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The Effect of the Peer Teaching Model on Students' Underhand Passing Skills in Volleyball at SMA Santa Maria 3 Cimahi

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Abstract

In physical education learning at schools, various instructional models are available, one of which is peer teaching. This model can be utilized as an assistive method in the teaching and learning process, particularly in physical education. The lack of effectiveness in physical education learning is often caused by the teacher's inability to apply diverse teaching strategies, resulting in monotonous lessons and reduced student enthusiasm. The purpose of this study is to determine the effect of the peer teaching model on students' learning outcomes in underhand passing in volleyball at SMA Santa Maria 3 Cimahi. This research employed an experimental method with a population consisting of two 10th-grade classes and a sample of 65 students. The independent variable in this study is the peer teaching learning model (X), and the dependent variable is the underhand passing skill (Y). The t-test results showed a significance value (2-tailed) of 0.000 < 0.05, indicating that H_0 is rejected and H_1 is accepted. This means there is a significant effect of the peer teaching model on the learning outcomes of underhand passing.

Keywords: *Peer Teaching, Underhand Passing, Volleyball*

INTRODUCTION

Education has the potential to determine the development of a nation, making it a vital aspect for all people across the globe. It is an essential and inseparable part of human life (Charli et al., 2019). In particular, education plays a crucial role in the advancement of a nation and the development and realization of individual potential. The foundation of education serves as the basis and direction for educational efforts as a means of fostering human and societal development (Anggraeny et al., 2020).

The learning system has undergone a significant transformation as a result of lifestyle adjustments following the COVID-19 pandemic. The joint decree issued by four ministries regarding the implementation of learning during the pandemic emphasized that educational institutions should offer limited face-to-face learning (PTMT) by adhering to health protocols and obtaining parental or guardian consent, alongside the option of distance learning (PJJ).

Physical Education, Sports, and Health (PJOK) is an integral component of the overall educational process that relates to the development and application of voluntary and purposeful motor skills, which are closely linked to mental, emotional, and social

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responses. Although physical education is widely recognized as a fundamental part of education, its implementation in practice has not yet reached the level of effectiveness that is expected (Anggraeny et al., 2020).

ts made by educators include modifying their teaching approaches and utilizing a variety of instructional models that are innovative, creative, and diverse. School-based Physical Education (PJOK) plays a crucial role in children's physical growth and development and serves as an integral part of the school curriculum (Whipp et al., 2019). Physical education teachers have adjusted their teaching methods, with most now involving students more actively in the teaching and learning process. A significant component of the physical education curriculum is dedicated to teaching and learning games and sports (Farias et al., 2019).

One instructional model considered effective is the application of peer teaching (also known as peer tutoring) (Santoso, Hariyana, Pulung Riyanto, n.d.). Peer teaching is deemed appropriate for physical education classes with a large number of students, as it allows for more active student participation. The term “peer” refers to individuals of the same age group, while “teaching” refers to the process of instruction. Thus, peer teaching involves a learning process where students engage with and are instructed by their peers (Andriani & Rasto, n.d.).

Peer tutoring is one of the most widely recognized peer-assisted learning methods, characterized by role-taking in which one peer assumes the role of the tutor and the other acts as the learner (Klavina & Block, 2020). Traditional teacher-centered (direct instruction) approaches are increasingly viewed as less effective in maximizing student learning outcomes. As a result, teachers are now required to adopt more innovative strategies to better meet the learning needs of their students.

Volleyball is part of the games and sports curriculum aimed at enhancing both physical and mental fitness, fostering character, discipline, cooperation, and sportsmanship among students. Volleyball games conducted in schools can serve as an effective medium for achieving educational goals. The selection of appropriate learning methods is expected to improve students’ learning outcomes, particularly in mastering the underhand passing technique in volleyball (Trian et al., 2024). Volleyball is a team sport that is relatively easy to play for both males and females, cost-effective, and requires only simple equipment (Fortes, L. S., Freitas-Júnior, C. G., Paes, P. P., Vieira et al., 2020).

