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## The influence of the volley ball serve training methods to the overhand serve skills from gender consideration (An experiment research using the near target to far target and the far target to nearer target for volley ball extracurricular students of SMP N 2 Adipala)

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### Abstract

This research is aimed at finding out: 1. The influence of using the near target to further target and the far target to nearer target to the volley ball overhand serve skill of SMP N 2 Adipala volley ball extracurricular students. 2. The gender influence to the volley ball overhand serve skill. 3. The interactions between service training and the gender to the volley ball overhand serve skill.

This research used experimental method. The population of this research were 45 volley ball extracurricular students of SMP N 2 Adipala. The purposive random sampling was used in this research. It took 40 students according to the gender that classified into two groups, males and females. The samples of this research were 20 males students and 20 females students. The data collection technique used in this research were tests and measurements. The data that was collected was volley ball overhand serve according to Nurhasan and Hasanuddin (2007). The data analysis technique was ANAVA 2x2 and Newman Keuls test.

The result of this research are: (1) There was a different influence between using the near target to the further target and the far target to the nearer target to the volley ball overhand serve skill of SMP N 2 Adipala volley ball extracurricular students.  $F_{count} = 12.457$  higher than  $F_{table} = 4.11$  ( $F_0 > F_t$ ) on 5% of significance level. (2) There was significance difference to the overhand serve skill improvement of male students and female students.  $F_{count} = 20.593$  higher than  $F_{table} = 4.11$  ( $F_0 > F_t$ ) on 5% of significance level. (3) There was an interaction between volley ball overhand serve training and gender to the volley ball overhand serve skill.  $F_{count} = 4.484$  higher than  $F_{table} = 4.11$  ( $F_0 > F_t$ ) on 5% of significance level.

**Keywords:** Overhand serve skill, gender, target

### Introduction

Mastering the fundamental techniques of volleyball is one of needs to play volleyball well either individually or as a team. There are servings, passing, smashing and blocking as the fundamental techniques in the volleyball. Serving has the important role in a volleyball game. It can influence the whole game so that improving serving skills is needed by doing the good and appropriate trainings. The volleyball serve is divided into two types those are overhand serve and underhand serve. The overhand serve is serving over the ball into the opposing volleyball team's court by tossing the ball with one hand up above the head, whereas the underhand serve is the type of serve in which the player swing the fist about waist high and strike the ball from the bottom to put it in a play. As the volleyball development goes by, overhand serve take important roles as the offensive weapon and the first chance to score a point in the rally point system. Improving overhand serve skill of the beginner (junior high school students) should be done systematically and continuously.

It's not an easy thing to train the overhand serve to the beginners (junior high school students) because they generally do not understand how to do the serve effectively. They tend to simply hit the ball powerfully so that the ball can pass through the net without considering the serve's effectiveness and difficulty. To improve their overhand serve need the good and appropriate training based on their conditions.

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The most important thing has to be highlighted in the volleyball overhand serve training is that improved on the ball directing skills. According to Kliemen and Kruber (1990:67) <sup>[4]</sup> “the way to improve on the ball directing skill volleyball is by using the target”. The volleyball overhand serve can be trained by using drill method. (Nana Sudjana, 2011) <sup>[2]</sup> States that drill method is doing the same activity constantly and continuously in order to strengthen or make perfect a skill permanently.

Based on the explanation above, the volleyball overhand serve training can be done by using the near to far range of target and the far to near range of target. Those trainings have the benefits and lack so that it has not known about the influences to the volleyball overhand serve skill improvement yet because it is not only influenced by the kind of training from the teacher, but the individual factor is really dominant to master the volleyball overhand serve. This individual factor is various, such as the students’ spirit to do the training, their good physical condition, their mental and etc. The good physical condition is the important thing contributes to master the overhand serve fundamentals techniques. Sudjarwo (1993:41) <sup>[3]</sup> states that “the relationship between the physical ability and techniques cannot be apart”. The good techniques mastering only can be done if it supported by the good physical condition”. The power produced by males is stronger than females do in a general way.

