



The Effectiveness of Accuracy Training to Improve Badminton Athletes' Service Skills

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Abstract. The serve is the first shot that starts a badminton game. This study aims to test and determine the effectiveness of accuracy training in improving the short service ability of badminton athletes. This study uses a research method of quasi-experiment designs with a one-group time series design (pretest, one posttest). The treatment group was measured by giving accuracy training on short serve ability consisting of backhand and forehand in badminton games. The research sample was taken from the existing population using a non-random sampling technique with a purposive sampling method. The test instrument used to measure the ability of forehand and backhand short serves is the Frank M. Verduci service test developed by Nugroho (2016). Hypothesis testing using paired sample t-test and independent sample t-test. The results showed that the backhand and forehand service groups obtained a significance value of 0.000, so it can be seen that the significance value of both was less than 0.05. Thus, there was a significant effect on each backhand and forehand service group. The difference in influence can be seen from the average results obtained by the backhand service group of 25.85, while the average of the forehand service group is 20.28, so the difference between the two averages is 5.57. The backhand service group will likely improve its ability to use basic short-service techniques.

Keywords: Practice, Accuracy, Serving, Badminton

1 Introduction

Badminton is a sport that often wins medals in various multi-event championships worldwide. Badminton is in great demand by the community and age groups, with different skill levels ranging from men to women for recreation or achievement [1]. Badminton athletes must know and learn basic badminton techniques to make it easier when playing. Serving is a basic technique that is very important in getting consistent value. Athletes must master the basic skills of serving well by practicing them repeatedly and systematically to make the service strokes more accurate. There are two types of short serves: backhand and forehand. The service technique is essential in doubles and singles play [2]. [3] states that the purpose of short serve is to force the opponent to hit the shuttlecock upwards at a steep angle, allowing the service receiver to hit high above and make scoring points easier. Short serves in badminton require a high level of accuracy [4].

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Based on the observations and observations of researchers in the field, it was found that many beginner age group badminton athletes died alone, responsibility, and lack of variety; lack of special training programs for service strokes in large and small clubs, many badminton coaches underestimate or ignore service strokes for their athletes. The drill method is the most effective exercise for improving serving skills. [6] researched the Badminton Service Training Model for Beginners with Short Service Methods with 3 and 2 directions. The results of the two methods show that they significantly affect short service strokes. [7] developed a service training model with a fixed hitting distance drill method and a gradual hitting distance drill method, with the results of both methods having a significant effect on service strokes.

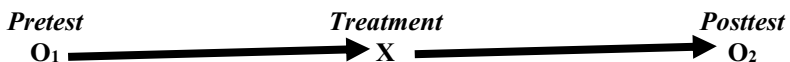
From the observations, all the shortcomings are due to the rarity of athletes practicing the serve and the absence of a unique training program for the service stroke; therefore, the researcher wants to overcome these problems by applying accuracy training. The concept of accuracy in question is that athletes practice serving using several targets, including 1) giving targets above the net, 2) giving a rope above the net, 3) giving targets between the rope/tape above the net and in the field to help direct the fall of the shuttlecock. The focus will be the serve because this service model is often used by doubles players and even male and female singles players. This study is connected with the research strategic plan for developing sports achievements.

Researchers highlight that there still needs to be more basic technical skills in serving because the service stroke is the most important basic technique in badminton games. Apart from being the game's opener, the benefit of serving is that we will more easily get points from the opponent if our service strokes are quality and direction. Based on the problems described above, researchers are interested in applying an accuracy training model to improve short-serve skills in badminton athletes. Applying this accuracy training model can improve the accuracy and skills of short serves in badminton athletes.

2 Method

This research uses quasi-experiment designs with a one-group time series design (pretest, one posttest). In this design, the first test (pretest) is carried out, after which treatment is given, and the final test (posttest) is carried out. The treatment group was given a type of accuracy training by giving a target above the net, a rope above the net, and a target between the rope or tape above the net and in the field to help direct the fall of the shuttlecock. The ability of short serves consisting of forehand and backhand serves in badminton games is known before and after giving the accuracy treatment. The design can be described as follows:

Table 1. Quasi Experimental Research Design



(Forehand and backhand Short Serve Ability)

(Accuracy Practice)

(Forehand and backhand Short Serve Ability)

The research sample will be taken using a purposive sampling technique to determine the sample with specific criteria [8]. The criteria for determining the sample in this study include Male athletes, Athletes/players aged 13-14 years, Athletes who are registered and have a PBSI ID, and a minimum training period of 24 months. From these criteria, a total sample of 28 badminton athletes was obtained. This research instrument uses a service test with the Frank M. Verduci test, which has been developed by [9]. This test has a validity of 0.739. In this study, data analysis used normality tests, homogeneity tests, and hypothesis testing. The calculation of the normality test aims to determine whether the sample is from a normally distributed population. The homogeneity test helps test the similarity of several samples and whether the sample variants taken from the population are uniform. After calculating the normality and homogeneity tests, the following hypothesis test was carried out using the t-test "paired sample t-test and independent-sample t-test".iability 0.850 for the men's beginner age group category.

3 Result

After all the data is collected, in the form of pretest and posttest data, the results are then recapitulated and categorized based on the norms of the Nugroho development test [9]. The following is the categorization of the results of the pretest scores between the experimental and control groups, among others:

Table 2. Pretest Norms of Backhand and Forehand Serve Groups

Category	Norm	Backhand Group	Forehand Group
		Frequency	Frequency
Very good	$X \geq 30$	0	0
Good	23-29	0	0
Fair	17-22	3	2
Deficient	10-16	11	12
Very Poor	$X \leq 9$	0	0

Based on the table above, the pretest data in the Backhand group shows three athletes in the sufficient category and 11 in the insufficient category. The Forehand group pretest results were two athletes categorized as enough and 12 athletes categorized as less.

