

## Drill Training Program to Improve Badminton Forehand Smash Skills

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### Abstract

This research aims to find out whether the drill training program has an effect on improving badminton forehand smash skills. This research method uses a quantitative type of research with an experimental research design, one group pretest - posttest design. This research was carried out at the Karanglo sports building, RT 04/RW 04, Waru, Baki District, Sukoharjo Regency, Central Java, on October 18 2023. The subjects in this research were all 61 members of the UMS sports education badminton talent team, totaling 61 people. with a sample of 20 people, and this sampling technique used Purposive Sampling. The results of this research were tested statistically using SPSS 23, obtaining a calculated t value =  $-10.576 < t_{table} = -2.093$  and a significance value of 0.00, which means the p value  $< 0.05$ , meaning there is an influence of the drill training program to improve badminton forehand smash skills.

### Introduction Section

Sport is a planned and structured physical activity that involves repetitive body movements and is intended to improve physical and spiritual fitness. Sport is not only related to physical fitness, but also has an impact on a person's spiritual and social well-being. Apart from that, sport plays a good role in a person, such as managing stress and mental health, building character, developing skills, increasing independence and quality of life, which can be applied in various social activities, games, competitions and competitions, especially in the sport of badminton which is very popular with all groups from children to adults (Pardiman & Andri Hendriawan, 2020).

Badminton, also known as 'badminton,' is a racket sport played indoors or on an open court by two people (singles) or two pairs (doubles). Each player or pair tries to hit the shuttlecock with a racket towards the opponent, moving around over the net, with the aim of scoring. This game is similar to the sport of tennis. In badminton, players aim to hit a shuttlecock over the net and into the opponent's designated playing area, while also preventing the opponent from doing the same (Hamzah, 2022). The sport of badminton in Indonesia has experienced very rapid growth which cannot be separated from the role of the hard work of athletes, coaches and administrators in badminton development. This has been demonstrated by the parent badminton organization in the country, namely, the All Indonesian Badminton Association (PBSI), which can be said to be able to give birth to many legends and develop athletes to achieve achievements on the international stage.

Badminton is one of the sports developing in Indonesia, and it can be played by people of all social classes. Badminton can be played by various age groups, both young and old. This is because badminton players are easy to play and the equipment is also easy to get. Understanding the values of badminton will be useful for players, especially the benefits related to physiological and anatomical development as well as physiological and sociological development (Ulfian, 2019).

On the other hand, badminton athletes have contributed many achievements to Indonesia on the world stage, starting from the world championships, All England, Thomas and Uber Cup, as well as other international championships, even the Olympics. To play badminton well, mastering basic techniques is essential, including techniques such as service, smash, lob, drive, netting, drop shot, and more, Pamungkas, KAA, Indarto, (2021). To be able to play badminton well, a badminton player must be able to master the basic game techniques used in playing. Mastering basic techniques well can be one of the factors that determines victory for a badminton player in a match. (Syafani et al., 2021).

In badminton, a player's ability is determined by good technical mastery. Therefore, mastery of basic techniques is absolutely necessary so that athletes' abilities can be maximized. Every badminton player must improve their skills in mastering various hitting techniques (Ichsanudin & Aguss, 2022). Badminton skills are a badminton player's ability to use techniques, tactics and elements possessed by a badminton player. The basic badminton technique is that players must be able to hit the shuttlecock, both from above and from below (Nugroho, 2020). According to (Zarwan et al., 2018) In the game of badminton, mastery of basic techniques is one of the most important things in making an athlete achieve maximum performance. There are several basic techniques that athletes must master in playing badminton, namely, how to hold the

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racket, how to hit (serve, lob, smash, netting play, drop shot and drive), basic position and footwork. Badminton aims to hit the ball or shuttlecock over the net so that it falls on the opponent's designated playing field and tries to prevent the opponent from doing the same thing (Nuzul Fitra, Saifu, 2020). Meanwhile, according to (Subarkah & Marani, 2020) The aim of playing badminton is to try to drop the shuttlecock in the opponent's playing area and try to ensure that the opponent cannot hit the shuttlecock in the opponent's playing area and try to ensure that the opponent cannot hit the shuttlecock and drop it in his own playing area.

