



# The Effect of Paired Training on the Ability of Badminton Backhand Service for Badminton SMEs Badminton STOK Binaguna Medan in 2025

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## Abstract.

### Background

Permasalahan yang ada di UKM bulutangkis STOK Binaguna adalah masih banyak melakukan kesalahan dalam teknik service. Sehingga peneliti bertujuan untuk menerapkan variasi latihan yang mudah dipahami dan dilakukan, yaitu variasi latihan shoot on target.

### Objectives

The purpose of this study was to determine the effect of Shoot-On-Target Training on Backhand Serve Ability at the STOK Binaguna Medan Badminton Student Activity Unit in 2025 on serve performance.

### Methods

This research employed an experimental method with a population of 35 and a sample of 10 members of the STOK Bina Guna Badminton Student Activity Unit (UKM Badminton) in Medan. Sampling was conducted using purposive sampling, a technique of determination and consideration. This study employed a t-test data analysis technique with a significance level of  $>$  or  $<$  0.05, with a "One Group Pretest-Posttest Design" research design.

### Results

After conducting the research, the results showed that shooting on target training on backhand service skills had an impact on increasing backhand service accuracy by 37.14%, based on statistical data from the research results or the Shoot-On-Target treatment for Badminton UKM Badminton STOK Binaguna Medan in 2025.

### Conclusion

The pre-test and post-test samples consisted of 10 people, with a pre-test score range of 10, with a maximum score of 13 and a minimum score of 3, a mean score of 8.83 and a standard deviation of 3.243. The post-test score range was 8, with a maximum score of 14 and a minimum score of 6, a mean score of 10.50 and a standard deviation of 2.541.

**Keywords:** Shoot On Target Training, Backhand Service, Badminton.

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## INTRODUCTION

Badminton is a popular sport in Indonesia, especially among children and adults. It's also a popular sport among men, and is highly sought after because it's a fun game for those who play casually and simply to work up a sweat. Badminton is a racket-based sport played by two opposing players or pairs, each competing to achieve a set number of points. The game requires rackets, a shuttlecock, a net, and a court. The length of a game isn't determined by time, but by the first player to reach game point (21 points). Each game consists of two sets, and the player who wins both sets is declared the winner. In the event of a tie, an extra match is played to determine the winner.

In badminton, serving is the key to winning a match. A serve is when a player hits the shuttlecock across the net and into the opponent's court. Serving in badminton is a fundamental skill that is crucial and influential in a match because it can be a highly reliable technique. For example, if a serve is executed perfectly and without any gaps, the opponent will automatically have difficulty attacking and will be forced to defend. Conversely, if the shuttlecock is hit half-heartedly and does not precisely intersect the front service line with the center line, the opponent will easily return or attack quickly. Serves are also divided into several types, including high forehand serves, backhand serves, short forehand serves, flick serves, and horizontal serves.

In badminton, there are various types of matches, including men's singles, women's singles, men's doubles, women's doubles, and mixed doubles. In each match, there are several types of dominant serves, for example, in men's singles, men's doubles, women's doubles, and mixed doubles, the dominant service used is

the backhand serve, while in mixed doubles, the dominant service used is the high forehand serve and the short forehand serve. For example, during a match in men's doubles, when a doubles player serves, his shot passes the net thinly and the shuttlecock must fall between the intersection of the front service line and the center line and the front service line with the edge line, done in such a way that the opponent has difficulty returning the ball (shuttlecock) and also the opponent cannot immediately attack.

In Indonesia, badminton is a sport that has contributed significantly to numerous achievements, as it is the second most popular sport after football. Indonesia's success in winning championships is inextricably linked to the influence of the Indonesian Badminton Association (PBSI), the national badminton governing body. Following the formation of PBSI, the Indonesian badminton scene has gradually improved, evolving from a regional and national level to an international scale. PBSI joined the International Badminton Federation (IBF) in 1953 and actively sends its players to international championships.

