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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 country, making it crucial for everyone in the world. Education is inseparable and crucial in human life (Charli et al., 2019). Especially for the development of the nation and state, education is crucial for the development and realization of individuals. The foundation of education is the foundation and direction for education as a vehicle for human and societal development (Anggraeny et al., 2020). The learning system has changed completely due to lifestyle habits following the COVID-19 outbreak. The joint decree of four ministers regarding guidelines for implementing learning during the COVID-19 pandemic emphasizes that educational units provide limited face-to-face learning (PTMT) services while still implementing health protocols and with the permission of parents/guardians, as well as distance learning (PJJ). Physical Education, Sports, and Health (PJOK) is an aspect of the overall educational process that concerns the development and use of individual voluntary and useful motor skills and is directly related to mental, emotional, and social responses.

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Physical education as a component of education as a whole has been recognized by many groups, but in its implementation, physical education teaching has not been as effective as expected. (Anggraeny et al., 2020).

Efforts made by educators include changing their teaching methods, using various varied, innovative, and creative learning models. School-based physical education (PJOK) plays an important role in children's physical growth and development, and is an integral part of the school curriculum. (Whipp et al., 2019) Physical education teachers make modifications to their teaching methods, most physical education teachers currently carry out learning activities by involving students more in learning and teaching activities. An important part of the physical education curriculum is dedicated to teaching and learning games and sports. (Farias et al., 2019) The learning model that is considered effective is to implement Peer teaching or peer tutoring. (Santoso, Hariyana, Pulung Riyanto, n.d.) The peer teaching learning model or often called peer tutoring is considered appropriate for use in physical education learning for classes that have a large number of students, especially in Physical Education. Peer: Peer, Teaching: Learning. Peer teaching is a learning process that involves peers as students (Andriani, R., & Rasto, n.d.) Peer tutoring, the most widely known peer-assisted learning method, is characterized by taking on certain roles: one peer acts as a tutor while the other peers act as students. (Klavina & Block, 2020) They are no longer suitable for teacher-centered teaching (direct learning) which results in less than optimal student learning outcomes. As a result, teachers are required to be more innovative in providing teaching that suits their needs.

Volleyball is part of the game and sports material that aims to improve physical and spiritual fitness, foster character, discipline, cooperation, and sportsmanship of students. Volleyball games carried out in schools can be used as a means to achieve educational goals. The selection of appropriate learning methods is expected to improve student learning outcomes in participating in volleyball underhand passing learning. (Trian et al., 2024) Volleyball is a collective game, easy to play by both men and women, inexpensive, and only requires simple equipment. (Fortes, L. S., Freitas-Júnior, C. G., Paes, P. P., Vieira et al., 2020) Underhand passing is a way of passing the ball to one's own teammate with a certain technique, as an initial step to develop an attack pattern against the opposing team. (Bagaskara & Khory, 2022). In this effort, the peer teaching method is an active learning method that can be applied to improve student learning outcomes (Madri, M., Asnaldi, A., 2020).

Based on the above, the author was motivated to conduct research in elementary schools regarding the influence of learning models applied to Physical Education subjects.

By implementing the peer teaching learning model, it is hoped that students will be able to contribute more actively to learning and receive quality Physical Education. Therefore, the author entitled this study "The Effect of the Peer Teaching Learning Model on Underhand Passing Results in Volleyball Games for Students at Santa Maria 3 High School, Cimahi."

METHOD

This research uses a quantitative method, the quantitative research method is also called the traditional method (Priadana and Muis call it the traditional paradigm) because this method has been used for a long time so that it has become a tradition as a method for research. Quantitative research is a method for testing certain theories by examining the relationship between variables. (Dr, Amruddin S.Pt., M.Si, Roni Priyanda, S.Pd., 2022) The method that the author will use is the experimental or ex post facto research method. Experiments are one of the various quantitative research methods. This quantitative research is conducted to test the effectiveness or ineffectiveness of experimental variables. Experimental research is directed to determine the effect of certain variables on other variables under strictly controlled conditions. (Syahrizal & Jailani, 2023)

The research design used in this study is a pretest-posttest control group design, as depicted in the following figure:

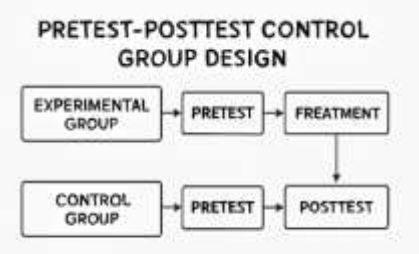

Figure 1. Design Pretest-posttest control group design

In quantitative research, a population is defined as a generalized area consisting of objects/subjects with certain qualities and characteristics determined by the researcher to be studied and then conclusions drawn. A sample, on the other hand, is a portion of that population (Suriani et al., 2023). In this study, the author selected 10th-grade students at Santa Maria 3 High School, Cimahi, as the population. The sample consisted of 65 10th-grade students at Santa Maria 3 High School, Cimahi, from two classes: 33 students in the experimental group and 32 students in the control group.

