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The Effect of Shadow and Ball-Passing Training Methods on Forehand Drive Stroke Accuracy in PTM Pade Angen Mataram Table Tennis Athletes

Dwi Ria Silvira[1], Johan Irmansyah[2], Supriadin[3]
[1,2,3]Universitas Pendidikan Mandalika

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Abstract

This study aims to determine the effect of shadow and ball passing training methods on the accuracy of forehand drive stroke in table tennis athletes of PTM Pade Angen Mataram. The accuracy of the forehand drive is one of the most important basic techniques in the game of table tennis because it plays a role in creating effective attacks and earning points. However, there are still athletes who have difficulty in performing forehand drive shots accurately and consistently. Therefore, effective training methods are needed to improve these abilities. The method used in this study is an experimental method with a pre-test and post-test design. The sample consisted of 10 athletes. The data collection technique uses a forehand drive stroke skill test in table tennis. Based on the analysis using descriptive statistical techniques, the calculated t(H0) value is 10.628, while the t-table value at the significance level of 5% with the degree of freedom (df) = n - 1 = 9 is 2.262. Due to the t-table (10.628 > 2.262), the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Thus, it can be concluded that there is a significant effect of the shadow and ball feed training methods on the accuracy of forehand drive shots. In other words, shadow and ball pass exercises can improve forehand drive hitting skills in table tennis.

Corresponding Author:
Dwi Ria Silvira
Universitas Pendidikan Mandalika
Email Correspondent: dwiriasilvira@gmail.com

1. INTRODUCTION

Exercising is a positive activity, but many are underestimated for various reasons. Many of them do not realize how important exercise is for daily life, The general assumption that many people understand is that it is important that we sit still, so it is called exercising. Even though in reality exercising alone is not that simple. Activities called exercise are physical activities that are directed, regular and healthy, not only physically and mentally. Many forms of sports can be chosen according to their physical abilities and opportunities, Many people choose to align the sport they choose with the hobby they are engaged in. So that they don't quickly feel bored and give up. One of the sports that is widely pursued not only for health but also as a hobby is table tennis.

Table tennis is one of the most popular sports in all circles. The Indonesian people used to know the game of table tennis as "Ping-Pong". According to Sutarmin (2007:2), the game of table tennis had experienced ups and downs and began to develop again in 1920 in the sport which was marked by the emergence of table tennis sports clubs, especially in the European region. Table tennis is one of the unique and creative sports branches, because the game is carried out using a table as a court that is limited by a net that uses small balls made of *celluloid* and the game uses a beater or bet (Erlan, 2014: 10). Likewise, Larry Hodges

(2007: 25) said that the game of table tennis is a game that uses table facilities and equipment as well as rackets and balls as tools.

Table tennis has a variety of hitting techniques that are complex and look difficult to use. However, the core of the table tennis game is a simple game. The action carried out in this sport is consistent hitting, directing and placing the ball on the opponent's table so that at some point the ball cannot be returned by the opponent (Salim, 2008: 14). Table tennis is the fastest sport in playing ball. This is due to the relatively high bounce power of the ball with a table or with a bet coated with rubber, played in a relatively small table (Education and Culture Office, 2013: 2). The game of table tennis is a game that uses table facilities and equipment as well as rackets and balls as tools (Larry Hodges, 2007: 25).

Meanwhile, the way to play it is by using a racquet coated with rubber to hit *a celluloid* ball through the net (Muhajir, 2006:26). The same thing was said by Tomoliyus (2012: 14) that the basic idea of the table tennis game is to present the first ball by first bouncing the ball to the table presenter, and the ball must pass over the net and enter the opponent's table target and also return the ball after bouncing on the table using bets to hit the ball, the result of the ball passing over the net and entering the opponent's table target

Table tennis games can't be played just like that. The techniques in the game of table tennis are quite varied. According to Bandi Utama (2016: 2) table tennis game skills include: (1) grip, (2) stance or stance, (3) types of strokes, and (4) *foot work*. Each technique has a very important role in the game of table tennis. According to Indra (2017: 3) A good player in a table tennis game is a player who understands and can do the technique of the table tennis game itself. So to be able to play table tennis well, you must first learn the basic techniques of the game. The techniques of the table tennis game must be mastered and learned by every player because every technique in the game has a very important role. In order to have good table tennis skills, players must master basic movements in playing table tennis first, one of the dassar movements is *the forehand drive* movement. This technique is used to attack as well as control the game through fast, powerful, and directed punches. According to Hodges (2016:12) *Forehand* is any shot made with a bet that is moved to the right of the elbow for players who use the right hand and to the left for players who use the left hand. Then according to Sukma (2016:47) *Forehand* is a punch that is carried out with the position of the hand from the outside swinging inwards. Based on this opinion, it can be concluded that every *forehand* is made with a bet whose movement is towards the right of the elbow for the player who uses the right hand and the left for the player who uses the left hand. Forehand punches are usually the most powerful punches because the body does not block when hitting punches. Foehand punches are considered important because they are usually the main punches to carry out attacks.

