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APPLICATION OF INQUIRY LEARNING MODEL TOWARDS IMPROVING FUTSAL PASSING LEARNING OUTCOMES OF GRADE V STUDENTS OF SDN 2 LINGGARJATI

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Abstract

This study examines the effect of inquiry learning model on improving futsal passing learning outcomes of fifth grade students of SDN 2 Linggarjati. Using an experimental method with One Group Pretest-Posttest Design on 30 students as a sample, data was collected through pretest and posttest. The results showed a significant increase in the average futsal passing score from 59.53 to 76.43. The paired sample t-test with a significance of 0.000 (p <0.05) confirmed the significant difference, proving the effectiveness of the inquiry model in improving psychomotor skills. This model encourages active student participation, in line with the theory that emphasizes systematic investigation and independent discovery of knowledge.

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INTRODUCTION

Physical Education, Sports, and Health (PJOK) plays a crucial role in the education curriculum in Indonesia. More than just teaching physical skills, PJOK seeks to shape the whole individual, including physical, motoric, cognitive, emotional, social, and moral development (Mar(Kasua et al., 2024)haendro, 2010 in Melyza & Aguss, 2021). Gumantan (2020) added that education is any effort that can shape and change character and behavior, with different levels of understanding at each level of education (Saputra & Aguss, 2021). In line with that, Supandi (1992:2) emphasized that PJOK is a systematic interaction between students and the environment through effective and efficient physical development towards the formation of a whole person (Prasetyo et al., 2020). Through PJOK, students not only learn physical skills, but also internalize important values such as sportsmanship, cooperation, and health awareness.

Futsal, as one of the popular sports often taught in elementary schools, is a derivative of football played by two teams of five players ((Hadiana et al., 2022)). This sport is known to have high intensity and is intermittent (Suryadi & Rubiyatno, 2022). According to Lhaksana (in Danny et al., 2011), futsal is characterized by a relatively small playing area, a very fast and dynamic tempo, and stricter rules ((Julianur, 2020)Although it has many similarities to football, such as the goal of scoring goals and defending, there are fundamental differences in terms of field size, equipment, and number of players ((Abdurahman, 2018)). The importance of futsal in the PJOK curriculum in elementary schools cannot be separated from the potential for developing various aspects of students, from motor skills to teamwork.

However, initial observations conducted at SDN 2 Linggarjati showed that students' futsal learning outcomes were still not optimal. The low ability of students in basic futsal techniques, such as passing, dribbling, and shooting, is the main indication of this problem. One of the dominant causal factors is the implementation of conventional learning methods. In this approach, teachers tend to be the center of learning, while students become passive and less actively involved. The direct instruction method that has been used so far limits students' opportunities to explore and discover game concepts independently, so that their understanding and playing skills are less developed because they are not used to thinking critically, analyzing situations, and finding solutions.

To overcome these problems, a learning model is needed that can increase students' active involvement in the learning process. The Inquiry learning model was chosen as a potential solution because it places students as the center of learning (student-centered approach) ((Arden simeru, 2023) Nurhayati, 2016). Theoretically, the inquiry model can stimulate students' creative thinking because they learn more independently, are directly involved in the learning process, and are able to investigate problems logically and systematically (Ulandari et al., 2019)The concept of inquiry is rooted in John Dewey's thinking about reflective thinking, which emphasizes active, thorough efforts, and theory-based and reality-based testing ((Hadiana et al., 2022)). This model is designed to accustom students to think critically, analytically, and systematically in finding answers to various problems ((Widyastuti, 2018)). Joyce (2009) even stated that the inquiry training learning model is designed to bring students directly into the scientific process through exercises that compress the process into a short period of time (Sirait,

2012). Through the inquiry model, students are encouraged to develop critical, creative, and independent thinking skills in solving problems, and have been shown to provide higher learning outcomes and abilities compared to conventional methods ((Kasua et al., 2024)). In the context of futsal learning, the Inquiry model can help students understand basic techniques through independent exploration and discovery, which is ultimately expected to significantly improve learning outcomes.

However, there is still a lack of research that specifically examines the effectiveness of the inquiry learning model in improving futsal learning outcomes at the elementary school level. Therefore, this study aims to analyze the extent to which the inquiry learning model influences the futsal learning outcomes of students at SD 2 Linggarjati, Kuningan Regency. Through this study, it is hoped that a deeper understanding can be obtained regarding the effectiveness of the inquiry learning model in the context of futsal learning, so that it can be a valuable reference for educators in improving the quality of physical education learning in elementary schools.

