



## **Differences in the Effectiveness of Kicks Using the Instep with Toe Feet Against the Results of Shooting Accuracy Second Penalty at Futsal UKM Universitas Muhammadiyah Surakarta**

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### **Abstract**

In the futsal game requires the ability to perform basic ball shooting techniques or shooting, where shooting techniques are the basic techniques that are very important in helping to score goals. The shooting technique itself consists of kicks using the instep and toe, where the two techniques produce different shooting accuracy. Therefore, the purpose of this study is to see the difference in the effectiveness of kicks using the instep and toe against the results of the accuracy of shooting the second penalty in futsal UKM at Muhammadiyah University of Surakarta. This study uses a type of comparative study comparing two different variables applied to one object. The data collection technique in this study used two-second penalty kick tests. After all the data were obtained, a descriptive analysis was carried out, then continued with the prerequisite test using the normality test and test homogeneity which was then tested hypotheses. All data tests were carried out using the help of SPSS, with the conclusion that shooting using the instep is more effective than shooting using the toe in shooting Second Penalty. Where it was shown that the average result of the shooting group using the instep was better than the shooting group using the toe, with an average difference of 10.25.



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## INTRODUCTION

Sports have an important role in human life, especially with the development of the times where information and technology are increasingly advanced (Indarto et al., 2018). Exercise is everything related to physical activities that a person does daily to obtain physical fitness in the hope of maintaining health amid a busy routine. According to Jariono & Subekti (2020), physical activity can improve physical fitness so that harmony and harmony are formed to create a healthy and fit body that will motivate someone to do sports. There are so many sports activities that are popular in Indonesia and even many achievements that have been achieved by the Indonesian nation in the field of sports. Every sport, both in the world and in Indonesia in particular, in general has its own history of its establishment. Likewise, Futsal, Futsal sports were originally a sport adapted from the sport of football, but the difference is that the place used is indoors and at the beginning of its development it was played according to standard rules, but now the match rules have developed and are more standard.

The game of futsal can be interpreted as a sport that is very famous in Indonesia and it can even be said that all circles of the community love the sport (Narlan et al., 2017). According to Ardianto (2013), the futsal game is quite different from ordinary football games where futsal games are played with 5 people in a team and are carried out indoors with a narrower ya ng field. According to Syafaruddin (2018), the size of the futsal field used is relatively narrower compared to football, so the futsal game demands high ball possession techniques, cohesiveness in team games, and cooperation between players. For this reason, in futsal games, a player must be

able to master the basic techniques in futsal. This is in line with the opinion of Fahrizqi (2018), who stated that improving the quality of futsal games can be seen from the basic techniques obtained by futsal players.

In futsal games, several basic techniques need to be curated by players, including basic passing techniques, basic techniques of holding the ball (stopping), basic techniques of eating the hull (chipping), basic techniques of dribbling (dribbling), basic techniques of shooting the ball ( shooting) (Murhananto, 2008). In futsal games, a player must master the basic techniques, one of the very important techniques is the basic technique of shooting the ball or shooting which is the only technique in helping to score goals (Hanafi & Hartati, 2015). Thus it can be said that the basic shooting technique is the key to the scoring process, with good mastery of shooting techniques, the chances of scoring goals are also increasingly big. In the futsal game itself, all players have the opportunity to score goals and win matches (Lhaksana, 2011). The purpose of the futsal game is to put the ball into the opponent's goal as much as possible and keep the opponent's own goal from the opponent's efforts to score (Sukirno, 2010). Therefore, in the futsal game, good teamwork is needed (Chen & Dong, 2013). In addition to this, it is also necessary to master the shooting techniques that are good in futsal players to be able to achieve a goal in the futsal game and win matches. According to Indarto (2019), there are three important kick techniques, namely kicks with the outer foot, kicks with the inner legs, and kicks with the insteps. In line with the opinion of Narlan et al. (2017), shooting techniques are divided into two techniques, namely shooting using the instep and toe of the shoe or toe.

In the opinion of Nosa et al. (2019), who stated kicking using the instep is relatively difficult to do but can produce a very high ball speed while kicking with the toe is commonly used when in need of a quick kick. So that the two techniques contained in the basic shooting technique can be carried out according to the needs and conditions when playing futsal on the field. With the difference in the use of kicks using the instep and toe, the researchers considered that there were also differences in effectiveness in the accuracy of shooting the second penalty. Like previous studies conducted by Achmad & Faruk (2020), the results obtained on the penalty kick test proved that penalty kicks using the instep are greater than the percentage of goal success when compared to kicks using the inner legs and toes of students carried out by futsal extracurricular students High School 4 Sidoarjo. The results of the study are said to be inversely proportional to the results of a study conducted by Alfian & Faruk (2019), which states that shooting using the toe is more effective than shooting using the instep. Meanwhile, the research conducted by Abdurahman (2018) obtained results that differed from the results that there was no difference between kicks with toe and foot instep the speed and accuracy of shooting 10 m futsal sports. With different results in previous studies, researchers are increasingly interested in conducting this research.

