the fourth stage, called engklek, involved moving from point III to point I. These stages were conducted sequentially and repeatedly to train students' coordination, balance, and leg accuracy. Visual documentation of the Koprak stages can be accessed on the YouTube channel titled "Permainan Tradisional Koprak" (<https://youtu.be/jVgIdATNrAA?si=qHMk5hrXOrkaOz59>). Third, the posttest, in which students repeated the same shooting test as in the pretest to measure changes and improvements in their shooting ability following the Koprak intervention.

## Data Analysis

The research data were analyzed through several statistical stages. First, a normality test was conducted to ensure that the data met the assumptions required for parametric testing, as the choice of statistical procedures depends on the distributional characteristics of the data (Usmadi, 2020). Second, a homogeneity test (Levene's Test) was performed to confirm that the variance between pretest and posttest scores met the homogeneity assumption necessary for parametric analysis (Setyawan, 2021). Third, a paired-sample t-test was employed to examine the difference between pretest and posttest results in the single experimental group, aiming to determine the effect of the independent variable on the dependent variable (Darma, 2021). SPSS software was used to assist in the data analysis process, ensuring that all calculations were accurate and scientifically accountable.

## RESULTS AND DISCUSSION

### Research Result

Pretest scores represent students' initial abilities before the treatment, whereas posttest scores indicate their abilities after participating in the learning activities through the traditional game Koprak. The complete pretest and posttest results of the research participants are presented in Table 1 below.

Table 1. Pretest and Posttest Results

No	Name	Pretest		Posttest	
		Score	Category	Score	Category
1	AN	21	Poor	27	Sufficient
2	AMHS	15	Poor	14	Poor
3	AIH	22	Poor	27	Sufficient
4	AAA	13	Poor	17	Poor
5	DBS	35	Sufficient	41	Good

6	DEN	31	Sufficient	33	Sufficient
7	DRWTP	33	Sufficient	36	Sufficient
8	DL	15	Poor	19	Poor
9	FEP	8	Very Poor	6	Very Poor
10	HKA	30	Sufficient	35	Sufficient
11	HFN	14	Poor	16	Poor
12	JA	24	Poor	22	Poor
13	KDF	14	Poor	17	Poor
14	LFC	20	Poor	34	Sufficient
15	MSF	11	Very Poor	16	Poor
16	MIM	44	Good	57	Very Good
17	MI	31	Sufficient	37	Sufficient
18	RARP	33	Sufficient	47	Good
19	SAAI	16	Poor	21	Poor
20	SNIK	13	Poor	18	Poor

The score categories (Very Poor, Poor, Sufficient, Good, and Very Good) were determined using the standard deviation-based classification method, where cut-off points were calculated using the Mean and Standard Deviation of the test results. This classification approach follows the statistical categorization principles described by Kadir (2015) and is widely applied in physical education performance assessments.

Based on Table 1, most students initially fell within the Poor and Sufficient categories, indicating limited shooting accuracy prior to the intervention. After participating in the Koprak traditional game, notable improvements were observed, with several students shifting from Poor to Sufficient and from Sufficient to Good categories. This shift suggests that the intervention contributed meaningfully to enhancing accuracy, particularly among students who initially demonstrated moderate skill levels.

Table 2. Frequency of Pretest and Posttest Results

Category	Pretest		Category	Posttest	
	Frequency	Percentage		Frequency	Percentage
Very Good	0	0%	Very Good	1	5%
Good	1	5%	Good	2	10%
Sufficient	6	30%	Sufficient	7	35%
Poor	11	55%	Poor	9	45%
Very Poor	2	10%	Very Poor	1	5%

Table 2 shows a clear upward trend in performance. The proportion of students achieving Good and Very Good levels increased from 5% to 15%, while those categorized as Poor and Very Poor declined from 65% to 50%. This redistribution across categories indicates not only an improvement in average performance but also a positive shift in the overall skill distribution of the group.

The results of the descriptive statistical analysis of football shooting ability among sixth-grade students at SDN Gayam 1 for the pretest and posttest following the traditional game Koprall are as follows.

Table 3. Descriptive Statistics of Pretest and Posttest

Statistic	Pretest	Posttest
N	20	20
Mean	22.15	26.40
Std. Deviation	9.922	13.044
Minimum	8	6
Maximum	44	57

As presented in Table 3, the mean shooting score increased from 22.15 in the pretest to 26.40 in the posttest, representing a 19% improvement. The rise in both the mean and maximum scores, along with a wider score range, suggests that the Koprall game intervention was effective not only in elevating overall performance but also in expanding individual student potential.

A homogeneity test was conducted to determine whether the variance between the pretest and posttest scores met the assumptions required for parametric analysis. Levene's Test was used for the calculation, resulting in the following outcomes.