The development of the world of table tennis athletics is increasingly leading to active movement, such as striking skills, complete techniques, and varied tactical changes. According to Alex Kertamanah (2015:31) To improve the basic techniques in the game of table tennis, we are advised to practice, The right way and place in training and honing table tennis strokes, is to join or join a table tennis club or PTM, where there is a training process from beginners, juniors to adults.

PTM Pade Angen Mataram is a table tennis club in Mataram City, in the process of table tennis training we must know the basic techniques in table tennis, among others, how to hold bad, the basic position of standing posture and basic posture, and the type of stroke. At the time the prospective researcher saw and watched the table tennis athletes of Club PTM Pade Angen Mataram, there were still shortcomings in making table tennis strokes, the problem that the prospective researcher got was that most of the table tennis players were the lack of skill in the accuracy of *forehand drive stroke* strokes when playing games or games.

Based on the results of observations at PTM Pade Angen Mataram, it was found that the accuracy of *the forehand drive stroke* of some athletes is still relatively low. Many athletes have not been able to consistently direct the ball to the desired target so the effectiveness of the attack is reduced. This condition shows the need for training methods that are able to improve the accuracy of athletes' strokes.

One of the training methods that can be applied is *shadow training*. Shadow training is an exercise without using a ball that aims to form the correct movement pattern, improve the player's body coordination, balance, and *footwork*. This exercise helps athletes build movement memory so that movements become more automatic when playing. In addition, ball passing practice also plays an important role in improving the control and accuracy of the shot because athletes practice returning the ball to a specific target in a repetitive and directed manner. Based on the opinion expressed by Setyawan et al., (2018) *shadow* training is a shadow exercise that can be done by yourself with direct guidance and monitoring by the coach so that the movements of the table tennis forehand drive can be well controlled.

One of the important stroke techniques in the game of table tennis is the *stroke forehand drive*, this technique needs to be mastered by athletes, even becoming a mandatory technique that must be possessed by table tennis players. Forehand *drive stroke* precision skills are closely related to maturity and frequency of exercise This means that to get good *forehand drive stroke* precision skills, Club PTM Pade Angen Mataram table tennis athletes must train intensively and programmatically. A.M Bandi Utama (2004:3) said that in table tennis matches, the ability to hit accuracy has an important role to win the match This is because, by mastering the technique of hitting accuracy, players will be able to follow a very fast, short, and precise game considering that victory is the ultimate goal of a table tennis game. Table tennis athletes of Club PTM Pade Angen Mataram need various types of exercises to train accuracy. One of the objectives of the variety of exercises is to motivate table tennis athletes of Club PTM Pade Angen Mataram so that they do not get bored of practicing, especially when doing precision training.

According to Alex Kertamanah (2015:29), special training should consist of *shadows* whose number and frequency are adjusted to the conditions of the trainees. In the early stages, the skills taught should be simple and done slowly, with a level of difficulty and increased speed that corresponds to the time ratio. Of the various methods in table tennis, one of the training methods used to improve *forehand drive stroke precision skills is* the shadow *training method*. *Shadow* is a method of training that emphasizes the frequency of hitting, allowing the athlete to get used to hitting the target ball, so that the athlete's movements become automatic.

The combination of *shadow training* and ball *passing* is believed to be able to improve the accuracy of *forehand drive strokes* because the two methods complement each other. *Shadow* focuses on establishing technique and movement patterns, while ball passing emphasizes accuracy and control of the ball. Therefore, this study was conducted to determine the influence of *shadow* and *ball passing* training methods on the accuracy of *forehand drive strokes* in PTM Pade Angen Mataram table tennis athletes.

2. RESEARCH METHODS

In this study, the author uses an experimental research method, namely the study will provide a kind of treatment on the accuracy of *forehand drive strokes,* then look for the effect of the results of *shadow* and *ball passing* exercises on the accuracy of table tennis *forehand drive stroke* in table tennis athletes Club PTM Pade Angen Mataram. The research design used by the researcher is *pre-test* and *post-test.*

The research design can be described as follows:

Table 1. Research Design

	Pre-Test	Treats	Post Test
R	X1	O1	Y1

Source : Arikunto, 2016:86

Description :

R = total sample of the population

X1 = The treatment group measured using *a forehand drive stroke* skill test before being given shadow and ball passing method training (*treatment)*

O1= Giving *shadow* and *ball passing* exercises in 3 x 1 weeks for 4 weeks.

