

The Effect of a Play-Based Approach on Learning Outcomes of Basic Pencak Silat Movements Junior Athlete

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Abstract

This study aims to determine the effect of a play-based approach in Physical Education, Sports, and Health (PJOK) learning on pencak silat material toward students' learning outcomes. The research method used was an experimental design involving an experimental group and a control group. The research sample consisted of 21 students in the experimental class and 21 students in the control class. The data were analyzed using prerequisite tests (normality and homogeneity) and hypothesis testing using the Pearson Product Moment correlation test. The results showed that the mean score of the control variable was 86.81, while the mean score of the experimental variable was 93.33. Based on the correlation test, the obtained value was $r = 0.385$, indicating a positive relationship at a low level of correlation. However, the significance test results showed that $t\text{-count} (1.81) < t\text{-table} (2.093)$.

Keywords: learning outcomes, experiment, t-test, learning.

1. Introduction

Education is an important factor in improving the quality of human resources. The quality of education in schools is strongly influenced by the quality of learning interactions between teachers and students in the classroom. In the learning process, teachers play an important role as planners, implementers, and evaluators of learning activities. Therefore, teachers are required to apply innovative, effective, and student-centered learning approaches to achieve learning objectives optimally.

Physical Education, Sports, and Health(PJOK) is an integral part of the educational process that aims to develop students holistically through physical activities. PJOK not only focuses on physical fitness, but also develops cognitive, affective, psychomotor, and social aspects of students. Through PJOK learning, students are expected to improve physical fitness, movement skills, discipline,

cooperation, confidence, and healthy living behavior. This is in line with Law Number 20 of 2003 concerning the National Education System, which states that education is a conscious and planned effort to create learning conditions that enable students to actively develop their potential.

One of the mandatory materials in PJOK learning in Indonesia is Pencak Silat. Pencak Silat is not only taught as a martial art sport, but also as a means of preserving Indonesian cultural heritage. In PJOK learning, students are introduced to basic techniques such as stances, kicking, punching, blocking, movement patterns, and combinations of attack and defense techniques. In addition, Pencak Silat learning also contains values of sportsmanship, discipline, self-control, cooperation, and responsibility.

However, in practice, PJOK learning, especially Pencak Silat material, is often still carried out using conventional teaching methods that tend to make students passive and less enthusiastic during learning activities. This condition affects students' learning motivation and learning outcomes. Therefore, teachers need to apply learning approaches that are more interesting, enjoyable, and able to actively involve students in the learning process.

One approach that can be applied in PJOK learning is the play approach. The play approach emphasizes enjoyable learning activities through modified games adjusted to students' characteristics and abilities. Through play activities, students can learn movement skills naturally without feeling pressured by rigid learning situations. In addition, the play approach can improve students' motivation, participation, cooperation, and confidence during the learning process.

Several previous studies have shown that modified games and play-based learning approaches can improve student participation and learning outcomes in PJOK learning. Nevertheless, differences in learning outcomes are still found between students who receive certain learning treatments and those who do not. Therefore, further research is needed to determine whether the application of a play approach in PJOK learning, especially in Pencak Silat

material, significantly affects students learning outcomes. Based on these problems, this study aims to determine the effect of the play approach in PJOK learning on Pencak Silat material toward students learning.

2. Materials and Method

This study used a quantitative approach with an experimental research method. The research design applied was a two-group design consisting of an experimental group and a control group. The experimental group received treatment using a play-based approach in learning basic Pencak Silat movements, while the control group received conventional learning without the play approach.

The study was conducted at SMPN 30 Padang in February 2026. The population of this study consisted of all students enrolled in the second semester of the 2025/2026 academic year, totaling 363 students, including 204 male students and 159 female students.

The sampling technique used was proportional random sampling. The research sample consisted of 42 male students selected from grade VIII students, representing approximately 20% of the total male student population. Male students were selected to ensure consistency in the assessment of Pencak Silat movement skills.

The participants were divided into two groups: 21 students in the experimental group and 21 students in the control group. The experimental group was taught using a play-based learning approach during PJOK lessons on Pencak Silat basic movements, whereas the control group was taught using conventional instructional methods.

Data collection was conducted through practical performance tests using an assessment rubric designed to measure students' learning outcomes in basic Pencak Silat movements. The assessed aspects included movement accuracy, coordination, balance, kicking and punching techniques, and movement combinations.

