Journal of Information Systems Engineering and Management
2025, 10(55s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Volley Ball Media for Spike Accuracy on Physical Education Learning

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ARTICLE INFO

Received: 18 Dec 2024

Revised: 10 Feb 2025

Accepted: 28 Feb 2025

ABSTRACT

Introduction: Volleyball is a sport with quite high intensity, characterized by techniques such as serving, passing, underpassing and blocking. One of the most important techniques in volleyball is the smash technique. However, the implementation of the training carried out by the student still found several obstacles, there were several athletes who were not able to smash on target.

Objectives: The aim of this research was to determine the effect of training using a hanging ball media on the accuracy of volleyball smashes by students.

Methods: This research is a pre-experiment design research using a one group design pretest and posttest. The instrument in this research uses an accuracy test in performing a smash using a hanging ball. The number of samples used was 20 students. Data analysis used to determine the effect of smash accuracy used a paired sample t-test with analysis prerequisite tests in the form of a data normality test and homogeneity test calculated using SPSS version 26

Results: The results of the research showed that there was a significant influence on training using a hanging ball on smash accuracy. marked by a posttest score of 80% in the fair category and 20% not good, compared to the previous pretest score of 80% in the very bad category and 20% not good. This result was also strengthened by the paired sample t-test which showed a significance value of 0.000 where ($p<0.05$).

Conclusions: The conclusion of this research is that there is an influence of training using a hanging ball on the accuracy of volleyball smashes by students. In addition to the ball hitting training pattern given by the coach, athletes are expected to carry out smash training independently, in order to improve smash accuracy.
Keywords: Volleyball, Media

INTRODUCTION

Sports are physical activities in a game or competition. Sport is an inseparable part of human life. Regular exercise will really help people to achieve physical and spiritual health. Sport can also be a tool to unite the nation, because it does not look at differences in class, race and ethnicity. Each individual has different physical abilities. To achieve the desired physical abilities, all of this requires a process and help from coaches or sports teachers. Sport is a physical training activity, namely physical activity to enrich and improve basic movement abilities and skills as well as movement skills (sports branches). This activity is a form of approach to aspects of physical health, namely active health, namely health that accompanies mobility to meet all mobility needs in everyday life. This means that every person who carries out physical education through sports activities will have a sufficient level of fitness [1]

Volleyball is a sport that has helped enliven sports in Indonesia and the world. This volleyball sport has also stolen the hearts of many fans [2]

Volleyball is a game where the ball is bounced (volleyed) in the air back and forth over a net, with the aim of dropping the ball into the opponent's field to win. Volleying or bouncing the ball into the air can use all body parts or parts of the body from toe to head with perfect reflection [3]. Volleyball is an intense anaerobic sport that combines explosive movements, namely, in the vertical direction and in the horizontal direction with short recovery periods [4] .

The game of volleyball has several basic techniques that must be mastered in order to play volleyball well [5]. Volleyball is characterized by several techniques, namely serving, passing, underpassing and blocking. Mastering the

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basic techniques requires continuous practice until you really master the basic volleyball techniques. Therefore, mastery of volleyball skills is the main requirement. explains that techniques in playing volleyball include serving, passing, blocking and smashing [6]. A sport that is very popular with the public, volleyball has its own market. This sport has entered society, both rural and urban residents, men and women. Learning volleyball in schools and communities has become popular, this sport has become one of the mandatory sports as a means of socializing in society.

The basic movements in volleyball are throwing, jumping, walking. Then progress to serving (with hand eye coordination throwing one hand and hitting one hand). Serve consists of bottom serve and top serve. The bottom serve is done by hitting the ball from the bottom up, while the top serve is hitting the ball above the head. The next basic throwing motion technique development is bait, smash, and block. Baiting is basically the movement of throwing the ball up to give it to teammates to make it easier to attack. Smash is a movement that is almost the same as a serve but is done on the attack line or behind the attack line which functions to kill the opponent. In this game there are movements that are done repeatedly.

A very important technique to help neutralize your opponent is the slam technique. The smash technique is basically based on throwing the ball as hard as possible so that the ball goes over the net and into the opponent's court. The throw is the basic movement of the smash. In order for the two to be connected, just like throwing requires strength, especially in the muscles, such as leg strength to jump as high as possible to achieve maximum reach, hand and arm strength to get maximum smash. Researchers conducted research using Standing ball aids with the aim of measuring the accuracy of smashes so that using Standing ball aids helped smash hits hit the target. The technique taken by the researcher is the basic smash technique, because based on the observations made by the researcher there are still many athletes who have not mastered the basic smash technique, especially in the accuracy of doing the smash. The problem that arises is the lack of mastery of athletes, especially in carrying out basic smash techniques correctly, so researchers conducted research using Standing ball aids to help athletes master basic smash techniques correctly.

OBJECTIVES

Identification of the problems in this study included 1) The students can not applycating spike technique on volleyball learning , 2) The need for media to students for spike learning on volleyball. The formulation of the problem in this study is how is media Standing Ball can help the students to increase apike on volleyball learning?