The data collection technique used in this study was the AHHPER Volleyball Underhand Passing Test.

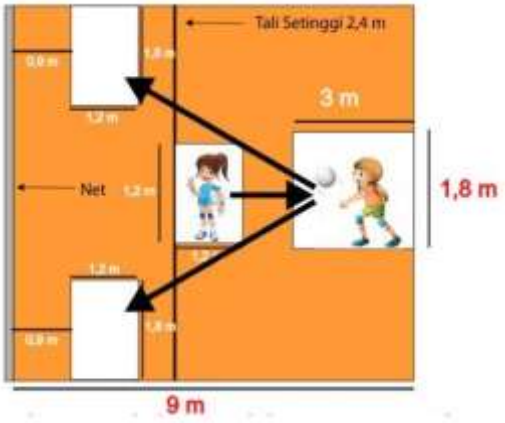

Figure 2. AHHPER Volleyball Underhand Pass Test

The AAHPER Volleyball Underhand Pass Test is a test used to measure a volleyball player's ability to perform an underhand pass. Underhand passing is a basic technique in volleyball used to receive a low ball, such as a serve or attack from an opponent. This test aims to measure the participant's basic ability to perform a forearm pass in volleyball, emphasizing the aspects of accuracy, technique, and consistency. The instructions for carrying out this test are: 1) Participants are given 20 opportunities to accurately perform an underhand pass to the target. 2) A pass is considered successful if the ball falls in the target area. 3) If the ball does not hit the target, it is not counted as a correct pass. With the following repetition and scoring provisions: 1) The number of correct passes to the target will be counted and used as the basis for assessment. 2) The ball that falls exactly in the target area will be given 2 points, 3) If it falls in the field area but not exactly in the target area, it will be given 1 point, 4) If the ball goes out of the field area, it will be given 0 points, The assessment is assisted by two observers: one records the number of successful passes, one becomes the feeder when the participant does the test.

In this study, data collection was conducted through a skills test. The data analysis process is the stage of systematically searching for and organizing data obtained from interviews, field notes, and documentation. The steps include organizing the data into specific categories, breaking it down into units of information, synthesizing it, forming patterns, and selecting relevant and important information for further analysis. The goal is to ensure the data can be easily interpreted, both by the researcher and by others. (Firmansyah & Dede, 2022) This data processing and collection technique requires several stages in its implementation.

The data analysis in this study used descriptive statistics, a statistical method that aims to describe or illustrate the data obtained as it is, without the intention of drawing conclusions that can be generalized to a wider population. Descriptive statistics are used when research is conducted on a clearly defined population, or when researchers only want to present data from a sample without making inferences about the original population. However, if the research goal is to draw conclusions that apply to the population as a whole, then the data analysis used must use inferential statistics.

RESULTS AND DISCUSSION

The data description in this study includes the highest score, lowest score, mean score, standard deviation, variance, and frequency distribution of each variable studied. In the initial stage, 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 students demonstrating underhand passing movements one by one in front of the examiner. Data regarding the basic underhand passing skills of Santa Maria 3 High School students were obtained through the implementation of the test, using the underhand passing test instrument from AAHAPER. The steps taken by the researcher began by organizing the collected data, then performing calculations including the average value, standard deviation, and variance. The results of the mastery of underhand passing skills in volleyball are presented in full in the following analysis results table.

Table 1. Descriptive Research Data

Variable	Group	Period	Mean	Standard Deviation
Volleyball underhand pass	Experiment	First Test	13,28125	2,580752
		Final Test	20,21875	2,296342
	Control	First Test	19,96875	1,959005
		Final Test	25,03125	2,117277

In the table above, you can see the results of the initial test of the experimental group of 13.28 and the results of the final test of the experimental group of 20.21 with a standard deviation of the initial test of the experimental group of 2.580725 and a standard deviation of the final test of the experimental group of 2.296342. And the results of the control group average initial test of 19.96 standard deviation of 1.959005, and final test of 25.03 and a standard deviation of 2.117277.

Normality testing

After the average value and standard deviation of each variable are known, the next step is to conduct a normality analysis test. This test is conducted to determine whether the data is normally distributed or not.

Experimental Group Normality Test Table

Table 2. Normality Test of Experimental Groups

One-Sample Kolmogorov-Smirnov Test

			Pretest	Postest
N			32	32
Normal Parameters[a,b]	Mean		13.28	20.22
	Std. Deviation		2.581	2.296
Most Extreme Differences	Absolute		.093	.125
	Positive		.093	.093
	Negative		-.082	-.125
Test Statistic			.093	.125
Asymp. Sig. (2-tailed)[c]			.200[d]	.200[d]
Monte Carlo Sig. (2-tailed)[e]	Sig.		.678	.221
	99% Confidence Interval	Lower Bound	.666	.211
		Upper Bound	.690	.232

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 299883525.

Description:

Data is considered normal if sig (p) > 0.05 and abnormal if sig (p) < 0.05.

Pretest value: p = 0.690 > 0.05, so the data is normal.

