



Efforts to Improve The Learning Outcomes Of Class XI Students' Smashes Through Plyometric Training

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Authors' contribution: A) Conception and design of the study; B) Acquisition of data; C) Analysis and interpretation of data; D) Manuscript preparation; E) Obtaining funding

ABSTRACT

This study aims to determine the effect of Plyometric Exercise on the smash learning outcomes of class XI students of SMK NEGERI 1 Ciamis. This research method is a quantitative method with experiments, using a pre-test-post-test group research design. The population in this study was male students of class XI SMK NEGERI 1 Ciamis 30, the sampling technique applied in this study was purposive sampling. The instrument used in the smash test research. The results of the statistical hypothesis t test. From the calculation of the two pre-test and post-test data, the t-count is 3.89 and with n17 and a significance level of 0.05, from the list of tables attached, the t-table is 2.11. If compared, it can be seen that the value of t count ($3.89 > 2.11$) t table, then H_0 is rejected. With the rejection of H_0 , it is concluded that there is an effect of Plyometric Exercise on the smash learning outcomes of class XI students of SMK NEGERI 1 Ciamis.

ARTICLE HISTORY

Received: May, 2024

Accepted: June, 2024

Publish: July, 2024

KEYWORDS

Plyometric Exercise;
Volleyball;
Smash

How to Cite : Nurdiansyah, D., Firmana, I., Rahman, R., & Agustan, B. (2024). Efforts to Improve The Learning Outcomes Of Class XI Students' Smashes Through Plyometric Training. *Journal RESPECS (Research Physical Education and Sport* 6(1), 327-331. <https://doi.org/10.31949/respecs.v6i3.12046>

INTRODUCTION

Volleyball is fundamentally a game where the ball is volleyed (to volley) using hands or arms by two teams playing on a court of specific dimensions. The court is divided into two equal parts by a net or string stretched at a specific height. A player is not allowed to hit the ball twice consecutively, and a team can make up to three touches on their side of the court before trying to land the ball in the opponent's court or prevent the opponent from playing the ball effectively. The game begins with a service hit from the service area. The basic rule is that the ball must be struck with the hand, arm, or front part of the body. The ball must cross to the opponent's court over the net. The basic volleyball techniques include serving, passing, setting, spiking, blocking, and receiving.

Recreational Sports, derived from the Latin word re-create, meaning "to recreate," refers to activities aimed at refreshing one's physical and mental state. It encompasses actions outside of work, often involving sports, games, or hobbies, typically undertaken on



weekends. Recreational activities can generally be divided into two categories: indoor recreation and outdoor recreation. Terminologically, "recreation" derives from the words re and creation, meaning "to use one's mental capacity again to achieve enjoyment or satisfaction through activities." Webster's Dictionary defines recreation as "a means of refreshment or diversion."

Mastering fundamental techniques is crucial in sports for achieving success. In volleyball, one of the essential techniques is spiking, which is an attacking technique performed close to or far from the net. Spiking involves a series of complex movements, including preparation steps, a jump, hitting the ball mid-air, and landing. A good volleyball player requires strong physical ability, particularly in executing the spike. The movements involve preparation steps, jumping, hitting the ball in the air, and landing. Achieving optimal performance in volleyball requires correct, continuous, and well-structured training, as improper and unplanned training may lead to suboptimal performance.

Based on observations conducted from February 10 to 16, 2024, the issue identified in teaching volleyball, specifically spiking, at SMK NEGERI 1 Ciamis, is that students have not fully understood the correct movements. Before conducting the study, the researcher observed the students directly on the field. It was found that the students demonstrated varying levels of ability in the spiking technique, particularly in the jumping phase. During both training and matches, some students exhibited weak jumping ability, while others performed well. However, many students struggle with jumping, which is critical for delivering a strong and accurate spike.

Jumping ability is essential in volleyball to ensure that the spike lands in the opponent's court accurately. Unfortunately, students at SMK NEGERI 1 Ciamis have not fully maximized their jumping ability in the spiking technique. Considering the importance of plyometric exercises in improving performance, this study aims to investigate the influence of plyometric training on students' learning outcomes in spiking in volleyball for Grade XI students at SMK NEGERI 1 Ciamis.

