The Effect of Curl Dumble Training On Students 'Ability In Doing Volleyball Smash

Hariki Fitrah[a*], Novitasari Agus Saputri[b], Riyo Riyadi[c], M. F. Hadi Kusuma[d], [a]Departement Geography Education. Faculty of Teaching and Educational Sciences, Al Muslim University, Aceh, Indonesia, [b]Department of Accounting Faculty of Economic and Bussines, University of Muhammadiyah Malang, Indonesia, [c]Departement of Economic Education FKIP Universitas Mulawarman, Samarinda, Indonesia, [d] Department of economic education, STKIP Majenang, Cilacap, Indonesia. Corresponding author: hilmy@unugiri.ac.id

Volleyball games require special techniques, especially when smashing. Smash will be very difficult to do by people who are not professional, in this case extracurricular students. Therefore, it is necessary to provide an appropriate training system, one of which is curl dumble training. This study was conducted to determine the effect of the application of curl dumble training on students' smash abilities when playing volleyball. The method used is one group design pretest and posttest. The data in this study were obtained from pretest scores and posttest scores when students smash. The data were then analyzed by T-test. The results of the data analysis showed that the curl dumble exercise affected students' smash abilities. This is reinforced from the results of hypothesis testing where the calculated T value (34.00)> T table value (1.70). In addition, the average posttest score (16.61) is also better than the pretest score (10.25). Thus, the curl dumble training method can be used as one of the training methods to improve the smash ability in volleyball games.

Keywords : *Volleyball, Curl Dumble Exercise, Smash Volleyball*

Introduction

Volleyball is a branch of the big ball game played by two opposing teams in a field and limited by the net between teams (Duncan, Woodfield, Al-Nakeeb, 2006; Sutanto, 2016). Each team consists of six players. This sport is played by bouncing the ball from hand to hand and the ball is attempted to be dropped into the area of the opposing team (Kasablis, Douda, and Tokmakidis, 2005). Opposing team that cannot return the ball to the territory of the opposing team will be deemed to lose the game and lose points.

Volleyball games in general can be played by all levels of society, both from government agencies, the private sector, and even the community environment ranging from children, adults, men and women. Volleyball starts with the ball in service for the direction of the opposing team's territory by passing the ball over the net. The ball is taken using both hands then the ball is given to the feeder and the feeder bounces the ball to the net then the ball is

directly smashed towards the opponent's field to become points. Simultaneously the opposing team will do the dam so that the ball does not cross the field. In volleyball games, of course, players must have good skills so that they can achieve maximum performance. To have special skills, the players can not be separated from efforts to practice, both physical and technical training (Gabett and Georgieff, 2007; Afonso, Esteves, Araujo, Thomas, & Mesquita, 2012).

This research was carried out in a volleyball extracurricular activity program in a school in the city of Bojonegoro, Indonesia. Based on the results of preliminary observations, not all volleyball extracurricular participants can smash perfectly. In addition, the position of the hand when hitting the ball is still not right, so the smash is only done to pass the ball that was hit on the net. This is due to the lack of contribution to the strength of the student's arm muscles so that the ball is hit not hard, not sharp, and slow. Therefore, as an effort to improve the accuracy and speed of the ball when it is hit is to use the curl dumble training method. This exercise is more flexible and can almost be used in the formation of every muscle, especially the arm muscle, can be used from the formation of the upper muscles to the lower muscles (Halliday, Resnick, and Walker, 2011; Lawrence, Kumar, and Mamata, 2002). In addition, curl dumble exercises can be done with a variety of variations, such as sitting, standing and lying so that a lot of muscles in the arms are trained. Thus, it is expected that the curl dumble practice can increase the strength of the arm muscles so that it can further support the player in doing a smash shot well in volleyball games. This assumption is in line with the results of Saman's research (2017) that curl dumble training has a significant influence on the ability to smash in volleyball.

Research Method

The design in this study used a pretest-posttest one design group experiment. Pretest-posttest design group is a design that provides pretest before being given treatment (Borg and Gall, 1983; Sugiyono, 2011; Arikunto, 2015). The data collection technique in this study was the volleyball smash test. And data analysis was performed using T-Test. The samples in this study were taken using saturated sampling techniques. Saturated sampling is a sampling technique when all populations are used as samples (Sugiyono, 2011). This is often done if the population is small (less than 30). Thus, the entire population is sampled with 28 people.

Results and Discussion

Smash is done 5 times for each student during volleyball extracurricular activities. The assessment consists of two inseparable parts, the target number plus the time of the ball's running speed. The test result data obtained the highest score of 135.3 and the lowest score was 72.9. So the range of the test results is 62.4.

