



The Effect of the Game of Kasti on Improving Motor Skills Among Upper Grade Students at State Elementary School 105399 Kulasar in 2026

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Abstract

Objectives:

This study aims to determine the effect of the game of kasti (an Indonesian bat and ball game) on the improvement of motor skills among male students in grades IV, V, and VI at State Elementary School (SDN) 105399 Kulasar.

Materials and Methods:

This study employed a quasi experimental method using a one group pretest posttest design. The study population consisted of 25 male students from grades IV, V, and VI at SDN 105399 Kulasar.

Results:

The research results indicate a significant effect of the game of kasti on the improvement of motor skills among male students in grades IV, V, and VI at SDN 105399 Kulasar, with a calculated t value of 4.014 and a t table value of 2.06 ($p < 0.05$).

Conclusions:

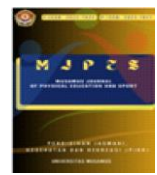
Based on the analysis of the research results and the preceding discussion, it can be concluded that the game of kasti has a significant effect on improving the motor skills of male students in grades IV, V, and VI at SDN 105399 Kulasar, evidenced by a calculated t value of 4.014, a t table value of 2.06, and a percentage increase of 3.06%.

Keywords: Motor Skills; Games; Rounders.

Introduction

Education is a major factor in shaping an individual's personality. A good education system is expected to produce a qualified younger generation capable of contributing to progress in social, national, and state life. Education consists of formal, non-formal, and informal education, which complement one another. Formal education includes elementary education (Elementary School/SD), junior secondary education (Junior High School/SMP), senior secondary education (Senior High School/SMA), and higher education (universities or colleges). Physical education is an integral part of the overall educational process. The objectives of physical education are in line with the general objectives of education. Physical education aims to improve movement skills, physical fitness, critical thinking skills, social skills, reasoning, emotional stability, moral behavior, healthy lifestyle habits, and environmental health. In simple terms, physical education is a learning process to move and to learn through movement.

Physical education can serve as a means of educating children. It is a form of education that develops and shapes children's psychological and physical characteristics through selected physical activities. The affective, cognitive, and psychomotor aspects of students are among the main targets to be achieved through educational activities. The learning process in physical education takes place through physical activities, play, and sports activities (Depdiknas, 2003: 18). The activities carried out are expected to become meaningful learning experiences. They are not merely physical movements but also provide benefits for the comprehensive development of children's personalities. These



learning experiences are expected to help students use their bodies more effectively in performing basic movements and movement skills.

Children's ability to master complex movement skills is largely determined by their motor abilities. According to Rusli Lutan (2001: 15), motor ability is an individual's capacity related to the performance and demonstration of a learned skill, which subsequently influences children's growth and development. Elementary school age is an important period for the development of motor abilities. Yudha M. Saputra (2001: 14) states that children aged 2–7 years are in the stage of fundamental movement development. During this phase, children begin to learn to walk and perform various forms of locomotor movements. Juliantie (2006: 37) states that first- to third-grade elementary school students perceive physical education as an opportunity to run, have fun, and learn games. Students in grades 2–6 perceive it as an opportunity to have fun and acquire skills. These characteristics encourage children to practice and improve their physical abilities.

These abilities enable students to participate in games and provide opportunities for them to demonstrate their skills to their peers. Without realizing it, students are actually developing their motor abilities through these activities. The more they practice, the more their abilities improve. Through physical education activities, students can improve their physical fitness, motor skills, and functional values, including cognitive, affective, and social aspects. The ability to learn movement tasks is one of the factors that influences children's success in the movement learning process, particularly when the movements to be learned have a relatively high level of complexity. Through physical education activities, students are expected to grow and develop in a healthy and physically fit manner, as well as develop their personalities harmoniously. Motor ability is reflected in an individual's performance in performing movements, including both sports-related and non-sports-related movements, as well as the maturation of movement skill performance.

State Elementary School 105399 Kulasar is one of the elementary schools located in Bangun Purba District, Deli Serdang Regency. The area has hilly geographical conditions that form part of a mountainous landscape. The uneven geographical conditions influence children's physical activities and biological factors, which directly affect their motor abilities. Children are accustomed to walking, running, and jumping in open natural environments, often without realizing that these activities contribute to the development of their motor skills.