MATERIALS AND METHODS

The research method used in this study is the pre-experimental method. In order to achieve these objectives, the author in this study, used an experimental design, namely Pre-test-Post-test Group Design. The population in this study were 30 students of class XI of SMK Negeri 1 Ciamis. From the population, all became research samples, so the researcher used total sampling.

RESULTS AND DISCUSSION

From the calculation of pre-test data, the post-test obtained L count of 0.077. with n 17 and a real level of 0.05, from the attached table list, the L table was obtained 0.206 which is larger than the post-test ($L \text{ count} < L \text{ table}$) then from the L count it can be concluded that it is distributed "normally". This proves that from the results of the calculation of pre-test data, the L count was obtained 0.056 and the post-test obtained L count 0.077. with n 17 and a real level of 0.05, from the attached table list, the L table was obtained 0.206 which is larger than the L count of the pre-test and post-test ($L \text{ count} < L \text{ table}$) then from both L counts it can be concluded that it is distributed "normally". For more details, the smash skills in volleyball games in male students of Class XI SMK Negeri 1 Ciamis, the results of the calculation of the normality test for the pre-test and post-test, the author presents in the following table:

Table 1. Normality test for the pre-test and post-test

No	Sampel	L _{count}	df	L _{table}	Criteria
1	<i>Pre test</i>	0,056	17	0,206	Normal
2	<i>Post test</i>	0,077	17	0,206	Normal

To determine the effect of further training, a hypothesis test was conducted and the results showed that there was an effect of plyometric training on smash results in volleyball games for male students of Class XI of SMK Negeri 1 Ciamis at a confidence level (α) of 0.05. This was proven by the calculation of statistical tests of pre-test and post-test data on smash test results for male volleyball extracurricular participants with the t-test. To see the descriptive percentage of t-test data for each smash test, see the table below:

Table 2. Descriptive percentage of t-test data for each smash test

No	Sampel	Means	df	T _{count}	T _{table}	Criteria
1	<i>Pre test</i>	50	17	3,89	2,11	There is an influence
2	<i>Post test</i>	57	17			

From the calculation of both pre-test and post-test data obtained t count 3.89 and with n 17 and a real level of 0.05, from the attached table list obtained t table 2.11. When compared, it can be seen the value of t count ($3.89 > 2.11$) t table then H_0 is rejected. With the rejection of H_0 it is concluded that there is an effect of plyometric training on smash results in male students of Class XI SMK Negeri 1 Ciamis.

Based on the results of data processing the effect of plyometric training on smash results in volleyball games for male students of Class XI SMK Negeri 1 Ciamis. The author draws the following conclusions: Hypothesis There is an Effect of Plyometric Training on Smash Results in Volleyball Games for Male Students of Class XI SMK Negeri 1 Ciamis. Why does plyometric training affect smash results because it is the most effective method for developing explosive power abilities.

When muscles are pulled, it develops elastic strength. This is not a metabolic process, it is purely physical. Plyometric training is one form of training that is very good at helping to increase explosive power. It can even be a useful exercise to increase the highest push in basic smash movements because in basic smash techniques the highest push is needed so that directing a hit can be directed properly.

The above is proven based on the results of the t-test statistics From the calculation of both pre-test and post-test data obtained t count 3.89 and with n 17 and a real level of 0.05, from the attached table list obtained t table 2.11. When compared, it can be seen that the t count value ($3.89 > 2.11$) t table then H_0 is rejected. With the rejection of H_0 it is concluded that there is an effect of plyometric training on smash results in male students of Class XI of SMK Negeri 1 Ciamis.

CONCLUSION

Based on the results of data processing on the effect of plyometric training on smash results in volleyball games for male students of Class XI of SMK Negeri 1 Ciamis. The author draws the following conclusions: "There is an effect of plyometric training on smash results for male students of Class XI of SMK Negeri 1 Ciamis". The above is proven based on the results of the t-test statistics. From the calculation of both pre-test and post-test data obtained t count 3.89 and with n 17 and a real level of 0.05, from the attached table list obtained t

table 2.11. When compared, it can be seen that the t count value ($3.89 > 2.11$) t table then H_0 is rejected. With the rejection of H_0 it is concluded that there is an effect of plyometric training on smash results for male students of Class XI of SMK Negeri 1 Ciamis.

ACKNOWLEDGMENT (optional)

This article does not contain any assistance from any party.

CONFLICT OF INTEREST

There are no conflicts of interest in this article.

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