Smash is one of the hitting techniques in the game of badminton. For Having a good smash requires regular practice. One way to get points or numbers is smash. Forehand smash is hitting the cock with the contact area of the ball on the front of the racket and the direction of movement is from right to left for players who hold it with the right hand (Sports et al., 2023). One of the methods used is drill training. The drill method is a way of practicing smashes using repeated movements (Rustandi & Safitri, 2020). Smash is a punch that dives towards the opponent and is done with full force. This type of punch is identical to an attacking punch because it aims to kill the opponent (Shofiana, 2021). Meanwhile, according to (Main, 2010) A smash is an over head shot that relies on arm strength and speed as well as a flick of the wrist to make the ball go into a sharp dive. Both straight smashes and cross smashes can both be hit with the same swing.

Skills are the ability to use reasoning, thinking, and creativity to work on and change or make something more meaningful, thereby producing greater value than the results of the work done (Hendra Sutiyawan et al., 2015). Smash skills occur due to contraction. The basic technique for performing smash skills begins with using the dominant hand, rotating the body at the waist and back shoulder in the direction of leg movement, body weight is on the front leg as support, making sure the body remains balanced and ready for the next movement (Bayu Dewantara Alsaudi, 2016).

Training is the process by which an athlete is prepared to achieve peak performance. The training process certainly requires the athlete's ability to adapt and adapt to the training load given by the coach through training (Rohmah, 2018). Sports interest is a person's tendency or interest in physical activity or activities that involve body movement. These interests can vary from one individual to another, and are influenced by various factors such as personal preferences, childhood experiences, health conditions, and the surrounding environment. Meanwhile, talent is a person's natural ability or tendency to do something well or easily. Talents can cover a variety of areas, such as art, sports, music, or specific skills. Talent is often considered an innate potential that differentiates a person from others. Therefore, it is necessary to make several coaching and development efforts in the field of sports, with the aim of achieving optimal performance in a championship at both national and regional levels (Indarto et al., 2018).

Sports Talent Interest is a forum or place as well as one of the courses in the Sports Education Study Program which aims to explore students' interests and talents in the field of sports, one of the sports is badminton. This sport is one of the favorite sports of choice for students with a total of 61 people in 2023. In the implementation of development, badminton talent interest activities in the Sports Education Study Program are activities carried out in closed rooms.

In terms of talent for badminton, there are many athletes who have achievements including 1st place in SCESA Men's Singles & Doubles, 1st place in the Women's Singles Student Sports Week (PORMASI), 2nd place in Men's Singles PORMASI, 1st place in the 58th MILAD Muhammadiyah Student Association (IMM) Doubles Mixed, 2nd place at the 58th IMM MILAD, 1st place at the Men's Doubles Student Sports Week (PORSEMA), 1st place at PORSEMA Women's Doubles, and there is a student with an interest in badminton who is the Head of the Badminton Student Activity Unit (UKM) at the Muhammadiyah University of Surakarta.

Despite the many achievements of those interested in badminton, it cannot be denied that several students still lack mastery in basic technical skills, particularly forehand smash skills. In an interview with the head of the UMS Sports Education Badminton Talent Interest, Prabaninggar, on September 6, 2023, he stated that all the basic techniques had been taught in the form of a program. However, there was still a lack of mastery of the forehand smash skill, which was the weakest among the basic hitting techniques mastered by athletes. The reason why athletes lack mastery of forehand smash skills is because there is no special training program for forehand smashes, there is no specific training program for basic forehand smash techniques and there is a lack of structured coaching which causes a lack of training effectiveness so that mastery of forehand smash skills is not good when training and competing.

Due to the lack of specific training programs and unstructured coaching in badminton sports talent interests, the researcher will provide exercises using drill training to athletes during badminton talent interest training. The aim is to determine whether the drill training program influences the improvement of badminton forehand smash skills among students interested in sports talent at Muhammadiyah University, Surakarta.

## Research purposes

The aim of this study is to find out whether the drill training program has an effect on improving badminton forehand smash skills.

## Research Method

This research uses a quantitative type of research with an experimental research design, one group pretest - posttest design. According to Febrisyah et al., (2022) This is a design to compare the results before and after giving treatment to measure the impact or changes that may occur as a result of the treatment. This research was carried out at the Karanglo sports hall, RT 04/RW 04, Waru, Baki District, Sukoharjo Regency, Central Java, on the 18th October 2023. The subjects in this research were all members of the UMS sports education badminton sports talent interest, totaling 61 people. However, too many researchers took samples totaling 20 people, and this sampling technique used purposive sampling, namely a sampling method in research where the researcher deliberately selecting certain participants or cases that are considered most relevant or have special characteristics related to the research objectives. This approach contrasts with random sampling methods, where each member of the population has an equal chance of being selected.