Table 1 Frequency Distribution of Pretest Scores

Interval Class	Absolute Frequency	Relative Frequency (%)
72.9 – 83.3	6	21.43
83.4 – 93.8	4	14.29
93.9 – 104.3	9	32.14
104.4 – 114.8	2	7.14
114.9 – 125.3	5	17.86
125.4 – 135.8	2	7.14
Total	28	100.00

Table 1 shows that there were six students (21.43%) who scored at intervals of 72.9 – 83.3; four students (14.29%) received scores at intervals of 83.4 –93.8, nine students (32.14%) at intervals of 94.9 –104.3; two students (7.14%) at intervals 104.4 –114.8; five students (17.86%) at intervals of 114.9 –125.4; and two students (7.14%) at intervals of 125.4 –135.8. To see the distribution of scores can be seen in Figure 1.

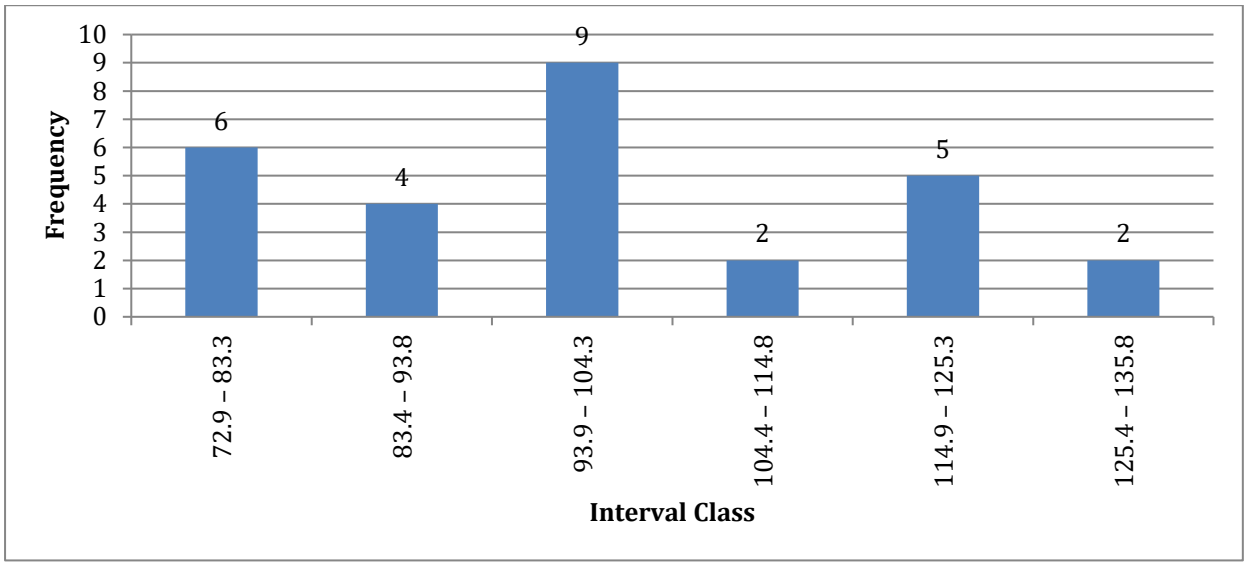

Figure 2 Volleyball Pretest Smash Score

The volleyball posttest smash results obtained the highest score of 134.0 and the smallest score of 63.9, so the range of the test results is 70.1. The calculation is the same as in the pretest data, so the results obtained in Table 2.

Table 2 Posttest Smash Volleyball Frequency Distribution

Interval Class	Absolute Frequency	Relative Frequency (%)
63.9 – 75.5	3	10.71
75.6 – 87.2	6	21.43
87.3 – 98.9	4	14.29
99.0 – 110.6	6	21.43
110.7 – 122.3	5	17.86
122.4 – 134.0	4	14.29
Total	28	100.00

Table 2 shows that there were three students (10.71%) who scored at intervals of 63.9 - 75.5; six students (21.43%) get scores at intervals of 75.6 -87.2; four students (14.29%) at intervals of 87.3 -98.8; six students (21.43%) at intervals of 99.0-110.6; five students (17.86%) at intervals 110.7 –122.3; and four students (14.29%) at intervals of 122.4 –134.0. For more details about the distribution of scores can be seen in Figure 2.