Y1= The treatment group measured using *a forehand drive stroke* skill test *after being given shadow and* ball passing method exercises.

The population of this study is table tennis athletes of Club PTM Pade Angen Mataram which totals 10 athletes. The sampling technique used is the quota sampling technique, according to Sugiyono (2015:126) quota sampling is a technique to determine the sample of the population, so that prospective researchers use all samples from the number of population, for this reason the researcher took a sample of 10 table tennis athletes of the PTM Pade Angen Mataram Club table tennis team.

Instruments are tools or facilities used by researchers in collecting data so that their work is easier and the results are better, in the sense that they are faster, complete and systematic so that they are easier to process.

The implementation of data collection and data collection in this study is:

1. Forehand drive *skills test*

Purpose: Measuring the Stroke Accuracy *of Forehand Drive* Tools and Equipment:

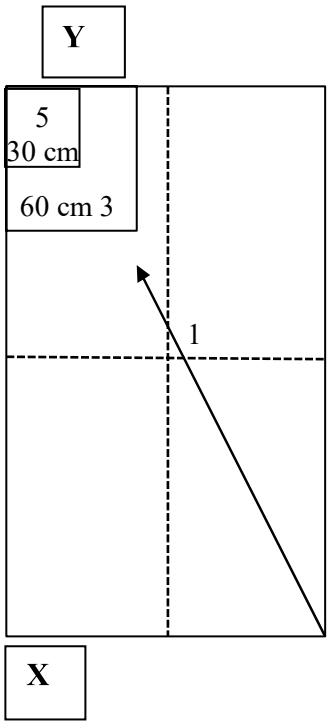
1) Table tennis balls
2) Table tennis net
3) Table tennis table
4) Bath
5) *Stopwatch*
6) Camera
7) Stationery to fill in test results.

Implementation Procedure:

a) Subjects do warm-ups and practice
b) The first ball starts from the *testee*.
c) Subjects perform *a diagonal forehand drive stroke rally* for 30 seconds. After a 10-second break. Subjects do another *30-second* Rally.

Scoring Instructions:

1) Scoring was carried out by 3 people, one recorder, one *stop watch* holder and one observer.
2) Balls that hit the target area of 30 square cm give a score of 5. And the ball that enters the target area of 60 square cm gives a score of 3. And the ball that enters the target gives the rest of the score 1.
3) The first ball of the *testee* is not recorded or not counted.
4) The recorder sums up the score of each *Rally* for 30 seconds The highest score of a *Rally* for 30 seconds used



Instrument Drawing *Forehand Drive Stroke Precision Capability*
Source Tomoliyus (Syaiful 2014: 35)

Description:
X : Testi
Y : Feeder

The data collection techniques used in this study are observation and documentation techniques. Observation is a data collection technique, where the researcher makes direct observations on the research object to take a close look at the activities carried out (Riduwan, 2004:104). Basically, the observation technique is used to see and observe changes in social phenomena that grow and develop which can then be changed to the assessment, for the observer to see the object of a certain moment, so as to be able to separate between what is necessary and what is not needed, (Margono, 2007:159). Meanwhile, documentation techniques are one of the ways of data collection, and are related to research related to documentation in the form of images at the time of research.

Data analysis is an important step because with data analysis, conclusions can be drawn from the research that has been carried out. In research, there are two types of data analysis, namely statistical analysis and non-statistical analysis. Statistical analysis is a scientific method applied to analyze, collect, compile and present data in the form of numbers (Sutrisno Hadi, 2004:221). After obtaining the final test results, a hypothesis test was carried out using *t-test analysis* (Sutrisno Hadi, (2004:278), namely with the help of SPSS.

3. RESULTS AND DISCUSSION

3.1. Research Results

1. Descriptive Data of Initial and Final Tests

Preliminary test data and final test results Precision capability *Stroke Forehand Drive* listed in the following table 2 :

Table 2. Descriptive Data of Initial and Final Tests

Yes	Name	Initial Test (*pre-test*)	Final Test (*post-test*)
1	Hasan	30	50
2	Farit	33	54
3	Alan	20	40
4	Inspiration	35	46
5	Wahid	32	52
6	Alfath	42	60
7	Abdul	32	44
8	Fauzan	40	48
9	Antasari	31	52
10	Ogi	42	55
	Quantity (∑)	317	501

Based on table 4.1 (initial test) above the accuracy ability of *forehand drive* strokes in table tennis athletes of Club PTM Pade Angen Mataram, before being given *shadow* and ball passing exercises from 10 athletes, the results of the accuracy of *forehand drive strokes* were obtained with the highest score of 42 points while the lowest score was 20 points, the total points were 317 with an average score of 33.7.