Underhand passing is a fundamental technique used to pass the ball to teammates within the same team, serving as the initial step in organizing an offensive strategy against the opposing team (Bagaskara & Khory, 2022). In this context, the peer teaching method

is considered an active learning strategy that can be effectively applied to improve students' learning outcomes (Madri, M., & Asnaldi, A., 2020).

Based on these considerations, the researcher was motivated to conduct a study at the senior high school level to examine the influence of instructional models used in Physical Education subjects. By implementing the peer teaching model, it is expected that students will be more actively engaged in the learning process and receive a higher quality physical education experience. Therefore, the researcher has titled this study: "The Influence of the Peer Teaching Learning Model on Underhand Passing Performance in Volleyball Among Students of SMA Santa Maria 3 Cimahi..

METHOD

This study employs a quantitative research method. The method applied in this study is experimental research, or ex post facto. The population consisted of 10th-grade students at SMA Santa Maria 3 Cimahi. The sample was also drawn from the 10th-grade students of the same school, totaling 65 students. These students were divided into two groups: 33 students in the experimental group and 32 students in the control group.

The data collection technique employed in this research was the Volleyball Underhand Passing Test developed by AAHPER.

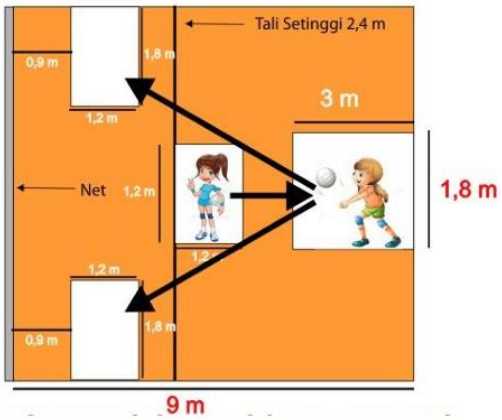

Figure 1. Test Passing bawah bola Voli AHHPER

AAHPER Volleyball Underhand Passing Test is an assessment tool used to measure a volleyball player's ability to perform underhand passes (forearm passes). Underhand passing is a fundamental technique in volleyball, typically used to receive low balls such as serves or attacks from the opposing team. This test aims to evaluate participants' basic ability in executing underhand passes, with a focus on accuracy,

technique, and consistency.

The data analysis in this study employs descriptive statistics, a method used to describe or present the data as it is, without attempting to draw conclusions that apply to a broader population. Descriptive statistics are appropriate when research is conducted on a clearly defined population or when the researcher intends only to present the data from the sample without making inferences about the population from which the sample was drawn. However, if the aim is to make generalizable conclusions about the population, inferential statistics must be applied for data analysis.

RESULT AND DISCUSSION

The data description in this study includes the highest score, lowest score, mean, standard deviation, variance, and frequency distribution for each of the variables examined. In the initial phase, the researcher calculated the results of the volleyball underhand passing skills test to determine the extent of students' mastery of the technique. The test was conducted by having each student individually demonstrate the underhand passing movement in front of an examiner. Data on the students' basic underhand passing skills at SMK Pratama Mulya were obtained through the administration of a standardized underhand passing test using the AAHPER instrument.

The researcher began by organizing the collected data, followed by calculations to determine the mean, standard deviation, and variance. The results related to students' mastery of underhand passing skills in volleyball are presented in detail in the following analysis tables.

Table 1. Descriptive Data of the Study

Variable	Group	Period	Mean	Standard Deviation
Volleyball Underhand Pass	Experimental	Pre-Test	13.28	2.58
		Post-Test	20.22	2.30
	Control	Pre-Test	19.97	1.96
		Post-Test	25.03	2.12

The table above, it can be seen that the pre-test mean score of the experimental group was 13.28, while the post-test mean score increased to 20.21. The standard deviation for the experimental group in the pre-test was 2.580725, and in the post-test, it was 2.296342. In the control group, the pre-test mean score was 19.96 with a standard deviation of 1.959005, and the post-test mean score was 25.03 with a standard deviation of 2.117277.