The specific objective of this study is to increase spike volleyball the student by standing media. It is hoped that students will be helped to performed the technique well. The urgency of this research is that Physical Education learning, especially in the Volleyball scope, becomes more effective and efficient in accuracy spike volleyball.

METHODS

This type of research uses "Pre Experiment Design" research, which is research that uses a one group pretest and posttest design carried out on one group without using a comparison group. Observations using this design were carried out twice in the research, namely before the experiment and after the experiment. Observations made before the experiment (X1) are called pretest and (X2) are called posttest, namely observations made after treatment has been given. The design of this research can be described as follows:

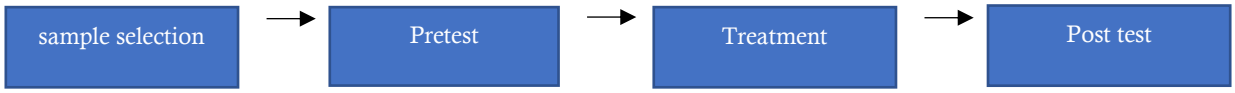

Figure 1. Research Design

The research design image used above is a sequence of research that the researcher will carry out in this research, namely determining the population and sample first, after that the researcher must carry out an initial test (pretest) on the sample, provide treatment with smash accuracy training in volleyball using a Standing ball. After the samples were given treatment for 16 meetings in 1 month, a final test (posttest) was then carried out, so that researchers could find out the results of the treatment given.

The variables used in this research are the Independent Variable and the Dependent Variable. Independent Variable (Independent Variable), is a variable that influences or is the cause of changes or emergence of the dependent

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(dependent) variable. In research related to students. Dependent Variable is a variable that depends on other variables.

Population and Sample

Population is all values, both the results of calculations and measurements, both qualitative and quantitative, of certain characteristics regarding a complete and clear group of objects [7]. It can be concluded in general that a population is a collection of individuals who will be studied within a certain time limit. The population in this study was 20 students, with a minimum age criterion of 17 years and a maximum of 20 years.

The sample in this study was the number of students, where in total there were 20 students.

In this study, researchers used all samples in the control group and treatment group, where subjects in the control group also acted as subjects in the treatment group. This explains that the subjects in the control group and the treatment group are the same person. The sample in this study was the entire population of students, totaling 20 people with a training frequency of 16 meetings.

Research Instruments

Instruments are tools to collect data or information [8] Research instruments are tools used as a tool to collect data in research. Research instruments are usually used to conduct research such as tests, questionnaires, interview guides and observation guides which function to make it easier to collect data in research and measuring instruments which function to measure research variables.

The research instrument used in this research is a test, namely a test of accuracy in executing a smash using a Standing Ball. The test using a Standing Ball is a test method used to measure the accuracy of hitting a smash. The purpose of the Standing ball test is to measure the accuracy of your smash hitting ability.

This treatment was carried out by researchers in 16 meetings, 4 times a week during the program implementation. The training program was carried out in 16 meetings, after which a final test was carried out, namely smash accuracy. The final test or posttest aims to find out the results of the athletes' achievements after being given treatment. In this research, an instrument was used, namely the smash test tool. The following is an explanation regarding the instruments used in this research:

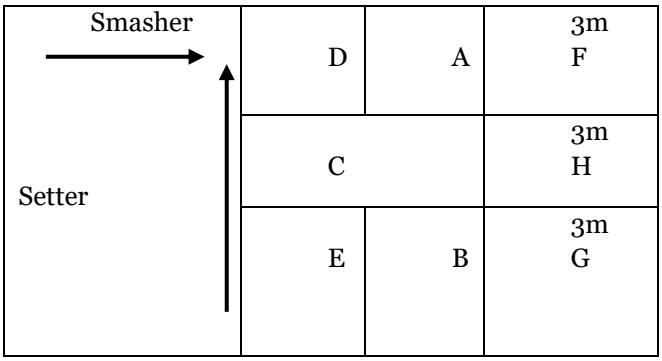

Figure 2. Smash accuracy instrument
Suharno (Elfiah, 2015, p. 15)[11]

Information :

A to H	: Smash target square
⟶	: Smash from position
Smash target tile value:	
A, B, F, and G	: Score 10
H	: Value 5
D and E	: Value 3
C	: Value 1

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The smash taken in this study is a normal smash (open smash), the smash process starts from the initial attitude, the execution movement and the follow-up movement is the same as the process of implementing smash in general. Explanation of the test: the ball is high enough to reach 3 meters and above and the distance of the ball to be passed ranges from 20 to 50 cm from the net, the initial step begins after releasing from the passer's hand with a concentrated view of the ball, grabbing and hitting the ball as high as possible on the net.

The implementation of this test is that each subject does a normal open smash in front of 10 opportunities in turn. The subject is in an attacking position (position 4) then throws the ball towards a set-uper that only numbers one person without changing because it gives the same effect to each smash. Then from the 10 smash opportunities, the total score obtained from the results of the accuracy of the smash on the target square that has been created (see image above). The smash that counts is the smash that hits the target. If the ball goes off the field or is in the net, it does not count or the score is 0 [9].