Based on table 4.1 (final test) above the accuracy of *forehand drive strokes* in table tennis athletes Club PTM Pade Angen Mataram, before being given *shadow training* and passing the ball was 60 points while the lowest score was 52 points, the total points were 501 with an average score of 50.1

Furthermore, the data on the accuracy of *forehand drive strokes* in table tennis athletes at Club PTM Pade Angen Mataram before and after being given *shadow* and ball passing exercises were grouped in 1 table to find out the difference, then continued with testing the analysis requirements, namely the data normality test.

2. Data Normality Test

The data normality test is used to find out whether the data obtained is normally distributed or not. This test uses the *Kolmogrov-Smirnov test formula* with the criterion that the data distribution is normal if the significant value or probability value of K-S is > 0.05 and vice versa if the significant value is < 0.05, it means that the data distribution is abnormal. The results of the calculation of the normality test data of the initial and final test *of the accuracy of the forehand drive stroke* are as follows:

Table 3. Data normality test results

One-Sample Kolmogorov-Smirnov Test

		pretest_Shadow dan passing bola	posttest_multiball
N		10	10
Normal Parameters[a]	Mean	33.70	50.10
	Std. Deviation	6.617	5.820
Most Extreme Differences	Absolute	.188	.128
	Positive	.142	.100
	Negative	-.188	-.128
Kolmogorov-Smirnov Z		.595	.405
Asymp. Sig. (2-tailed)		.871	.997

a. Test distribution is Normal.

Based on the table above, which is a summary of the results of testing the normality of data on each research variable, it can be described as follows:

1. For the accuracy of *forehand drive strokes,* there were table tennis athletes of Club PTM Pade Angen Mataram before being given *shadow* training and ball passing (*pretest*) obtained a data normality value through *the Kolmogrov Smirnov-test* of 0.871 with a probability level *of Sig. (2-tailed)* or (P) of 0.871 greater than α = 0.05 (0.871 > 0.05) which means that this indicates that the data has followed a normal distribution or a normal distribution.
2. For the accuracy of *forehand drive strokes,* there were table tennis athletes of Club PTM Pade Angen Mataram before being given shadow training and ball passing (*posttest*) obtained a data normality value through *the Kolmogrov Smirnov-test* of 0.997 with a probability level *of Sig. (2-tailed)* or (P) of 0.997 greater than α = 0.05 (0.997 > 0.05) which means that this indicates that the data has followed the normal distribution or normal distribution. Then the further analysis can be used for parametric tests with t-tests.

3.2. Discussion

The results obtained from this study consisted of test data in the form of pre test (initial test) and post test (final test). The results of the two tests were used to determine the effect of shadow and ball passing training methods on the accuracy of forehand drive strokes in table tennis athletes of PTM Pade Angen Mataram.

Data obtained before and after the Shadow and ball passing exercises showed an increase. The results of the hypothesis test proved that the average difference in the accuracy of forehand drive stroke skills before being given shadow and ball passing exercises was 33.7, while after being given shadow and ball passing exercises, the average forehand drive stroke accuracy ability was 50.1, resulting in an increase of 16.4.

The results of the test uj t where t count = 10.628 with a significant level of 5% of d.b = (N-1) = 10 -1 = 9 obtained a table t value of 2.262 this means that the t value of the calculation is greater than t table or 9 > 2,262, the percentage results show an increase of 6.7% which comes from the results of the initial test of the accuracy ability of the forehand drive stroke of 33.7% and the results of the final test of the accuracy of the forehand drive stroke ability percentage by 50.1%, then the hypothesis no (Ho) which states that there is no influence is rejected, so the alternative hypothesis (Ha) is accepted. Thus, the hypothesis that states "There is an influence of shadow and ball

passing training methods on the accuracy of forehand drive stroke in table tennis athletes PTM Pade Angen Mataram **is accepted**.

The results of the study show that there is a significant influence of the practice of shadow and ball passing methods on the accuracy of forehand drive strokes in PTM Pade Angen Mataram table tennis athletes, so that these exercises can be used as exercises to improve the accuracy of forehand drive strokes in table tennis games. Shadow and ball passing training materials can affect the accuracy of forehand drive stroke in table tennis games because the training materials provided in the implementation of the research meet or comply with the principles of training.

4. CONCLUSION

Based on the results of the analysis and discussion of the research, a conclusion can be drawn as follows: the results of the t-test test where t is calculated = 10.626 with a significant level of 5% of d.b = (N-1) = 10 -1 = 9 obtained the t-value of the table 2.226 this means that the t-value of the calculation is greater than the t table or 10.626 > 2.262 then the hypothesis no (Ho) which states that there is no influence is rejected, so that the alternative hypothesis (Ha) is accepted. Thus, the hypothesis that states "there is an effect of shadow training methods and ball passing on the accuracy of forehand drive stroke in PTM Pade Angen Mataram table tennis athletes.

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