

Effect of Drill Method Application on Short Serving Accuracy and Eye-Hand Coordination in Badminton Game

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**EFFECT OF DRILL METHOD APPLICATION ON SHORT SERVING
ACCURACY AND EYE-HAND COORDINATION
IN BADMINTON GAME**

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Abstract


The purpose of this study was to determine whether there is an effect of applying the drill method with short serve accuracy and eye-hand coordination on badminton games. The method used is the experimental method with a one group pretest and posttest design. The subjects in this study were all 35 students of SMA Plus Al-Hannan. To take the sample using the test of homogeneity, normality, and hypothesis t test. in this study indicate that the results of the initial test and the resulting final test are normality and homogeneity tests, the results of the distribution data are normal and homogeneous. Then test the t-test hypothesis. H₀ is accepted if significant > 0.05 and H₀ is rejected otherwise, so it is stated that for hypothesis testing I obtained tcount = 14.738 with a significant level <0.05 so that there is an effect of drill practice on the accuracy of short serve badminton games for SMA PLUS Al-Hannan students. South OKU. Thus, testing hypothesis II, obtained tcount 22.148 with a significance level of <0.05 that there is an effect of drill practice on eye-hand coordination of students of SMA Plus Al-Hannan OKU Selatan. Based on the results of the research data above, it can be said that the drill method has a significant effect on the accuracy of badminton service and eye-hand coordination in students of SMA PLUS Al-Hannan OKU Selatan.

Keywords: Short Serving Accuracy, Eye-Hand Coordination, Drill Method, Badminton.

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INTRODUCTION

Education is an important point that must exist in every human being, education which is a means of forming a complete human being does not only dwell on logical thinking and analysis as well as morals and values, but also education related to body processing, to physical and mental Rivai (2016).



Physical sports learning is a way of learning that involves the influence of participants with an environment that is managed to carry out regular physical activity on complete human change (Iyakrus, 2019) physical learning, sports, and health in schools can run well and smoothly if it is determined by factors that support with an important role in the competence of teachers, students, curriculum, and learning infrastructure that supports (Bayu & Andrianto, 2014). Sports games are learning related to physical activities that can improve physical health. One of the sports that we often hear, especially in learning the game of badminton, which can provide attraction in every surrounding environment, thus can be played from children, teenagers to the elderly. Besides, this badminton game has its own way of providing entertainment to the audience. The badminton game is also a game in its implementation using a tool called a racket and shuttlecock (Pamungkas & Indarto, 2021)

(Sari et al., 2018) badminton is the most popular sport in Indonesia. But most people do not really understand the game of badminton. Science should be related to various things, especially in the game of badminton, it should be mastered, especially those who really like and pursue this sport. Learning badminton is also a game that is done individually by means of a single game, or a double game. (Lee & Loh, 2019) Short service strokes are service strokes that fly a low shuttlecock over the net. Thus, the distance between the shuttlecock and the net is very thin. This stroke is made in a doubles game. However, short serve strokes are usually encountered in individual or single play. The punch technique is a method used in badminton which aims to fly the shuttlecock into the enemy's field to get points. There are two ways to do badminton technique, namely forehand and backhand. In addition, the service strokes are commonly used in several hitting techniques, namely short forehand service, long forehand service, and backhand service” (Phomsoupha & Laffaye, 2015). Badminton service is usually done by playing tricking or tricking the opponent in returning the ball to get points, thus players or athletes also need movement skills and strategies that

attract the attention of opponents and spectators. This method aims to perform the correct serving movement. Badminton serve is divided into forehand serve and backhand serve. According to another discussion, the service stroke technique is divided into three types, namely long serve, short serve and drive serve (Aryanti et al., 2018, 2021).

(Handayani, 2018) hand coordination training is an ability related to speed, strength, endurance, and flexibility and is even very influential in learning and doing the right techniques and tactics. The coordination exercise is carried out by using a wall and individual throwing the ball must hit the target or target. The method of implementation is that the player stands upright in front of the wall. Then bouncing the tennis ball to the wall after it bounced to the target the player must return to receive the ball's reflection so that it can be caught. Then it is done repeatedly. Eye and hand coordination is a collaboration between motion and the senses, which is related to daily activities, so that coordination is the strength of body movement to combine a movement so that it becomes more effective as desired.

The drill method is basically used to produce agility or skill from each exercise learned. Drill practice is an action to improve one's skills and abilities by means of exercises that are carried out repeatedly to produce the desired expectations during practice and require technical training. In drill exercises, students can perform movements according to what has been learned from the teacher or trainer and do it repeatedly. This repetition of motion aims to automate the motion (Primayanti & Isyani, 2019). In this study, drill exercises used in the form of the drill method are color board games, hollaget and lingget.