To do a good overhand serve movements need the big power so that it will produce the success serves. In consideration of the overhand serve movements, the power plays from throwing up the ball then swing the arm to hit the ball to the wanted target. Gender is not the only factor that influences the overhand serve skill. There are techniques, mental condition, physical condition etc. Placing the overhand serve ball quickly and near the net is good so that it will cause a trouble for the opposite team to pass back the ball. The requirements needed in doing the good volleyball overhand serve are power, speed and accuracy. Gender in a general way related to the power that is one of the requirements to do the overhand serve. Power is needed when we do the overhand serve to serve over the ball into the opposing volleyball team’s court quickly.

The appropriate systematic and continuous training is very important to improve the overhand serve skills. The training can be done by using the near to far range of target and the far to near range of target method. This method is supported by the good physical condition that is generally males have the

better physical condition than females. According to the Thorndike in Hergenhahn & Mathew, (2008) the relationship between stimulus and responds will easily built when there is a readiness from the person itself. In common way, males have the bigger strength than females so that males have more readiness than females. In this condition, the near to far range of target training method is more appropriate for males because it need more strength as the target is become further. This matter also deals with the accuracy because the strength takes a big role to reach the far target accurately. To know the influence of the near to far range of target and the far to near range of target and gender to the volleyball overhand serve skills need to be investigated and to be researched either theoretically or practice by the research “The Influence of the Volleyball Serve Training Methods to the Overhand serve skill from Gender Consideration (An Experiment Research using the Near to Far Range of Target and the Far to Near Range of Target for Volleyball Extracurricular Students of State Junior High School 2 Adipala)”

### Research Method

This research took place in volleyball court of State Junior High School 2 Adipala Cilacap and being conducted on December 13rd, 2016 to January 21st, 2017. This research was using the experimental method with factorial plan of 2x2. The sampling technique used in this research was the purposive random sampling. The samples used in this research were divided by the gender, and then the researcher did the ordinal pairing to the samples. The data were collected by using the overhand serve test. The data collection technique used in this research was the two-way ANOVA in the level of the significance 5%. The data collected in this research needed to pass the prerequisite tests included normality test and homogeneity test. The data in this research was collected by measuring result of the two groups attributive independent variables, 20 male students were divided into two groups that each of them being treated with the near to far range of target and the far to near range of target volleyball overhand serve training method and so did the female students. Each group was being test twice, pre-test and post-test. Items to be tested in the pre-test and post-test was the volleyball overhand serve skills.

### Findings

Table of Descriptive Statistic Summary of Volleyball Serve Skill Measurement by each group treatment

Treatment	Gender	Statistic	Pre-Test	Post-Test	Increase	Average
The near to far range target method	Male	Total	138	210	72	
		Mean	13.800	21.000	7.200	
		SD	2.098	2.357	1.874	55.5
	Female	Total	76	115	39	5.55
		Mean	7.600	11.500	3.900	1.62206
		SD	3.340	3.808	1.370	
The far to near range of target method	Male	Total	130	174	44	
		Mean	13.000	17.400	4.400	
		SD	0.667	1.430	1.578	38
	Female	Total	71	103	32	3.8
		Mean	7.100	10.300	3.200	1.48802
		SD	1.729	0.949	1.398	

1. Male students group that were treated by using the near to far range of target method have 13.8 in the pre-test and 21.00 in the post-test, means that the increased point is 7.2, on the other hand those who were treated by using the far to near range of target have 13.00 in the pre-test

and 17.4 in the post-test with the increased point is 4.4. If both group are compared, the group that was treated by using the near to far range of target method is better than the far to near range of target group.

2. Female students group that were treated by using the near

to far range of target gained 7.60 in the pre-test and 11.50 in the post-test with increased point 3.9, on the other hand those who were treated by using the far to near range of target method gained 7.10 in the pre-test and 10.30 in the post-test with increased point 3.2. If both group are compared, the near to far range of target method group is better than the far to near range of target group.