The achievements made in the form of sporting achievements by the sons and daughters of the nation for their country, so that they can bring honor to their country's name on the international stage, are also what a student wants to do for the university where he studies. By getting an opportunity, a student also wants to promote his university to become famous, whether in the region, on the national stage or on the international stage. In an effort to popularize his university, a student certainly wants to make an achievement, whether in academic or sporting achievements. For example, in the sport of badminton, to attract the interest and attention of students, a medium is needed to channel those talents. Therefore, a Student Activity Unit (UKM) is formed as a forum to accommodate the interests and talents of these students.

STOK Bina Guna is a university that prioritizes sports and is also a place to study for students who enjoy sports, especially those with talents in specific sports. The Student Activity Unit (UKM) is the perfect place to channel students' interests and talents to achieve success. Based on the researcher's observations, badminton is one of the most popular sports at STOK Bina Guna. Many students are interested in badminton, especially after the researcher examined the number of STOK Bina Guna Badminton UKM members in 2025. In badminton, serving skills are essential, as they can be a powerful weapon in gaining points against the opponent. The backhand serve (short serve) is a skill that opponents should be wary of if mastered. Practicing serving techniques requires immense patience, as it is not easy.

Backhand service (short serve) training must be done routinely and consistently to achieve adequate skills. Therefore, to practice the backhand service technique requires great patience. After conducting a thorough observation, the researcher saw that many members of the STOK Bina Guna Medan Badminton Student Activity Unit (UKM Badminton) in 2025 still made mistakes in serving, especially the backhand service (short serve). Of the ten STOK Bina Guna Badminton Student Activity Unit members who were pretested, the average score obtained was very low and many still made mistakes in performing the backhand service (short serve).

## METHOD

### Research Design

Research design is a plan or plan made by researchers as a guideline for activities to be carried out, and the design used in this research is an experiment conducted on only one group without a comparison group (Khanif, M. 2011). The goal is to simplify the research steps.

### Participant

This research was conducted at the STOK Bina Guna Multipurpose Building in 2025. The population in this study were all 35 members of the STOK Bina Guna Badminton UKM. The sample was representative of the population. Sampling was intended to ensure that the research could proceed effectively and efficiently. Because the sample used in this study was 10 UKM members, the sampling was carried out using purposive sampling, namely the technique of determination and consideration. The sample consideration criteria in the study were: 1) 75% attendance (practice activity), 2) Willingness to participate in five treatments.

### Data Analysis

Before testing the hypothesis, it is advisable to conduct a prerequisite test. This test examines the measurement data to aid in improving the analysis. The data required for this study will be collected in two tests: the first is a pre-test of short serve skills before serving practice, and the second is a post-test of short serve skills after serving practice for six sessions.

### a. Normality Test

The normality test is intended to determine whether the distribution of variable scores follows a normal curve. To test for data normality, the Kolmogorov-Smirnov Z test is used using the statistical software suite (SPSS) 25th edition for Windows. To determine whether the data distribution for each variable is normal, the significance test results are used. If the calculated sig. > 0.05, the data is considered normally distributed.

### b. Homogeneity Test

The homogeneity test serves to demonstrate whether the elements of a research sample are indeed homogeneous (the same, similar) or not. After the data is declared normal, the next step is to conduct a homogeneity of variance test. This is done to test the similarity of several samples. If the homogeneity test results are not the same for all research respondents (consisting of only one element, or consisting of several elements), then data processing cannot proceed to measuring the influence or relationship or testing the hypothesis. The reason is that the data obtained from the respondents is considered not to accurately represent all respondents according to the actual situation. In this study, the researcher used the F-test on pre-test and post-test data using SPSS 25.

## RESULTS AND DISCUSSION

### Results

This study used an experimental data collection technique using tests. A pre-test was administered before the Shoot-On-Target training session was administered, and a post-test was administered after six sessions of Shoot-On-Target training.