The collected data were analyzed using prerequisite tests, namely normality and homogeneity tests, before conducting hypothesis testing. The normality test was used to determine whether the data were normally distributed, while the homogeneity test was conducted to determine the equality of variances between groups. Hypothesis testing was performed using the Pearson Product Moment correlation test and t-test analysis to determine the effect of the play-based approach on students' learning outcomes.

3. Result and Discussion

3.1 Control Group Learning Outcomes

Based on the learning outcomes of the control group consisting of 21 students who were taught using conventional learning methods without the play-based approach, the highest score obtained was 90 and the lowest score was 84. The data analysis showed a mean score of 86.81 with a standard deviation of 1.94.

Most students in the control group were in the score interval of 88–89, with a total of 9 students (43%). These results indicate that students' learning outcomes in the control class tended to be moderate and relatively

homogeneous.

3.2 Experimental Group Learning Outcomes

The experimental group consisted of 21 students who received treatment using the play-based learning approach. The highest score obtained in this group was 96, while the lowest score was 89. The statistical analysis showed a mean score of 93.33 with a standard deviation of 1.55.

Most students in the experimental group were in the score interval of 93–94, with a total of 11 students (52%). The results indicate that students who learned through the play-based approach achieved higher learning outcomes compared to those in the control group. Normality Test

Before conducting hypothesis testing, a normality test was carried out to determine whether the research data from both groups were normally distributed. The normality test is an important prerequisite in parametric statistical analysis because it ensures that the data meet the assumptions required for further testing. In this study, the normality test was conducted on the learning outcome scores of both the control group and the experimental group data Normal.

Based on Table 1, the significance value obtained for the control group was 0.136, while the experimental group obtained a significance value of 0.121. Both significance values were greater than the significance level of 0.05. Therefore, it can be concluded that the data from both groups were normally distributed.

The results of the normality test indicate that the distribution of students' learning outcome scores in both groups did not deviate significantly from a normal distribution pattern. This condition shows that the data were suitable for further analysis using parametric statistical tests. The normal distribution of data also indicates that the variation in students' scores was relatively balanced and did not contain extreme deviations that could affect the accuracy of the statistical analysis.

3.3 Homogeneity Test

After the normality assumption was fulfilled, a homogeneity test was conducted to determine whether the variances of the control group and the experimental group were homogeneous. The homogeneity test is important in experimental research because it ensures that both groups have relatively similar variance characteristics before hypothesis testing is conducted data Homogen.

Based on Table 2, the F-count value obtained for the control group was 1.94 and for the experimental group was 1.55, while the F-table value was 2.12. Since both F-count values were lower than the F-table value, it can be concluded that the variances of both groups were homogeneous.

These findings indicate that the spread of data in the experimental and control groups was relatively similar. In other words, the characteristics of the two groups before treatment were considered equivalent in terms of data variability. The homogeneity of variance confirms that the comparison between groups in the hypothesis testing stage could be conducted appropriately and objectively.

3.4 Hypothesis Testing

After the prerequisite tests of normality and homogeneity were fulfilled, hypothesis testing was conducted to determine whether the play-based learning approach had a significant effect on students' learning outcomes in basic Pencak Silat movements. The hypothesis testing was conducted using correlation analysis and t-test analysis at a 95% confidence level.

Table 3. Hypothesis Testing Results

Variable	t-count	t-table	Correlation Coefficient
Learning Outcomes	1.81	2.093	0.385

Based on Table 3, the correlation coefficient obtained was $r = 0.385$. This value indicates that there was a positive relationship between the play-based learning approach and students' learning outcomes, although the level of correlation was categorized as low. The positive correlation shows that the implementation of the play-based approach tended to contribute to better learning outcomes among students.

However, the results of the significance test showed that the t-count value was 1.81, while the t-table value at the 95% confidence level was 2.093. Since the t-count value was lower than the t-table value ($1.81 < 2.093$), the null hypothesis (H_0) was accepted. This means that statistically, the play-based learning approach did not have a significant effect on students' learning outcomes in basic Pencak Silat learning.

Although the statistical results did not show a significant effect, descriptively the experimental group demonstrated a higher average score compared to the control group. The experimental group obtained an average score of 93.33, while the control group obtained an average score of 86.81. This finding indicates that students who participated in learning through the play-based approach tended to show better learning performance and greater engagement during the learning process.