RESEARCH METHOD

This study adopted an experimental method to evaluate the effect of the inquiry learning model on elementary school students' futsal learning outcomes, where according to Sugiyono (2016), this method is used to find the effect of certain treatments on other variables under controlled conditions, with researchers providing treatment and observing its effects on the object being studied, which in this case is the causal relationship between the inquiry learning model as the independent variable and futsal learning outcomes as the dependent variable. The research design chosen was the One Group Pretest-Posttest Design (Sugiyono, 2016), which only involved one group where measurements were taken before (Pretest - O_1) and after (Posttest - O_2) treatment (X) to observe changes; the steps include giving an initial futsal skills test (Pretest), implementing futsal learning using the inquiry model (Treatment), and a final futsal skills test (Posttest), which is schematically depicted as $O_1 \rightarrow X \rightarrow O_2$. Although this design allows researchers to see the difference between pretest and posttest to assess the effectiveness of the inquiry model, it should be noted that the absence of a control group limits full control over external variables, so that other factors such as learning environment conditions and student characteristics are still considered.

The study population included all fifth grade students of SD 2 Linggarjati, Kuningan Regency, totaling 30 students, who were selected because they received futsal learning as part of the PJOK curriculum, and from this population, total sampling was used as a sampling technique (Sugiyono, 2016), where all members of the population were sampled because the number was relatively small (less than 30 people), so that all students had an equal opportunity to be samples and the results were expected to be more objective and representative; the selection of these 30 students is also in accordance with Arikunto's (2018) representation standards for a population of more than 100 which ideally ranges from 10% -15%, or if the population is small, all can be used.

Data were collected using a futsal skills test, which functions as a research instrument, in accordance with the definition of a research instrument as a tool or facility used by researchers to collect data to make it easier and produce better results (Arikunto, 2010), and a test is a tool or procedure for measuring something in a predetermined atmosphere and rules (Nurhasan, 2007); This test was given at the beginning (pretest) and end (posttest) of the experiment to determine the effect and differences in treatment results, especially using the four-backboard futsal passing and stopping skills test model, which has a validity of 0.783 and a reliability of 0.824 ((Arden

simeru, 2023)), with the aim of measuring passing ability, using tools such as futsal balls, stopwatches, meters, Swedish benches, and chalk, with clear implementation instructions (the testee stands 2 meters from the target, kicks the ball to the target and holds it back alternately for 30 seconds in two opportunities, with a spare ball if it goes out), and the movement is declared a failure if the ball is kicked in front of the line, before being stopped, or does not change direction, and scoring is done by counting the number of valid kicks and holds of the ball. Finally, the data analysis technique begins with a normality test using Kolmogorov-Smirnov or Shapiro-Wilk (Sugiyono, 2019) to determine the data distribution, followed by a homogeneity test using Levene's Test (Sudjana, 2005) to check the data variance, and the peak is the Paired Sample T-Test or paired t-test to test the hypothesis, where if the significance value (p-value) is less than 0.05 ($p < 0.05$), then it can be concluded that there is a significant effect of the application of the inquiry learning model on improving the learning outcomes of futsal passing of students at SDN 2 Linggarjati.

FINDINGS AND DISCUSSION

To The Descriptive Statistics table below presents a summary of the statistics of the Pretest and Posttest scores obtained from 30 participants. These descriptive statistics include the minimum, maximum, mean, and standard deviation, which provide an overview of the distribution of the data before and after the intervention. By analyzing the comparison between the Pretest and Posttest, we can evaluate the extent to which improvements occurred after the participants underwent the training program.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PRETEST	30	55	64	59.53	2,543
POSTTEST	30	71	82	76.43	2.775
Valid N (listwise)	30				

Based on the descriptive statistics above, it can be seen that the Posttest score (Mean = 76.43; SD = 2.775) is significantly higher than the Pretest score (Mean = 59.53; SD = 2.543), with an average increase of 16.9 points. The range of Pretest scores (55–64) and Posttest scores (71–82) also shows that all participants experienced an increase. The relatively stable standard deviation indicates consistency in the distribution of scores. Thus, it can be concluded that the training program provided is effective in improving participants' understanding or abilities. Further analysis, such as parametric statistical tests (paired t-test), can be conducted to ensure the significance of this increase.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PRETEST	.101	30	.200*	.967	30	.451
POSTTEST	.095	30	.200*	.981	30	.858

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the results of the normality test, both the Pretest (Kolmogorov-Smirnov Sig. = 0.200; Shapiro-Wilk Sig. = 0.451) and Posttest (Kolmogorov-Smirnov Sig. = 0.200; Shapiro-Wilk Sig. = 0.858) have a significance value of > 0.05 in both tests. This indicates that the data is normally distributed, so that parametric statistical analysis such as paired t-test can be used to test for significant differences between the Pretest and Posttest. Thus, the assumption of normality is met, and the next analysis step can be carried out using a parametric approach.