Table 1. Statistical Data

		Statistics	
		Mark Pre	Mark Post
		Test	Test
N	Valid	10	10
	Missing	0	0
Arman Gea		6	9
Berliance Waruwu		7	8
Sujud Anugrah Harefa		10	13
Ananda Zai		11	13
Agusman Duha		12	14
Rodikat Zebua		4	9
Jen Gea		4	7
Vrans Gea		3	6
Vandi Halawa		5	6
Freddy Zebua		8	11
Mean		7	9,6
Minimum		3	6
Maximum		13	14
Sum		70	96

### Discussion

This study aims to determine whether there is an effect of Shoot On Target training on the Backhand service ability of badminton sports UKM badminton STOK Binaguna Medan in 2025. Based on the results of the pre-test and post-test that have been conducted on 10 students, it can be seen that there is an increase in scores after being given training treatment. The pre-test results show an average value (mean) of 8.83 while the post-test results increased to 10.50. This increase illustrates an improvement in service accuracy ability after being given Shoot On Target training treatment. Based on the results of the t-test on the pre-test and post-test data, the resulting data is from the results of the t-test above based on the data obtained from the results of Shoot On Target Training on the Backhand Service Ability of Badminton Sports UKM Badminton

STOK Binaguna Medan in 2025, it can be concluded that the value of the two-sided sig  $0.001 < 0.05$  and t-count  $5,000 > t\text{-table } 1.894$ , which means that there is a significant influence of Shoot On Target training on the Backhand service ability of badminton sports UKM Badminton STOK Binaguna Medan in 2025.

From the descriptive data analysis, it can be concluded that the pre-test and post-test samples consisted of 10 individuals, with a pre-test score range of 10, with a maximum score of 13 and a minimum score of 3. A mean pre-test score of 8.83 and a standard deviation of 3.243. Meanwhile, the post-test score range was 8, with a maximum score of 14 and a minimum score of 6. A mean post-test score of 10.50 and a standard deviation of 2.541.

Data normality was tested using the Shapiro-Wilk test, as the sample size was less than 50. The data obtained from the Shoot-On-Target Training for Backhand Service Ability in Badminton Sports UKM Badminton STOK Binaguna had a pre-test sig.  $0.147 > 0.05$  and a post-test sig.  $0.465 > 0.05$ , indicating a normal distribution. The results of the data homogeneity test obtained a sig value of  $0.304 > 0.05$ , so that the data from the results of the Shoot On Target training on the backhand service ability of the STOK Bina Guna Badminton UKM badminton sport can be said to be homogeneous.

## CONCLUSION

Based on the results of research conducted through Shoot-On-Target training for 10 students from the STOK Binaguna Medan Badminton Student Activity Unit (UKM Badminton) in 2025, it can be concluded that:

- 1) There was an improvement in service ability after receiving Shoot-On-Target training, as indicated by an increase in the average score from the pre-test of 7 to 9.60 in the post-test.
- 2) The histogram above shows an increase in the average score in the post-test. The average serve score rose from 7 in the pre-test to 9.60, indicating a change in the results of Shoot-On-Target training on the backhand serve ability of the STOK Binaguna Medan Badminton Student Activity Unit (UKM Badminton) in 2025 after receiving Shoot-On-Target training.
- 3) These results support the theory that variation in training can improve motor skills more effectively by reducing boredom and increasing concentration. Shoot-On-Target training provides a systematic and enjoyable form of training.
- 4) There is a significant influence of Shoot On Target Training on Badminton Backhand Service Ability with an increase of 37.14% for the STOK Binaguna Medan Badminton UKM in 2025.

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## AUTHOR CONTRIBUTION STATEMENT

This research was conceptualized and designed by Putra Friendlyman Gea, who developed the research objectives and methodology, managed data collection, coordinated with participants, and supervised fieldwork at STOK Bina Guna Medan. Ramadan Ginting performed data analysis, interpreted the findings, and contributed significantly to the drafting of the manuscript. All authors participated in the revision of the manuscript, approved the final version for submission, and take full responsibility for the integrity and accuracy of the work.

## CONFLICT OF INTEREST AND FUNDING

The authors declare no conflict of interest related to the conduct, authorship, or publication of this study.

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