Along with the rapid development of science and technology, children's activities have become easier, more convenient, faster, and more efficient. In other words, children have become highly dependent on the conveniences provided by technological developments. This situation is further aggravated by the decreasing availability of playgrounds and open spaces for children to engage in physical activities, particularly in urban areas. As a result, children's lifestyles have changed from being physically active to becoming increasingly passive and less willing to engage in movement activities.

In the past, children enjoyed playing traditional games, whereas today they are increasingly absorbed in technological products and devices. In reality, students tend to spend long periods sitting while watching television, playing handheld games, playing computer games, and engaging in other sedentary activities. These activities can contribute to a decline in physical abilities and physical activity, including a decrease in motor skills. Motor ability refers to an individual's performance in carrying out movements, whether related to sports or non-sports activities at school. The quality of movement performance reflects an individual's ability to perform various physical activities and movement skills.

The implementation of learning activities in schools will be successful if teachers are able to determine teaching materials and learning methods that are appropriate to students'



conditions. This is closely related to students' motor abilities. Without understanding these abilities, teachers may experience difficulties and uncertainty when conducting learning activities. Consequently, learning objectives may be difficult to achieve, resulting in an ineffective and inefficient learning process. Physical education will be successfully implemented when the teaching materials and instructional methods are appropriate to students' motor abilities.

One type of teaching material that can make the learning process more engaging is games. One way to develop motor abilities is through game-based activities. One form of play that is popular among elementary school students is the traditional game of kasti (Indonesian rounders). This game is one of the traditional games that is widely enjoyed by elementary school children. Students may even play it during their break time.

Materials and Methods

Study Design

This study employs a quantitative approach with a pre-experimental design using a single sample, as it is not possible to control all variables influencing the experimental outcomes. In this method, the researcher works with only one group (sample) that is measured twice: an initial measurement taken before the intervention (pretest), followed by the intervention itself (treatment), and finally a second measurement (posttest). Specifically, the study utilizes the One-Group Pretest-Posttest Design, which does not include a control group.

Study Participants

The population is the generalization area consisting of objects or subjects possessing specific quantities and characteristics determined by the researcher for study and subsequent inference. The population in this study comprises male students from grades IV, V, and VI at State Elementary School (SD Negeri) 105399 Kulasar, totaling 25 students, with the breakdown as follows: 9 students in grade IV, 11 in grade V, and 5 in grade VI.

Study Organization

The instrument used was the Motor Ability Test for elementary schools, comprising the following: a 50-yard dash, a standing long jump, the Sit and Reach test, and a ball-throwing and catching task.

Statistical Analysis

The data analysis technique employed was the t-test, preceded by tests for analysis prerequisites: data normality and homogeneity.

Results

The pretest and posttest motor skill data for male students in grades IV, V, and VI at State Elementary School 105399 Kulasar are presented in Table 1 below:

Table 1. Research Data on Pretest and Posttest Motor Skills

No	Name	Pretest	Posttest
1	DEF	214.19	219.25
2	TJ	214.38	217.65
3	AP	182.39	208.16
4	AB	166.72	180.5
5	CES	183.08	185.9
6	HS	152.69	153.43



7	NRR	216.09	222.31
8	RY	178.32	206.23
9	SH	198.09	204.15
10	RS	216.48	224.5
11	AK	239.63	244.97
12	BN	149.01	157.77
13	DAC	236.74	232.58
14	NAS	140.92	141.16
15	RV	221.56	221.01
16	TAP	224.47	226.22
17	TLG	216.05	217.39
18	VM	161.35	160.91
19	ZMR	195.36	196.61
20	HW	206.04	221.82
21	RP	210.96	214.87
22	BMJ	241.31	243.57
23	AS	205.27	213.1
24	CK	214.11	220.42
25	TW	217.68	221.41

The descriptive statistical analysis results for the motor ability pretest of male students in grades IV, V, and VI at State Elementary School 105399 Kulasar show a minimum score of 140.92, a maximum score of 241.31, and a mean score of 200.12, with a standard deviation of 28.58. When presented as a frequency distribution, the motor ability pretest data for these male students are shown in Table 2 below:

Table 2. Frequency Distribution of Motor Ability Pretest Scores for Male Students in Grades IV, V, and VI at State Elementary School 105399 Kulasar