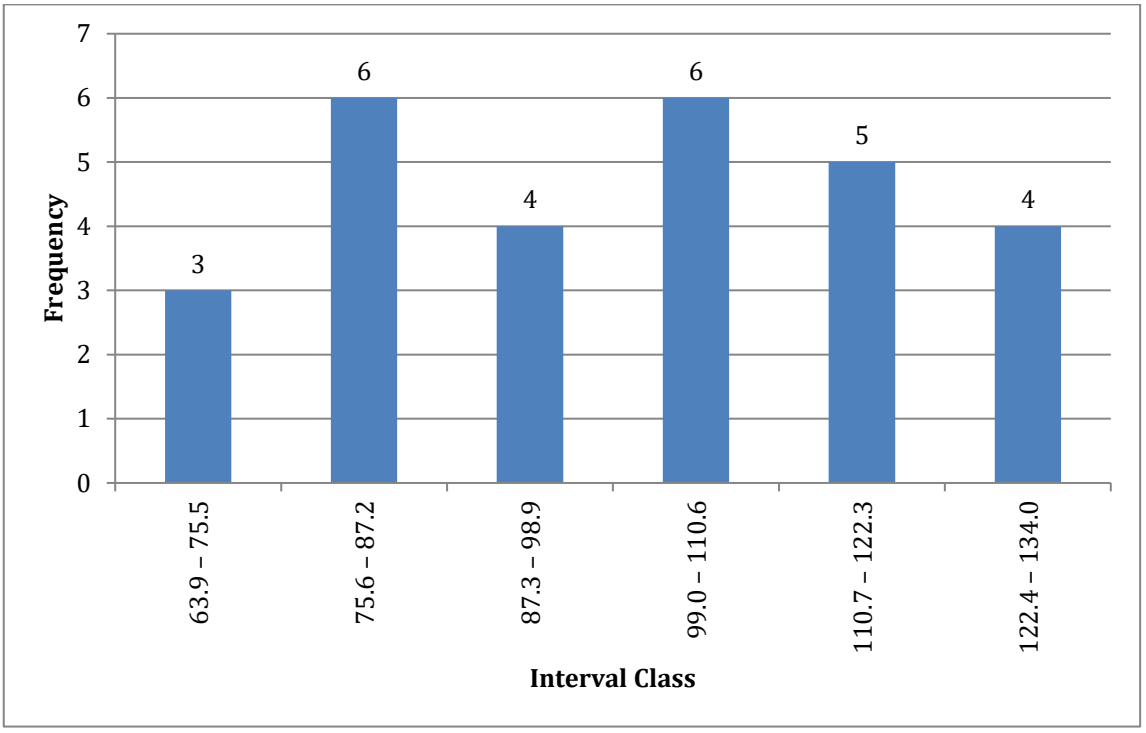

Figure 2 Volleyball Posttest Smash Score

Data analysis in this study includes the normality test and hypothesis testing using the T test. The data normality test is a requirement that must be met before testing the hypothesis. The data tested are the results of students' pretest and posttest smash semi volleyball using the Liliefors test, the results of which can be seen in the following table.

Table 3 Data Normality Test Results

Test	N	L_{count}	L_{table}
Pretest	28	34.00	1.70
Posttest	28		

Table 3 shows the L-count pretest value of 0.1072 and Lhtest posttest of 0.0985. While the L table with N = 28 is 0.1674. Based on normality testing criteria, the calculated L value <table L value is stated. Thus, the pretest and posttest smash data on volleyball games are normally distributed. After the data is stated to be normally distributed, then the hypothesis test is then performed using the T-Test. The results of the hypothesis testing are presented in Table 4. Table 4 states that T calculated > T table.

Based on the analysis of the data that has been described, it can be seen that the curl dumble exercise has been given to students based on the principles of training, namely readiness, individual, overload, improvement, specificity, variation, heating, cooling, long-term training, multilateral, and the principle of participation actively practicing (Burhaein, 2017; Fox, Bowers, and Fons, 1993). In addition, students also take the exercise seriously, in the sense of actually following the training according to the directions of the author. Although the physical condition, especially the curl dumble, is a top priority when participating in training. Curl dumble exercises can be done properly and correctly according to the direction of the author.

This can be seen from the activities of students when practicing in every meeting, they are always serious in following the exercises given.

Curl dumble training is an exercise that uses dumble or weights as a training tool (Saman, 2017). This exercise is carried out with the aim of developing the dynamic ability of local extension and flexion of the arm, shoulder and back muscles as well as increasing the explosive power in the shoulder arm muscles.

Based on the results of the study, it was stated that the average post-test smash volleyball (16.61) is better than the pretest (10.25). While the results of the normality test stated that the data were normally distributed, and the homogeneity test of the data was declared homogeneous. Furthermore, hypothesis testing can be done using the T test. Hypothesis testing criteria accept Ho if T arithmetic <T table and reject Ho if T arithmetic> T table where t table is obtained from the distribution table t with dk = n -1. For T count, the value of 34.00 is obtained, while for t table the value is 1.70. So T arithmetic> T table, then Ho is rejected, it means that there is an effect of curl dumble training on the results of student smashes. The influence is consistent that exercise is a systematic process using movements aimed at improving or maintaining the quality of bodily functions which include the quality of lung-heart endurance, muscle strength and endurance, flexibility, and body composition (Saman, 2017; Inkinen, Hayrinen, & Linnamo, 2013). The results of this study are also in line with a study conducted by Saman (2017) that curl dumble training affects the ability to smash on a volleyball game of students.

Conclusion

Based on the analysis of research data, it can be said that there is a significant influence on the curl dumble method training on students' smash abilities. This is based on the results of the analysis using the T Test, where the calculated T value obtained is greater than the T table value. In addition, judging from the average score on volleyball posttest smash is also better than the average score of the pretest. Thus, it can be said that the curl dumble method exercise can be used to improve the volleyball smash ability. However, there needs to be more research into how much influence this exercise has on the ability to destroy.

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