Table 3. Norms of Posttest Result of Backhand and Forehand Serve Groups

Category	Norm	Backhand Group	Forehand Group
		Frequency	Frequency
Very Good	$X \geq 30$	1	0
Good	23-29	11	8
Enough	17-22	2	6
Not Enough	10-16	0	0
Very Less	$X \leq 9$	0	0

In the table above, the posttest data in the Backhand group show one athlete in the outstanding category, 11 athletes in the excellent category, and 2 athletes in the sufficient category. The posttest results of the Forehand group showed 8 athletes in the superb category and six in the fair category.

Judging from the results of the pretest and posttest value categories, it can be concluded that each group experienced a significant increase after treatment. The paired sample t-test hypothesis test is carried out to determine if the pre-requisite test has met the requirements and the effect of the pretest and posttest on each group at a significance level of 0.05. The following data are the results of the paired sample t-test in both groups:

Table 4. Paired Sample T-Test Result

		Paired Samples Test								
		Paired Differences						t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference					
			n	Mean	Lower	Upper				
Pair 1	Pretest K1-Posttest K1	-11,35714	1,82323	,48728	-12,40985	-10,30444	-23,307	13	,000	
Pair 2	Pretest K2-Posttest K2	-5,85714	1,29241	,34541	-6,60336	-5,11093	-16,957	13	,000	

The results of the paired sample t-test in the table above show that group 1 obtained a significance value of 0.000 while group 2 amounted to 0.000. Thus, the significance value of both is less than 0.05. Thus, H0 is rejected, and Ha is accepted, which means that there is a significant influence between the results of the pretest and posttest in each group.

The independent sample t-test was conducted to determine the average difference in posttest results between the two groups. The decision can be taken if the significance

value is less than 0.05; the two groups have a significant difference. The results obtained are listed in the table as **follows**:

Table 5. Statistical **Group** Test Results

		Group Statistics			
Practice Model		N	Mean	Std. Deviation	Std. Error Mean
Posttest K1 & K2	Group 1	14	25,8571	3,00914	,80423
	Group 2	14	20,2857	1,58980	,42489

The results in the table above show the difference in influence, which can be seen from the average results obtained by the backhand group of 25.85 while the forehand group average of 20.28, so the difference between the two averages is 5.57. The backhand group is likelier to improve their ability to use the basic short serve technique. These results are also reinforced by the independent t-test analysis with the results:

Table 6. Independent T-Test Test Results

		Independent Samples Test								
		Levene's Test for Equality of Variances			t-test for Equality of Means					
		F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Posttest K1 & K2	Equal variances assumed	8,922	,006	6,125	26	,000	5,57143	,90957	3,70178	7,44107
	Equal variances not assumed			6,125	19,733	,000	5,57143	,90957	,67245	7,47040

Seen in the table above explains that the significance value obtained is 0.000 <0.05, so from the results of the significance value obtained, the decision H0 is rejected, and Ha is accepted. Thus, there is a significant difference in the effect on the two groups.

4 Discussion

The results of this study are in line with the opinion of [11], which explains that training using the target media method on short-serve learning outcomes in playing badminton for class XI students of SMA Negeri 3 Medan in the 2020/2021 school year with a significance value of 0.000. [12] explains that training through audiovisual means influences badminton backhand short serve skills in Unwahas students, with a

significance value of 0.000. The research of [13] explains the influence of the drill training method on the extended service skills of badminton games on extracurricular participants at SMAN 1 Rengasdengklok.

The ability to serve in badminton is a basic technique that players must master. Badminton's serve dramatically affects whether or not you win the match. Based on the results of his research, [14] found a significant relationship between short-serving ability and the ability to play badminton, with a substantial level of 67.4%. The serve is the first blow that starts a badminton game, and it can be done either by backhand or forehand (Poole, 2011). This is in line with the statement of Subarjah Hidayat (2007) that serving is a basic technique that is very important in getting consistent value and winning. Players/athletes are required to master the basic skills of serving well by practicing them repeatedly and systematically so that the service strokes are more accurate when playing.

Based on the research results above, accuracy training can improve the ability of short serves with backhand serves. In addition to accuracy training, serviceability can be trained with a drill training model. The drill method is a way of training where athletes carry out training activities so that athletes have higher dexterity or skills than what has been learned. Implementing the drill method in badminton usually uses more than ten shuttlecocks (multi-shuttle), and the training process is carried out repeatedly. The training load will be added every day so that the addition of the training load given progressively can affect the athlete's playing skills.

The drill training method has a significant effect on badminton shot skills because the method used is to repeat the same shot until it is wholly mastered. More than the drill training method must be done only once in a training session; it must be done over a long period [15],[16]. The drill training method is better than the play training method in improving skills, especially techniques according to sports applied to elementary school-age children [17]. Psychomotor development can be influenced and can provide a good influence in performing stroke techniques, especially in badminton, using drill method training [18], [19]. The drilling method is suitable for training, especially when practicing skills in a sport. Skills are given with the drill method because the same movement is done repeatedly so that it will be remembered by an athlete in doing a movement [20].

5 Conclusion

Based on the research results described in the discussion, it can be concluded that there is a significant difference in the effect of badminton accuracy training on improving short serve ability in badminton athletes, and the backhand service accuracy training model is more effective in improving short serve ability in badminton athletes.

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