Based on the observations that the researchers made regarding the problems that were obtained from the various problems obtained, the researchers conducted trials on initial observations to see the ability of students to play basic badminton techniques. Then in 35 male and female students. 5 people are in the sufficient category and 30 people are still in the less category. Here it can be seen

that the ability of students in badminton, especially in short serve accuracy and hand eye coordination on wrist flexibility, is very lacking, students playing badminton just play without paying attention to the accuracy of the service in the game. Researchers directly tested the ability of students to play badminton in pairs in the field, while this activity the researchers did three times a week, of which one time was carried out during sports lessons, namely Tuesday and twice on Saturday and Sunday, because students reached 35 people, so the researchers divided them into 3 parts. and researchers can only conclude the ability of students after observing and giving time for trials to be carried out for 3 meetings. In general, students do not understand good basic techniques in mastering short serve and eye-hand coordination. Instead of that, as a consideration, what will be done to improve the accuracy of short serve and eye-hand coordination is to use the drill method, where with the application of this method it is expected that students can play the game with perfect technique and method. The implementation of this drill method is that it can help students improve their badminton playing skills, especially in the accuracy of short serve and eye-hand coordination in students, while later in the implementation process researchers will prepare various things to help make the implementation run smoothly. Learning must use strategic methods so that it runs well and does not seem boring, therefore we as educators must better understand what will be conveyed to students so that it can be accepted and understood by them.

METHOD

The type of method used in this research is the experimental research method Pretest and Posttest or called the one group pretest-posttest design. The subjects of this study were all 35 students of SMA Plus Al-Hannan Oku South South. The data collection instrument used in this study was one treatment for short serve accuracy tests and eye-hand coordination, namely pre-test and post-test. The initial trial was carried out with a pretest and given treatment in the form of drill exercises with color board games, hollaget, and lingget. The treatment was carried out for 14 times or 3 times a week with a dose of 2 sets per meeting. Then

the posttest final test was carried out, namely the accuracy of short serve and eye-hand coordination. By using the test of normality, homogeneity, and hypothesis t test with SPSS 26 program.

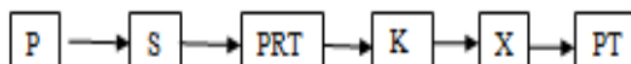


Figure 1. One Grup Pretest-Posttest Design
 (Wibowo Suardi, 2007)

RESULTS AND DISCUSSION

The following is the data from the results of the pretest and posttest preliminary tests, the accuracy of the short serve badminton of students has increased, where the minimum value of the pretest is 50 and the posttest is 59. While the maximum value of the pretest is 85 and the posttest is 94. The clear description of the data is the value of the accuracy of the badminton short serve which is analyzed using SPSS 26 program assistance is shown in the following diagram:

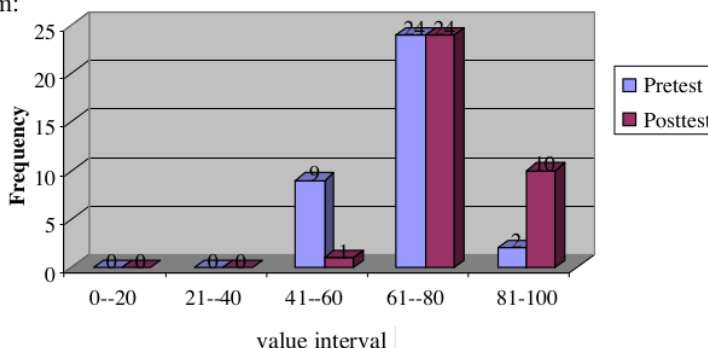


Figure 2. Badminton Short Service Pretest and Posttest Diagrams

Judging from the diagram above, the results of the Pretest and Posttest Short Service Badminton in the high category are 24 students (68.57%) each, then the very high category from the posttest score is 10 students (28.57%), and the category is sufficient for the pretest score as much as 9 students (25,71%).