The data collection technique in this research was carried out by pretesting at the first meeting, namely the point system forehand smash test. After carrying out the pretest, the next step is to provide treatment, namely by providing smash training using the Drill Training Method to the student in 12 meetings and 3 times every week. The final step is to give the Posttest. This assessment test instrument is adopted from (Artha, 2021), which this test uses by directing targets that already have scores. The series of implementation of this test instrument uses the following equipment: badminton court, racket, net, badminton cock, rope or ribbon, stationery and assessment forms. then the steps and how to implement them are as follows: 1). The official consists of three people, namely one person calls and announces the score or result of the match, one person records and records the results of smashes in the match, and one person is responsible for serving in the match. 2). The testee (the person being tested) takes a ready stance in a predetermined position, holding the racket. After hearing the signals "ready" and "yes," the testee jumps with the racket swung upwards and then smashes. This process is repeated 10 times, with the feeder doing the drill. 3). The recorded results are numbers that reflect the performance or score obtained by a person, known as a "testee," who has performed 10 smash opportunities to obtain more accurate and representative data. 4). If the Shuttlecock leaves the field of play or does not cross the net it is considered out and has a value of zero.

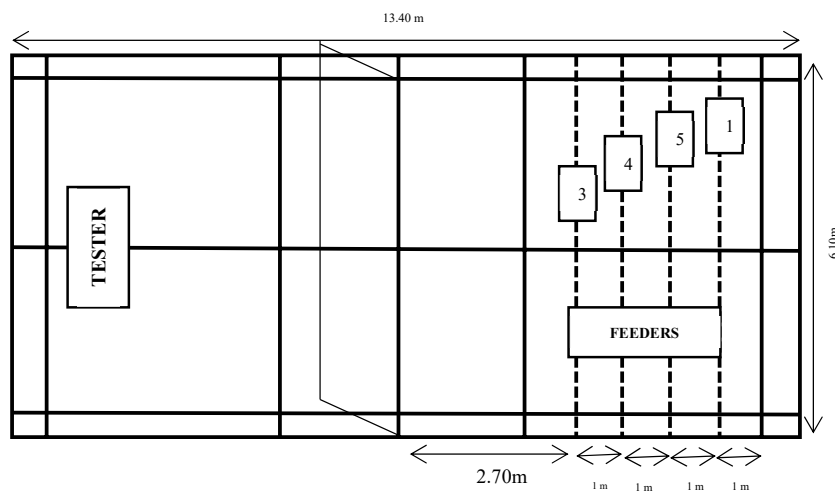


Figure 1. Badminton Forehand Smash Skills Test Court

The results of providing Drilling training significantly influence or relate to Badminton forehand smash skills in Badminton Sports Talent Interest at Muhammadiyah University of Surakarta. Pretest and posttest data were processed using SPSS 23. Starting from descriptive statistical analysis first to find out the mean, standard deviation, maximum and minimum. then proceed with the assumption test or analysis prerequisite test involving the normality test, homogeneity test, and statistical hypothesis test. The normality test is a statistical method used to assess whether the data contained in a sample comes from a normal distribution or not, the homogeneity test is used to determine whether the sample comes from a homogeneous population, while the statistical hypothesis test uses a paired sample t-test / two-party test to find out whether there is a very significant difference before being given the effect of training and after being given training between the pretest and then the posttest.

## Results and Discussion

### Research result

After carrying out a pretest at the first meeting, then providing treatment and the final step of the posttest, the results of the badminton forehand smash skill test can be described as follows:

**Table 1.** Results Description Drill Training Forehand Smash

Variable	N	Minimum	Maximum	Mean	Std. Deviation
<i>Pre-test</i>	20	17	34	26.30	5,658
<i>Post-test</i>	20	36	47	41.90	2,713

Based on the results in table 1, it can be described the level of forehand smash ability during the pretest with a mean of 26.30, standard deviation 5.658. Meanwhile, the highest score was 34 and the lowest score was 17. The level of forehand smash ability during the posttest was 41.90, standard deviation 2.713. Meanwhile, the highest score was 43, and the lowest score was 36. After the results of the comprehensive descriptive analysis, it was continued with the data normality test as a prerequisite for testing the research hypothesis. The results of the research data normality can be seen as follows:

### Normality test

Normality testing uses the Shapiro Wilk Test. Decision Making Rule: "If the p-value (value in the Sig. column in the Tests of Normality table)  $< \alpha$ , then reject  $H_0$ ." Writing Hypotheses for Normality Testing

$H_0$ : Data comes from a normally distributed population

$H_a$ : The data does not come from a normally distributed population

**Table 2.** Results Description Drill Training Forehand Smash

No	Variable	Sig	Conclusion
One	<i>Pre-test</i>	1.62	Normal
Two	<i>Post-test</i>	5.96	Normal

Based on table 2, the Sig value (p-value) for the normality test using the Shapiro Wilk Test method for the pretest variable is 162 and the posttest variable is 596. This means that the p-value is  $< 0.05$ . It can be concluded that the data is normally distributed.