No	Intervals	Category	F	%
1	$242,99 < X$	Very Good	0	0%
2	$214,41 < X \leq 242,99$	Good	9	36%
3	$185,83 < X \leq 214,41$	Currently	8	32%
4	$157,25 < X \leq 185,83$	less	5	20%
5	$X \leq 157,25$	Very less	3	12%
Total			25	100%



Table 2 above shows that the pretest results for the motor skills of male students in grades IV, V, and VI at State Elementary School 105399 Kulasar fell into the following categories: very poor at 12% (3 students), poor at 20% (5 students), fair at 32% (8 students), good at 36% (9 students), and very good at 0% (0 students).

Descriptive statistical analysis of the posttest results for the motor skills of male students in grades IV, V, and VI at State Elementary School 105399 Kulasar yielded the following values: minimum score = 141.16, maximum score = 244.97, mean = 206.24, and standard deviation = 27.85. When presented as a frequency distribution, the posttest results for the motor skills of male students in grades IV, V, and VI at State Elementary School 105399 Kulasar are shown in Table 3 below:

Table 3. Frequency Distribution of Posttest Motor Skills Scores for Male Students in Grades IV, V, and VI at State Elementary School 105399 Kulasar

No	Intervals	Kategori	F	%
1	$248,02 < X$	Very Good	0	0%
2	$220,17 < X \leq 248,02$	Good	10	40%
3	$192,32 < X \leq 220,17$	Currently	9	36%
4	$164,47 < X \leq 192,32$	less	2	8%
5	$X \leq 164,47$	Very less	4	16%
Total			25	100%

Table 3 above shows that the post-test results for the motor skills of male students in grades IV, V, and VI at State Elementary School 105399 Kulasar fall into the following categories: very poor at 16% (4 students), poor at 8% (2 students), fair at 36% (9 students), good at 40% (10 students), and very good at 0% (0 students).

Discussion

Based on the analysis of the research data, a significant improvement was found in the group under investigation. The implementation of the kasti game treatment over 12 sessions had an effect on improving the motor skills of male students in Grades IV, V, and VI at State Elementary School 105399 Kulasar.

This study aimed to determine the significant effect of the kasti game on improving the motor skills of male students in Grades IV, V, and VI at State Elementary School 105399 Kulasar. The research procedures were conducted as follows: (1) a pretest was administered to determine the students' initial motor skill abilities; (2) the students received kasti game treatment for 12 sessions; and (3) a posttest was administered to determine whether there was an improvement in the motor skills of the subjects after receiving the treatment. Motor skills are important to develop in children who are in their developmental stage, particularly upper grade elementary school students. Motor skills help students perform more complex movement skills. In sports, an athlete's performance is strongly influenced by their motor abilities. These abilities can be measured through physical fitness tests involving several components of motor skills, including speed, explosive muscular power, flexibility, and coordination. The results obtained from the tests were initially expressed as raw scores and then converted into standardized scores (T scores). The T scores were subsequently used to describe the results of the pretest and posttest.

To determine whether the kasti game produced a difference or effect on motor skills, a t test was conducted. The t test provides the calculated t value and its significance level.



The improvement in motor skills following the kasti game treatment was determined by comparing the mean pretest and posttest scores obtained from the t test analysis.

The results of the t test showed that the kasti game had a positive and significant effect on the motor skills of male students in Grades IV, V, and VI at State Elementary School 105399 Kulasar. This was demonstrated by the calculated t value of 4.014, which was greater than the t table value of 2.06 ($4.014 > 2.06$). The students' motor skills improved after participating in the kasti game treatment, as indicated by the posttest scores being higher than the pretest scores. This was demonstrated by the mean posttest score of 206.24, which was higher than the mean pretest score of 200.12. Therefore, the kasti game can improve the motor skills of students in Grades IV, V, and VI at State Elementary School 105399 Kulasar.

Conclusions

Based on the analysis of the research results and the preceding discussion, it can be concluded that the game of kasti has a significant effect on improving the motor skills of male students in grades IV, V, and VI at SDN 105399 Kulasar, evidenced by a calculated t value of 4.014, a t table value of 2.06, and a percentage increase of 3.06%

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Conflict of Interest

The authors declare no conflict of interest.

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