Data on eye-hand coordination variables were also obtained through pretest and posttest. The minimum value of the pretest results is 2 and the posttest

is 5. While the maximum value for the pretest is 7 and the posttest is 10. The data of the eye-hand coordination variable after being analyzed through the SPSS 26 program can be seen in the following diagram:

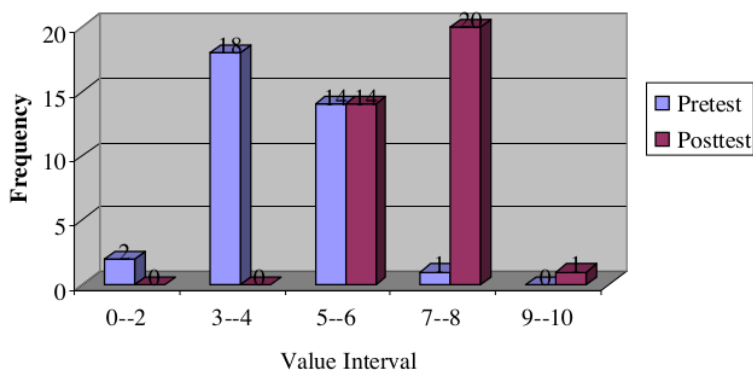


Figure 3. Eye-Hand Coordination Pretest and Posttest Diagrams

It can be seen from the diagram above that the value of hand-eye coordination is in the high category from the posttest score of 20 students (57.14%). Then the low category of pretest scores as many as 18 students (51.43%), sufficient category on the pretest and posttest scores as many as 14 students (40.00%), very low category on the pretest as many as 2 students (5.71%) and very high on the posttest score of 1 student (2.86%).

Normality test

The normality test will be tested on each pretest and posttest research data, the variable accuracy of badminton short serve and the eye-hand coordination variable with the help of the Kolmogorov-Smirnov Z formula with the SPSS 26 program, the results can be seen in the table below:

Table 1. One-Sample Kolmogorov-Smirnov Test Variable Short Serve Badminton

		Pretest	Posttest
N		35	35
Normal Parameters ^a	Mean	66.11	76.80
	Std. Deviation	8.821	7.603
Most Extreme Differences	Absolute	0.109	0.071

	Positive	0.109	0.055
	Negative	-0.054	-0.071
Kolmogorov-Smirnov Z		0.645	0.420
Asymp. Sig. (2-tailed)		0.800	0.995

a. Test distribution is Normal.

The table above shows the significant value of the pretest and posttest tests, the significant value of the badminton short service pretest has a value of $0.800 > 0.05$ as well as a posttest significance value of $0.995 > 0.05$. The results above can be concluded for the pretest and posttest data, the accuracy of the badminton short serve being tested is normal.

Table 2. One-Sample Kolmogorov-Smirnov Test Variable Eye-Hand Coordination

		Pretest	Posttest
N		35	35
Normal Parameters ^a	Mean	4.17	6.77
	Std. Deviation	1.200	1.087
Most Extreme Differences	Absolute	0.184	0.188
	Positive	0.178	0.188
	Negative	-0.184	-0.183
Kolmogorov-Smirnov Z		1.086	1.113
Asymp. Sig. (2-tailed)		0.189	0.168

a. Test distribution is Normal.

Seen from the table above, the significant value of the eye-hand coordination pretest was $0.189 > 0.05$ or $0.189 > 0.05$, and the posttest significant value was $0.168 > 0.05$. Thus, it is stated that the results of the eye-hand coordination pretest and posttest data tested are normal.

Homogeneity Test

In this homogeneity test, it will be used to examine the data from the pretest and posttest results that have homogeneous properties or not. The homogeneity test in this study requires the help of a formula from the SPSS 26 program, with the ANOVA test, the results can be seen in the table below:

Table 3. ANOVA Badminton Short Serve Variable Test

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1998.229	1	1998.229	29.468	0.000
Within Groups	4611.143	68	67.811		

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1998.229	1	1998.229	29.468	0.000
Within Groups	4611.143	68	67.811		
Total	6609.371	69			

The table from the ANOVA test or in the F output column, obtained a value of 29.468 with a significant value of 0.000. probability $0.000 < 0.05$, then H_0 is rejected, and H_a is accepted, meaning that the pretest and posttest data of badminton short serve variables are homogeneous.

Table 4. ANOVA Test Variable Eye-Hand Coordination

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	118.300	1	118.300	90.242	0.000
Within Groups	89.143	68	1.311		
Total	207.443	69			

Based on the table from the ANOVA test, it is known that the output column F, obtained a value of 90.242 with a significant value of 0.000. With these results showing the probability value of $0.000 < 0.05$, then H_0 is rejected, and H_a is accepted, meaning that the pretest and posttest data of the eye-hand coordination variable are homogeneous.