Posttest value: p = 0.232 > 0.05, so the data is normal.

Table 3. Normality Test of the Control Group

One-Sample Kolmogorov-Smirnov Test

			pretest	postest
N			33	33
Normal Parameters[a,b]	Mean		13.27	20.27
	Std. Deviation		2.541	2.281
Most Extreme Differences	Absolute		.094	.139
	Positive		.088	.086
	Negative		-.094	-.139
Test Statistic			.094	.139
Asymp. Sig. (2-tailed)[c]			.200[d]	.105
Monte Carlo Sig. (2-tailed)[e]	Sig.		.642	.102
	99% Confidence Interval	Lower Bound	.630	.094
		Upper Bound	.655	.110

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 624387341.

Description:

Data is considered normal if sig (p) > 0.05 and abnormal if sig (p) < 0.05

Initial test value (Pretest) p = 0.655 > 0.05, so the data is normal

Final test (Posttest) p = 0.110 > 0.05, so the data is normal

Homogeneity Testing

After conducting the normality test, the homogeneity test for each variable was performed. The results are as follows:

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Table 4. Homogeneity Test of Experimental Groups

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
pretest	Based on Mean	.000	1	62	1.000
	Based on Median	.000	1	62	1.000
	Based on Median and with adjusted df	.000	1	62.000	1.000
	Based on trimmed mean	.000	1	62	1.000

Table 5. Homogeneity Test of Control Group

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
nilai	Based on Mean	.178	1	64	.674
	Based on Median	.127	1	64	.722
	Based on Median and with adjusted df	.127	1	61.557	.722
	Based on trimmed mean	.168	1	64	.683

Description:

Data is homogeneous if: $p > 0.05$ and non-homogeneous if $p < 0.005$.

$P = 1.000$ and $p = 0.683$ indicate homogeneous data.

Hypothesis Testing (T)

The hypothesis test calculation uses a mean difference test to determine the extent of peer teaching's influence on the underhand passing performance of students at Santa Maria 3 High School, Cimahi. The calculation results are as follows:

Table 6. Hypothesis Testing of 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, statistical tests were used to analyze the data to determine whether there was a significant difference between the pretest and posttest results. If the significance value (2-tailed sig.) is less than 0.05, it indicates a significant difference between the pretest and posttest results. Conversely, if the significance value is greater than 0.05, there is no significant difference. Based on the data processing results, a significance value of 0.000 was obtained, which is less than 0.05. Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. This indicates that the peer teaching learning

model has an effect on the learning outcomes of underhand passing in volleyball for students at Santa Maria 3 High School, Cimahi.

Furthermore, the calculation results show that the calculated t-value of 10.954 is greater than the t-table value of 2.744. Therefore, it can be concluded that H_0 is rejected and H_1 is accepted. This means that there is a significant influence, or in other words, learning with the peer teaching model is able to improve students' underhand passing skills in volleyball games.

Table 7. Control Group Hypothesis Test

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 show a significance value (sig. 2-tailed) of 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 a significant effect of the peer teaching learning model on the learning outcomes of underhand passing in volleyball for students at Santa Maria 3 High School, Cimahi.

Furthermore, the analysis was also conducted by comparing the calculated t-value and the table t-value. If the calculated t-value is greater than the table t-value, then H_0 is rejected and H_1 is accepted, indicating a significant effect or improvement. Conversely, if the calculated t-value is less than the table t-value, then H_0 is accepted and H_1 is rejected, indicating no significant effect.

In this study, the calculated t-value was 11.548 and the table t-value was 3.622. Because the calculated t-value is greater than the table t-value, it can be concluded that H_0 is rejected and H_1 is accepted. This means that there is a significant effect of the implementation of peer teaching on improving the learning outcomes of underhand passing in volleyball for students at Santa Maria 3 High School, Cimahi.

From the results of the hypothesis testing of the effect of peer teaching on learning outcomes of underhand passing in volleyball, where the experimental group's sig value (2-tailed) is 0.000 <0.05, then H0 is rejected, H1 is accepted, indicating the influence of the use of the peer teaching model. For the calculated t and t table: 10.954 > 2.744 t table, then H0 is rejected, H1 is accepted, indicating the influence of the use of the peer teaching model. Meanwhile, from the results of the hypothesis testing of the effect of the use of peer teaching on learning outcomes of underhand passing in volleyball, where the control group's sig value, then Ho is rejected, Hi is accepted for the use of peer teaching. For the

calculated t and t table, H0 is rejected, H1 is accepted, indicating the influence of the use of the peer teaching model.

CONCLUSION

In conclusion, based on the analysis results above, the experimental group had a significant influence over the control group, as evidenced by the calculated t-value of 10.954 for the experimental group and 11.548 for the control group.

This study demonstrates that the implementation of the peer teaching learning model has a positive impact on improving learning outcomes in underhand passing techniques among students at Santa Maria 3 High School, Cimahi. This demonstrates that peer teaching can be an effective learning method in physical education, particularly for improving student understanding and skills.

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