Data Analysis Techniques

The data processing and data analysis techniques in this study used a quantitative method in the form of numbers from the field, by calculating the results of the accuracy of the smash hit of the volleyball students. In this research, the researcher uses the help of a computerized calculation technique, namely SPSS (Statistical Product and Service Solution), because using this program can make the work easier. This program has quite high statistical analysis capabilities, as well as a data management system in a graphical environment using descriptive menus and simple dialog boxes, so that the operation can be easily understood [10]. This study focuses on the variable part through statistics using the t-test formula and the paried sample t-test with the help of SPSS [11]

RESULTS

Pretest and Posttest Data The results of the exercise using Standing Ball regarding the data of the research subjects, it is known that in this study the average age of the subjects is 16 years old which amounts to 20 subjects. Meanwhile, the average weight and height were 55.65 kg and 166 cm. The results of the pretest of the practice using the Standing Ball obtained an average value of 17.35 with a standard deviation of 3.18, the practice using the lowest Standing ball was 13 and the highest was 25. Meanwhile, the average posttest score was 43.83 with a standard deviation of 3.98, the lowest practice using a Standing Ball was 37.80 and the highest was 51.60. Based on the table above, it shows that from 20 subjects, 15 volleyball athletes experienced a significant increase by being included in the sufficient category, while 5 volleyball athletes were still in the not good category.

Table 1.

Significant influence of smash accuracy training using Standing Ball

Mean	16	55,65/166	17,35	43,83
Min	13	49/160	13	37,80
Max	18	60/174	25	51,60
Std. Dev	1,05	3,48/3,97	3,18	3,98

DISCUSSION

Volleyball is a sport that is very popular and popular among children, teenagers, adults, as well as older men and women. The popularity of this game is clear because it requires a variety of movement scenes and sophisticated techniques to play volleyball well [12]. Volleyball is a team sport involving high intensity, intermittent bouts of varying activity, punctuated by longer recovery periods. These repetitive, high-intensity matches involve maximum acceleration, jumping and changing movements to successfully receive, block and spike the ball during the game. In addition, the ability to maintain endurance over long match durations is very important for volleyball performance [13].

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One of the most important techniques in volleyball is the smash technique. This smash technique is basically based on when throwing the ball the skill may go over the net and into the opponent's area. The basic motion of a smash is throwing. This is related to the strength of several muscle parts, such as muscle strength to jump as high as possible, hand and arm muscle strength to achieve short and explosive movements towards the opponent through Standing ball training which is directly related to the player's performance when carrying out service and defense movements. volleyball game [14].

Based on the results of this research, it shows that the pretest and posttest values in calculating the data normality test each obtained values of 0.398 and 0.483. This proves that the significance value ($p>0.05$) of the data is normally distributed, so it is necessary to carry out homogeneity using the Levene test. The homogeneity test using Levene's test obtained a significance value of 1.653 ($p>0.05$) so that the pretest and posttest groups were homogeneous. The results of this research are also related to research [15] which shows that training using a standing ball can be applied in studying smash accuracy abilities.

In this study, training using a Standing Ball was carried out 16 times, the training was posttest data from an average of 4 times a week for 4 weeks. These results show a significant increase, marked by the initial pretest score of 80% of volleyball athletes being in the very poor category, while 20% of volleyball athletes are classified as not good. While the posttest results showed that 80% of volleyball athletes were in the fair category, 20% were in the not good category. This research is in line with that providing training using Standing ball can improve students' ability to play volleyball [16].

Based on the results of the Paired Sample T-Test, the pretest and posttest values from training using Standing ball obtained a significance value of 0.000 where the significance value was ($p<0.05$) so that H0 was rejected, which means there was an influence of training using Standing Ball on the accuracy of volleyball smashes. This happens because training using a Standing Ball can affect the accuracy of smashes in a volleyball game. This is indicated by the hands becoming more elastic and the mass acting on the ball can be adjusted based on the volleyball athlete's muscle strength. Apart from that, the body will break down the strength of the hand to strength. structured leg muscles with maximum speed [17].

This training process must be trained to improve existing techniques. During the jump technique, the momentum of the speed mass from the hand is transferred to the working muscle ball, which will increase the precision and elastic properties of the hand [18]. ree The results of this study also show that training is important to improve smash accuracy in volleyball athletes. Smash skills can be trained using a form of Standing Ball training which has been proven to be effective in improving smash accuracy. Proper Standing ball training and a training program tailored to the athlete's needs will increase the chances of getting the right smash shot. This is also influenced by the use of a Standing ball as a training medium to make it easier for athletes to play volleyball, so that it is easier for athletes to control the ball and helps athletes to master basic skills. Thus, training using the ball plays an important role in improving smash accuracy. The advantage of the research carried out by researchers is that no one has conducted research using Standing Ball aids. The weakness in this research is that there is no Standing Ball tool used for research, so the researchers took the initiative to make a tool at a less affordable price.

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