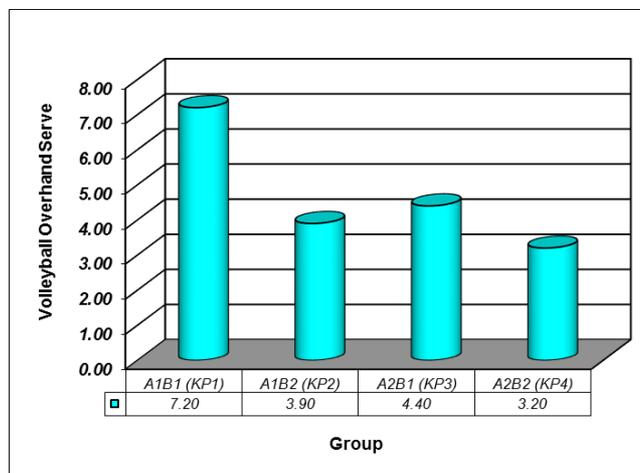


Figure of Comparative Histogram of Average Volleyball Overhand Serve Skill on pre- test, post-test based on group treatment and gender

Hypotheses test is done by two-way ANAVA with 5% significance level. Before the hypothesis test, the data taken should meet the pre requisite first, normality test and homogeneity test. Normality test shows that samples in this research are homogenous. After pre requisite is fulfilled, then the hypothesis test is done.

**Normality Test Results by Liliefors.**

Group	N	Prob	Lo	Lt	Finding
A1B1	10	0.05	0.1438	0.258	Normal Distribution
A1B2	10	0.05	0.1721	0.258	Normal Distribution
A2B1	10	0.05	0.1987	0.258	Normal Distribution
A2B2	10	0.05	0.2051	0.258	Normal Distribution

From the table above, it can be concluded that  $Lo < Lt$ . It shows that taken samples are derived from distributed normally population.

**Homogeneity Test by Bartlet**

$\Sigma$ Group	Ni	S <sup>2</sup> gab	X <sup>2</sup> hit	X <sup>2</sup> tablel	Finding
4	10	2.4583333	1,16462	7.81	Homogeneous

From the table above we can conclude that  $X^2_{count}$  is smaller than  $X^2_{table}$ . This indicates that research samples on volleyball serve training groups with the near to far range of target and the far to near range of target are homogenous

**Hypothesis Tests**

Source Variant	DK	JK	RJK	F <sub>o</sub>	F <sub>t</sub>
Average					
Treatment	1	874.2250	874.225		
A	1	30.6250	30.625	12.4576	*
B	1	50.6250	50.625	20.5932	*
AB	1	11.0250	11.025	4.4847	*
Error	36	88.5000	2.458		
Total	40	1055.0000			

Summary of Two Factor Variant Analysis

From the results above, it can be concluded that the training using the near to far range of target and the far to near range of target method has significant differences on State Junior High School 2 Adipala students' overhand serve skill improvement in 2016. From the calculation it can be seen that  $F_{count} = 12.4576$  is greater than  $F_{table} = 4.11$  ( $F_0 > F_t$ ) on 5% significance level. It means that null hypothesis ( $H_0$ ) is rejected so there is a significant difference between the two treated groups. From the advance analysis we know that the near to far range of target training method has the better improvement to volleyball overhand serve skill with the value 9.6 is greater than the far to near range of target training method group (value is 6.35)

1. Based on the gender consideration on State Junior High School 2 Adipala students in 2016, the results show that there is a significant difference improvement between male students and female students' volleyball overhand serve skill. It is calculated  $F_{count} = 20.5932$  is greater than  $F_{table} = 4.11$  ( $F_0 > F_t$ ) on 5% significance level. It means null hypothesis is rejected so there is a gap between male students and female students. From advance analysis known that male students have better improvement in volleyball overhand serve skill with average value of 10, which female students' value is about 5.95.
2. Research main factors interaction in two factors form shows there are interactions between volleyball overhand serve training method and gender. Calculation shows  $F_{count} = 4.4847$  is greater than  $F_{table} = 4.11$  ( $F_0 > F_t$ ) on 5% significance level so null hypothesis is rejected. So it can be concluded that there are significant interactions between gender and training method in State Junior High School 2 Adipala students' volleyball overhand serve skill improvement in 2016.