### Homogeneity Test

This test will test that the variances of these variables are the same, to accept or reject the hypothesis by comparing the significant values. More than 0.05. The homogeneity test results can be seen in table 3.

**Table 3.** Homogeneity Test Results

Items	Variable	Sig	Conclusion
One	TO	0.01	Inhomogeneous

Based on the calculation results, a significance value of 0.01 is obtained, which means  $< 0.05$ . So, it can be concluded that the population variance is not homogeneous.

### Hypothesis testing

The hypothesis states "there is an influence of the drill training program to improve the badminton forehand smash skills of students interested in sports talent at the Muhammadiyah University of Surakarta". The test for this hypothesis uses the t-test, the results of which can be seen in table 4.

**Table 4.** Hypothesis Test Results

Variable	Df	Q	Sig
Pretest & posttest	19	-10,576	000

Based on the calculation results, the calculated t value was  $10.576 < t$  table 2.093 with a significance value of  $0.00 < 0.05$ . Thus the hypothesis is accepted.

## Discussion

This research aims to determine the badminton forehand smash skills of students interested in sports talent by implementing drill training. Based on the overall results of badminton forehand smash skills, students interested in sports talent at Muhammadiyah University of Surakarta, see  $t_{count} > t_{table}$  mastered the forehand smash skill technique. This can be seen in figure 2.

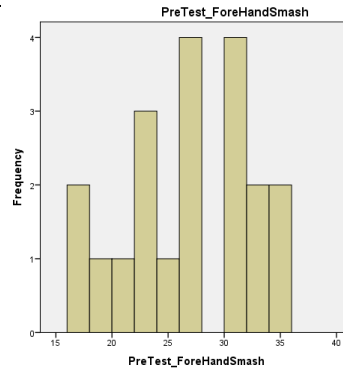


Figure 2. Pretest Forehand Smash

In accordance with the research results presented in Figure 2, forehand smash pretest, there were 3 students who got a score above 15, 5 students scored above 20, 7 students scored above 25, and 5 students scored above 30. So it can be said that there are still many students who get grades below the average because they don't know how to do a badminton forehand smash with the correct technique. The results of the research after being given treatment using the drill method, all samples got maximum results before being given treatment, this can be seen in figure 3.

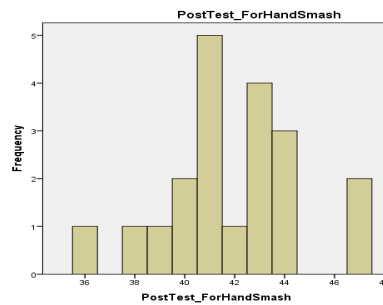


Figure 3. Posttest Forehand Smash

Seen from Figure 2 and Figure 3, it can be seen that when the pretest and posttest were carried out, it showed the success of the drill method on badminton forehand smash skills after being given treatment, there was a significant increase, initially many students got scores that were still below average after being given treatment, many students who received the treatment were still below average. get a high score above 40. With this, students already know how to do a badminton forehand smash properly and correctly. Some students experienced an increase but it was not significant, this could happen because the students were still lacking due to personal factors. However, for some students, the results of the badminton forehand smash drill training program are quite good. This is also due to the enthusiasm factor in practicing during the treatment because the drill training program is carried out continuously so that it can stimulate students' abilities so that there is improvement. Therefore, it can be a training program when practicing talent for badminton at the Muhammadiyah University of Surakarta.

## Conclusion

Based on the research results obtained using data analysis and hypothesis testing and statistics, it can be concluded that there is a very significant influence of the drill training program to improve the badminton forehand smash at Muhammadiyah University of Surakarta. From the results of the statistical analysis of the badminton forehand smash drill program, the  $t$  value =  $-10.576 < t_{table} = -2.093$  and the significance value is 0.00, the  $p$  value  $< 0.05$  means that there is an influence of the drill training program to improve the badminton forehand smash skills of interested students. Muhammadiyah University of Surakarta sports talent. If you look at the pretest mean of 26.30 and posttest mean of 41.90,

there is an increase of 15.6. It can be concluded that the forehand drill training program can improve badminton forehand smash skills at Muhammadiyah University of Surakarta.

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