In the hypothesis testing calculation, a mean difference test (T-test) is used to determine the extent of the effect of peer teaching on underhand passing performance in volleyball among students of SMA Santa Maria 3 Cimahi. The results of the calculation are as follows:

Table 2. Hypothesis Test of the Experimental Group

Paired Samples Test

		Paired Differences					t	df	Significance	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			One-Sided p	Two-Sided p
Pair 1	pretest - postest	-6.93750	3.58255	.63331	-8.22915	-5.64585	-10.954	31	<,001	<,001

in this study, data analysis was conducted using statistical tests to determine whether there was a significant difference between the pre-test and post-test results. If the significance value (sig. 2-tailed) is less than 0.05, it indicates a statistically significant difference between the pre-test and post-test scores. Conversely, if the significance value is greater than 0.05, it indicates no significant difference.

Based on the data analysis results, the obtained significance value was 0.000, which is less than 0.05. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This indicates that the peer teaching learning model has a significant effect on students' underhand passing performance in volleyball at SMA Santa Maria 3 Cimahi.

Furthermore, the calculation showed that the t-value ($t_o = 10.954$) was greater than the t-table value ($t_t = 2.744$). Thus, it can be concluded once again that H_0 is rejected and H_1 is accepted. This means there is a significant effect, or in other words, the peer teaching model effectively improves students' underhand passing skills in volleyball.

Table 3. Hypothesis Test of the Control Group

Paired Samples Test

		Paired Differences					t	df	Significance	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			One-Sided p	Two-Sided p
Pair 1	pretest - postest	-7.00000	3.48210	.60616	-8.23470	-5.76530	-11.548	32	<,001	<,001

The calculation results showed that the significance value (sig. 2-tailed) was 0.000, which is less than 0.05. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This indicates that the peer teaching learning model has a significant effect on students' underhand passing performance in volleyball at SMA Santa Maria 3 Cimahi.

Additionally, the analysis was conducted by comparing the calculated t-value (t_o) with the critical t-table value (t_t). If the t-value is greater than the t-table value, then H_0 is rejected and H_1 is accepted, indicating a significant effect or improvement. Conversely, if

the t-value is less than the t-table value, then H_0 is accepted and H_1 is rejected, suggesting that there is no significant effect.

In this study, the calculated t-value was 11.548, while the critical t-table value was 3.622. Since the t-value is greater than the t-table value, it can be concluded that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. This indicates that the implementation of the peer teaching learning model has a significant effect on improving underhand passing performance in volleyball among students at SMA Santa Maria 3 Cimahi.

Based on the hypothesis testing regarding the effect of peer teaching on underhand passing performance in volleyball, the experimental group showed a significance value (sig. 2-tailed) of 0.000, which is less than 0.05. Therefore, H_0 is rejected and H_1 is accepted, indicating a significant influence of the peer teaching model. Furthermore, the calculated t-value of 10.954 was greater than the t-table value of 2.744, which also supports the conclusion that H_0 is rejected and H_1 is accepted, confirming the effectiveness of the peer teaching model.

Similarly, in the control group, the hypothesis test results also showed a significance value below 0.05, leading to the rejection of H_0 and the acceptance of H_1. The comparison between the calculated t-value and the t-table value further confirmed that the peer teaching model had a significant effect on students' learning outcomes in underhand passing in volleyball.

CONCLUSION

This study demonstrates that the implementation of the peer teaching learning model has a positive impact on improving students' learning outcomes in underhand passing technique at SMA Santa Maria 3 Cimahi. These findings indicate that peer teaching can serve as an effective instructional method in physical education, particularly in enhancing students' understanding and motor skill performance.

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