**Discussion**

Discussion of the results of this study provides further interpretation of the results of data analysis has been done before. Based on the hypothesis testing, three possible analysis have been produced: (1) There was a difference influence between using the near target to far range of target and the far to near range of target to the volleyball overhand serving skill. Overhand serving skills training on the use of the near to far range of target gave better result than overhand serving skills training on the use of the near to far range of target. (2) There was a significant difference to the overhand serving skill improvement of male students and female students. Male students' volleyball overhand serve skill is better than females. (3) There was an interaction between overhand serve skill and gender towards overhand serve skills of volleyball extracurricular in SMPN 2 Adipala students, year of 2016. Conclusion of analysis can be presented in detail as follows:

1. The Influences of the Volleyball Overhand Serve Skill Training Using the Near to Far Range Target and Using Far to Near Range Target Method  
Based on the first hypothesis test, it showed that there was a difference between the influence of increasing skills on students' overhand volleyball serve who were treated using the near to far range of target and the far to near range of target training method. Students groups who were trained by using the near to far range of target have better improvement of skills than the far to near range of target training method groups. Analysis of the data showed that, the near to far range of target training methods averaged 1.75 improvement greater than the far

to near range of target training method. Thus the hypothesis about there is a difference between the effects of training methods with the use of near to far range of target and far to near range of target in extracurricular stundet of SMPN 2 Adipala 2016, can be accepted as true.

2. The Influence of Male and Female Gender to Overhand Volleyball Serve Skills Based on second hypothesis testing showed that there was a significant difference between the gender of male and female towards overhand volleyball serve skills. Judging from the result of overhand volleyball serving skill turns out that group of male students have a better improvement than female students. From the analysis of the data obtained that male students' overhand serving skills was 2.25 greater than female students'. Thus the hypothesis about there is a difference between the influence of students' gender to overhand volleyball serve skills, can be accepted as true.
3. The Interaction Effect of Overhand Volleyball Serve Exercise Using Near to Far Range of Target, Far to Near Range of Target, and Gender toward Overhand Volleyball Serve Skill From the table, it can be seen that there was a real interaction between the two main factors of research. Based on that table, the line of improvement value is not equal, if the line are drawn there will be an intersection between training methods and gender. This means there was a tendency of interaction between training method and gender. The interaction was dependent. So hypothesis stated that there is an interaction between gender and training method to State Junior High School 2 Adipala students' volleyball serve skill was true.

**Suggestions**

1. Remembering that using the near to far range of target and the far to near range of target training method gives the good influence to the overhand serve skills improvement, it is better to the coaches to choose this method to be used in the volleyball extracurricular training so that the result of the training is better.
2. In improving the volleyball overhand serve skills the coaches need to consider the good and appropriate training, also the physical condition of the students to support the improvement itself.

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Table of Simple Effect, Main Factor, and Interaction of Major Factor towards Overhand Volleyball Serve Skills Improvement

	A1	A2	Rerata	A2-A1
B1	7,2	4,4	5,8	-2,8
B2	3,9	3,2	3,55	-0,7
Rerata	5,55	3,8	4,675	
B2-B1	-3,3	-1,2		

**Remarks**

- A1B1: Volleyball overhand serve training group using the near to far range of target, male students
- A1B2: Volleyball overhand serve training group using the near to far range of target, female students
- A2B1: Volleyball overhand serve training group using the far to near range of target, male students
- A2B2: Volleyball overhand serve training group using the far to near range of target, female students.

**Conclusions**

1. There was a significant impact between volleyball overhand serve by using the near to far range of target training method and the far to near range of target training method to the volleyball overhand serve skills.
2. There was difference impact on volleyball overhand serve skill between male students and female students to volleyball overhand serve skill by using the near to far range of target training method and the far to near range of target training method
3. There was an interaction between overhand serve training method and gender and volleyball overhand serve skill.