Hypothesis test

The results of the pretest and posttest hypothesis test data from badminton short service variables and eye-hand coordination, the results obtained are normally distributed and homogeneous, the next stage will be hypothesis testing with the help of SPSS version 26 t-test analysis, can be seen in the table below:

Table 5. Paired Samples Test Variable Short Serve Badminton

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	Sig.	
				Lower	Upper			
Pair 1 Posttest - Pretest	10.686	4.289	0.725	9.212	12.159	14.738	34	0.000

In the results of the data above in the output column t obtained a value of 14.738 with a significant level of $0.000 < 0.05$. then H_0 is rejected, and H_a is accepted, the hypothesis testing above states that there is an effect of drill practice



on the accuracy of short serve badminton games for students of SMA PLUS Al-Hannan OKU Selatan.

Table 6. Paired Samples Test Variable Eye-Hand Coordination

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		Lower	Upper		
Pair 1 Posttest - Pretest	2.600	0.695	0.117	2.361	2.839	22.148	34	0.000	

Based on the table above, it is known that the t output column obtained a value of 22.148 with a significance level of 0.000 < 0.05. In the test criteria, it can be stated that H₀ is rejected, and H_a is accepted. So, the hypothesis testing above states that there is an effect of drill practice on hand-eye coordination of students at SMA PLUS Al-Hannan OKU Selatan which is acceptable.

Based on the results of the research and discussion described above, it can be concluded that the students of SMA PLUS Al-Hannan OKU Selatan have followed the drill method for 16 meetings actively and seriously, in the sense of correctly following the drill method in three types of exercises, including the color board, inserting the shuttle into the basket (holaget), and the target circle (lingget) which the author has prepared well although this method prioritizes accuracy and eye-hand coordination when performing short badminton services. The drill method can be followed by students as planned by the researcher. The system in question is the implementation of research starting from the pretest, the drill method treatment, and the posttest implementation. Pretest and posttest are practical tests, which according to Stiginis quoted (Komarudin, 2016) are a form of test in which students are asked to carry out certain activities without the supervision of examiners who will pay attention to an appearance that will make decisions about the quality of the intended learning outcomes.

From the results of the pretest and posttest data for each variable showed an increase, where the variable accuracy of badminton services increased by 10.69 and the increase in the eye-hand coordination variable was 2.60. This shows that



the drill method can improve the accuracy of badminton short serve and eye-hand coordination. The data obtained from the pretest and posttest passing results can be carried out with normality and homogeneity tests, after testing the data are normally distributed and homogeneous. Furthermore, hypothesis testing can be carried out using the "t-test" statistic. The criteria for testing the hypothesis accept H_0 if significant > 0.05 and reject H_0 otherwise, so it is stated that for hypothesis testing I obtained $t = 14,738$ with a significant level of $0.000 < 0.05$, it can be concluded that there is an effect of drill practice on the accuracy of short serve badminton games of students South OKU PLUS Al-Hannan High School. Thus, testing hypothesis II, obtained $t_{count} 22.148$ with a significance level of $0.000 < 0.05$, which means that there is an effect of drill practice on eye-hand coordination of students at SMA PLUS Al-Hannan OKU Selatan.

(Iskandar, 2021) concluded that there was an effect of drill method training on normal smash abilities in volleyball games. Next, (Susanto et al., 2021) can conclude that there is a significant effect on the drill method in the ability to pass down in volleyball games. Furthermore, (Irjaba et al., 2022) can also conclude that there is a significant effect on the training program that uses the drill fixed method of training with the target shape on the increase according to the forehand ground stroke.

CONCLUSION

Based on the results of the research and discussion in the previous chapter, it can be concluded that the average score of the pretest short serve badminton for the students is 66.11 and the posttest is 76.80, with an increase. While the average eye-hand coordination pretest is 4.17 and posttest is 6.77 with an increase of 2.60. In addition, the results of testing hypothesis I state that there is an effect with drill practice on the accuracy of short serve badminton games, and hypothesis II also states that there is an effect of drill practice on eye-hand coordination exercises. By using the drill method, there is a positive and significant effect on the accuracy of badminton short serve and eye-hand coordination of the students of SMA PLUS Al-Hannan OKU Selatan. The suggestion that can be given in this research



is that the drill method can be used as an alternative used by PJOK teachers at SMA PLUS Al-Hannan OKU Selatan, because it turns out that the results of the accuracy of badminton short serve and eye-hand coordination of students have increased. The drill method used is only limited to 3 types of exercises, namely the color board, inserting the shuttle into the basket (holaget), and the target circle (lingget). Therefore, further researchers can add more varied types of exercises so as not to cause boredom to students, and further obtain more effective research results.

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