The higher average score in the experimental group suggests that the play-based learning approach created a more enjoyable and interactive learning atmosphere. Through play activities, students became more active, motivated, and confident in practicing Pencak Silat basic movements. Therefore, even though the statistical effect was not significant, the play-based approach still showed positive educational contributions in improving students' participation and learning experiences during PJOK learning activities.

Discussion

The results of this study indicate that the play-based learning approach provided positive contributions to students' learning outcomes in basic Pencak Silat movements. This can be seen from the higher average score obtained by the experimental group compared to the control

group. The experimental group achieved an average score of 93.33, while the control group obtained an average score of 86.81. Although the statistical test showed that the effect was not significant, descriptively the play-based approach demonstrated better learning performance among students.

The improvement in learning outcomes in the experimental group occurred because the play-based approach was able to create a more enjoyable, active, and engaging learning environment. In PJOK learning, especially in Pencak Silat material, students are required to master various basic movement techniques such as stances, punches, kicks, and movement coordination. These techniques require repeated practice and strong student motivation. Through play-based activities, students practiced movement skills in a more relaxed and enjoyable atmosphere, reducing boredom during the learning process.

The play-based learning approach also increased students' active participation during learning activities. Students became more enthusiastic and motivated because the learning process involved modified games and interactive activities rather than relying solely on conventional instructional methods. This condition encouraged students to repeat movements more frequently without feeling pressured. Frequent practice in enjoyable learning situations is important in improving motor skill mastery and movement coordination.

From the cognitive aspect, the play-based approach helped students understand movement concepts more naturally. During play activities, students learned how to maintain balance, coordinate movements, respond to opponents' actions, and make decisions in dynamic situations. As a result, learning was not limited to physical activity alone but also involved students' thinking skills and problem-solving abilities.

In addition, the play-based approach contributed positively to students' affective development. Students showed greater confidence, cooperation, and social interaction during group activities. Through collaborative play, students learned to communicate, cooperate with teammates, and respect others during practice sessions. These social interactions created a more supportive learning atmosphere and increased students' confidence in performing Pencak Silat movements.

In contrast, students in the control group experienced more teacher-centered learning activities. Conventional learning methods tended to focus on direct instruction and repetitive drills without sufficient variation in learning activities. As a result, some students became less motivated and less actively involved in the learning process. This condition affected the effectiveness of learning and limited students' opportunities to explore movement experiences independently.

The findings of this study are consistent with previous studies stating that play-based learning approaches can improve student motivation, participation, and learning outcomes in PJOK learning. The play approach is considered effective because it combines physical activity with enjoyable learning experiences, allowing students to learn

movement skills more naturally and enthusiastically.

However, this study also found that the statistical significance level was relatively low. Several factors may have influenced these results, including the limited sample size, short treatment duration, and differences in students' individual abilities. In addition, the success of the play-based approach depends greatly on the teacher's ability to design appropriate games that remain focused on learning objectives.

Overall, the findings of this study indicate that the play-based learning approach has the potential to improve students' learning experiences and learning outcomes in PJOK learning, particularly in basic Pencak Silat material. Therefore, teachers are encouraged to apply more innovative and student-centered learning approaches to create active, enjoyable, and meaningful learning environments.

4. Conclusion

Based on the results of the study, it can be concluded that the play-based learning approach provided positive contributions to students' learning outcomes in basic Pencak Silat movements at SMPN 30 Padang. The experimental group that received the play-based learning treatment obtained a higher average score compared to the control group that used conventional learning methods.

The results of the statistical analysis showed that the correlation coefficient value was 0.385, indicating a positive relationship at a low correlation level between the play-based approach and students' learning outcomes. However, the hypothesis testing results showed that the t-count value (1.81) was lower than the t-table value (2.093), indicating that the effect was not statistically significant at the 95% confidence level.

Even though the statistical effect was not significant, the play-based learning approach was able to create a more active, enjoyable, and student-centered learning atmosphere. Students became more motivated, confident, and actively involved in practicing basic Pencak Silat movements during the learning process. Therefore, the play-based approach can still be considered an alternative learning strategy to improve students' participation and learning experiences in PJOK learning activities.

It is recommended that future studies involve larger sample sizes, longer treatment durations, and more varied learning methods to obtain more comprehensive results regarding the effectiveness of the play-based learning approach in PJOK learning.

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