Table 4. Homogeneity Test Results (Levene's Test)

		Levene Statistic	df1	df2	Sig.
Result	Based on Mean	1.908	1	38	.175
	Based on Median	.929	1	38	.341
	Based on Median and with adjusted df	.929	1	31.464	.343
	Based on trimmed mean	1.834	1	38	.184

Table 4 shows that all significance values exceed 0.05, indicating that the pretest and posttest scores met the homogeneity of variance assumption. This confirms that the dataset satisfies the requirements for conducting parametric statistical procedures, including the paired sample t-test.

A normality test was conducted to ensure that the research variables were normally distributed. The Shapiro-Wilk test was used for the calculations, and SPSS 31 was employed to process the data, resulting in the following outcomes.

Table 5. Normality Test Results (Shapiro-Wilk)

Class	P	Sig.	Decription
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Pretest	.926	.128	Normal
Posttest	.933	.178	Normal

Table 5 shows that both pretest and posttest data met the normality assumption, with significance values exceeding 0.05. This allowed the use of parametric analysis for further hypothesis testing.

Table 6. Hypothesis Test Results (Paired Sample T-Test)

Paired Differences				t	df	Sig. (2-Tailed)	
Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
-4.250	5.156	1.156	-6.669	-1.831	-3.677	19	<.001

The paired sample t-test (Table 6) revealed a significant difference between pretest and posttest scores,  $t(19) = -3.677$ ,  $p < 0.001$ . These findings confirm that the Koprak traditional game had a statistically significant positive effect on students' football shooting accuracy.

### Discussion

The data analysis revealed that the football shooting skills of sixth-grade students at SDN Gayam 1 showed improvement following the intervention using the traditional game Koprak as a training approach. This improvement is reflected in the comparison of pretest and posttest results, indicating that students' ability to master shooting techniques became more optimal. Psychological aspects, such as intrinsic motivation and fundamental needs in physical activity, also played a significant role in enhancing students' performance in physical education (Carriedo et al., 2023). This indicates that the use of the traditional game Koprak contributes positively to improving shooting performance in football learning. The research data were found to be normally distributed based on the normality test results, thus meeting the requirements for parametric analysis. Furthermore, analysis using the paired sample t-test showed that students' abilities differed significantly before and after the treatment. Therefore, it can be concluded that the implementation of the traditional game Koprak is an effective alternative strategy in learning that can enhance elementary school students' football shooting skills.

The observed improvement aligns with prior research indicating that traditional games can enhance motor skills, coordination, and affective domains critical for skill development. Traditional games often involve activities requiring movement coordination, strength, and precise control, which are essential for football performance (Maryati et al., 2023; Dai & Putri, 2021). In this study, the game Koprak required students to coordinate lower limb muscle strength, maintain balance, and direct their kicks accurately, in line with research indicating that traditional games can also enhance motor skills in physical education learning (Aliriad et al., 2024). These findings are in line with previous research that plyometric training and muscle-strength-based activities significantly improve kicking or shooting abilities in football players (Zhang et al., 2023). This is in accordance with other research findings that utilized the

traditional game Engklek to enhance students' motor skills (Aqobah et al., 2023). Furthermore, Traditional games are also instrumental in promoting gross motor skills by incorporating activities that engage large muscles and emphasize movement focus (Aliriad, 2023). Therefore, traditional games function not only as recreational activities but also as effective pedagogical instruments to support the development of students' physical skills and movement coordination in physical education learning.

Despite these positive findings, several limitations must be critically considered. First, the small sample size of only 20 students from a single school restricts the generalizability of the results. Second, the intervention duration of 12 sessions is relatively short to evaluate the long-term impact of Koprak on shooting skill acquisition. Additionally, external factors such as prior sports experience, daily physical condition, learning motivation, student engagement, and instructor variability were not strictly controlled and may have influenced the results. Acknowledging these variables is essential for interpreting the findings within a broader educational and pedagogical context.

Future research should involve larger and more diverse samples across multiple schools to enhance external validity. Employing quasi-experimental designs with control groups would allow for more objective and reliable comparisons of intervention effects. Longer intervention periods are also recommended to assess sustained skill development. Moreover, future studies could incorporate additional factors such as students' interest in sports, teamwork ability, and social engagement to provide a more comprehensive understanding of how traditional games influence skill acquisition and motivation in physical education. Furthermore, exploring other traditional games like Boi-boian and Gobak Sodor may provide insights into the development of social values, cooperation, and interpersonal interaction, complementing the motor and cognitive benefits observed in this study (Priadana et al., 2025).

## CONCLUSION

This study provides evidence that the traditional game Koprak is an effective pedagogical tool for enhancing elementary students' football shooting skills. The game promotes coordination, balance, and lower limb strength while engaging students in culturally relevant activities that support both motor and character development. Despite limitations such as the small sample size and single-school context, the findings highlight the value of integrating traditional games into physical education curricula. Future research with larger, more diverse populations and additional variables is recommended to further validate these outcomes. Physical education practitioners are encouraged to incorporate games like Koprak to foster motor skills, teamwork, character values, and sportsmanship, thereby enhancing the overall quality of instruction.

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