Test of Homogeneity of Variances

	Levene Statistics	df1	df2	Sig.

PRETESTPOSTTEST	Based on Mean	.258	1	58	.614
	Based on Median	.174	1	58	.678
	Based on Median and with adjusted df	.174	1	56.819	.678
	Based on trimmed mean	.256	1	58	.615

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	PRETEST - POSTTEST	-16.900	.712	.130	-17.166	-16.634	-130.013	29	.000

Based on the results of the paired t-test, it was found that there was a very significant difference between the Pretest and Posttest scores with an average decrease of -16,900 (Pretest - Posttest). The *t* value of -130,013 with a degree of freedom (df) of 29 and a p-value of 0.000 (p <0.001) indicates that this difference is very statistically significant. The 95% confidence interval (-17,166 to -16,634) also does not include the value 0, which further strengthens the conclusion that the training program has a real impact on improving participants' scores. Thus, it can be concluded that the intervention provided effectively improves participants' learning outcomes based on the comparison of the Pretest and Posttest

The Levene test results show that there is no significant difference in variance between the Pretest and Posttest groups. This is indicated by the significance value (Sig.) > 0.05 in all approaches (Mean = 0.614, Median = 0.678, adjusted df = 0.678, trimmed mean = 0.615). Thus, the assumption of homogeneity of variance is met, which means that the data meets the requirements for further parametric analysis. This equality of variance strengthens the validity of previous findings that the increase in scores from Pretest to Posttest is statistically significant and consistent.

Discussion

Based on the analysis of pretest and posttest data on 30 fifth grade students of SDN 2 Linggarjati, there was a significant increase in the average value of futsal passing skills, from 59.53 to 76.43, indicating an increase of 16.9 points after the application of the inquiry learning model. This finding is supported by the results of the paired sample t-test statistical test with a significance value of 0.000 (p <0.05), which statistically proves a significant difference between the values before and after treatment. This increase in learning outcomes confirms that the inquiry learning model has a positive impact on psychomotor aspects, especially passing skills, in line with Gulo's view (2002 in Trianto, 2014) which states that inquiry learning activates all students' abilities for systematic, critical, and logical investigations for the sake of discovering new knowledge and skills independently. In this context, the increase in students' passing abilities is due to their active involvement in observing, concluding, and practicing techniques independently and collaboratively, not just

receiving instructions. Furthermore, this is consistent with Joyce's (2009) opinion that the inquiry training model is designed to bring students directly into the scientific process through exercises that condense the process in a short time, which is relevant for futsal learning that encourages practical, limited but intensive exploration of passing techniques. The results of this study are also supported by the relevant study of Setyo et al. (2019) which showed a significant increase in passing and football control skills in junior high school students through the inquiry model, strengthening the effectiveness of this model at the elementary school level. In addition, this finding is in line with Nurhayati's (2016) explanation that the inquiry model as a student-centered approach is able to increase active student participation, as seen from student enthusiasm and a consistent increase in the posttest results of all respondents compared to the pretest. Thus , it can be concluded that the application of the inquiry learning model in learning futsal passing skills has a positive and significant effect on improving student learning outcomes, indicating that an approach that involves students actively, critically, and collaboratively can increase the effectiveness of physical education learning in elementary schools.

CONCLUSION

Based on the results of the research that has been conducted on the application of the inquiry learning model to improve the futsal passing learning outcomes of grade V students of SDN 2 Linggarjati, it can be concluded that the inquiry learning model has proven effective in improving student learning outcomes. This is indicated by the significant difference between the pretest and posttest scores, which is reinforced by the results of statistical tests using paired sample t-test with a significance value of 0.000 ($p < 0.05$). The increase in the average score from 59.53 to 76.43 shows that the application of the inquiry learning model has a positive impact on mastering basic futsal passing techniques.

The inquiry learning model, which emphasizes the active involvement of students in the learning process through exploration, investigation, and problem solving independently or in groups, has been able to foster critical thinking skills and improve students' psychomotor skills. This finding is in line with the theory of Gulo (2002) and Joyce (2009), which states that the inquiry model can stimulate a more meaningful learning process and significantly improve student learning outcomes.

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