Based on the explanation above, researchers are interested in conducting this study to see the difference in the effectiveness of kicks using the instep and toe against the results of the accuracy of shooting the second penalty in futsal UKM at Muhammadiyah University Surakarta.

## **METHODS**

This research uses a type of comparative research. Comparative research is a study that compares the existence of one or more variables in two samples, or at different times (Sugiyono, 2017). Based on the description put forward by the expert, it can be concluded that comparative research is a study used to compare two or more groups of a certain variable. Where in this study the researcher compared two different variables applied to one object. This study focused on the difference in the effectiveness of instep and toe kicks against the results of shooting accuracy.

### **Participants**

This research was conducted on the players of the Futsal UKM Team of the Muhammadiyah University of Surakarta. The samples used in this study were 20 self-students by considering their characteristics.

### **Sampling Procedures**

The sampling technique used is purposive sampling. According to Sugiyono (2016), purposive sampling is sampling based on certain considerations. So before making a sample, this purposive sampling has certain criteria to consider. In this study, the criteria that must be met are male students of batch 2020 at 2021 UMS futsal UKM team players

### **Als and Apparatus material**

The data collection technique in this study used two-second penalty kick tests. Where each player is given the opportunity of 10 kicks using the instep and 10 kicks using the toe

### **Design or Data Analysis**

Data obtained from two-second penalty kick tests were analyzed using the

help of SPSS. The first thing to do is descriptive analysis, after this descriptive analysis is fulfilled then a prerequisite analysis or prerequisite test is carried out, this prerequisite analysis consists of a Normality Test and a Homogeneity Test. After all prerequisite tests are completed, a hypothesis test can be carried out.

## RESULT

This section explains the results of the analysts from both classes, namely the Second Penalty shooting class with the Instep and the Second Penalty shooting with the Toe leg.

### Normality Test

The normality test is used to determine whether the data population is normally distributed or not. This test is carried out as the first requirement in determining the hypothesis test to be carried out. The data normality test used Shapiro Wilk on the results of shooting Second Penalty with instep legs and Shooting Second Penalty with the foot to the toe. A summary of the results of the data normality test is presented in the following table:

<b>Table 1. Shapiro Wilk Normality Test</b>				
<b>Shapiro Wilk Normality Test</b>				
<b>Group</b>	<b>Statistic</b>	<b>N</b>	<b>Sig</b>	<b>Criteria</b>
Instep	0,923	20	0,114	Usual
Toe	0,978	20	0,905	Usual

Based on the table above which is the result of the data normality test, at the level of 5% it can be concluded that the data in each group are normally distributed. So that the next statistical prerequisite test can be continued, namely the homogeneity test.

### Homogeneity Test

The homogeneity test is a statistical prerequisite test that is carried out after the normality test, after the two groups are normally distributed, a homogeneity test can be carried out. The data can be said to be homogeneous if the value of the sig. of both groups showed  $\text{Sig} > 0.05$  (O'Neill & Mathews, 2002).

<b>Table 2. Homogeneity Test</b>				
<b>Homogeneity Test</b>				
<b>Group</b>	<b>N</b>	<b>Levene</b>	<b>Sig.</b>	<b>Criterion</b>
		<b>e</b>		
		<b>Statis</b>		
		<b>tics</b>		
Instep	20	0,007	0,93	Homogeneo
Toe	20		4	us

From the table above, it shows that the Sig. The value of the homogeneity test is 0.934 or it can be said that the Sig. value is more than 0.05. So it can be concluded that the results of shooting The Second Penalty with the Instep and shooting the Second Penalty with foot on the Toe are homogeneous. The data is normally distributed and homogeneous, so it can be continued to the hypothesis test using the t-test.

### Two-Group Average Difference Test

<b>Table 3. Two-Group Average Difference Test</b>		
<b>Average</b>		
<b>Shooting Insteps</b>	<b>Toe Shooting</b>	<b>Sig.</b>
30,25	20	0,00

Based on the results of the data obtained above, the Sig value was obtained. (2-tailed) by 0.00 or less than 0.05 so it can be concluded that there is a significant difference in the average against kicks using the instep and toe

against the results of accuracy shooting the second penalty.

#### Test Description

A Descriptive Test was conducted to see the average score related to the athlete's optimism questionnaire. Descriptive data can be seen as follows:

**Table 4.** Descriptive Research Data

Descriptive Research Data		
	Shooting Insteps	Toe Shooting
N	20	20
Mean	30,25	20
Std Deviation	4,61	5,43
Minimum	23	9
Maximum	37	31

Based on the table above, in the Instep Shooting group, futsal players obtained an average score of 30.25 with a standard deviation value of 4.61 and a minimum value of 23, as well as a maximum value of 37. Meanwhile, in the Toe Shooting group, it was stated that the average value showed 20, with a standard deviation of 5.43 and a drinking value of 9, as well as a maximum value of 31.

**Table 5.** Data Conclusion

Average			
Shooting Insteps	Toe Shootin g	average differen ce	Sig.
30,25	20	10,25	0,00

## DISCUSSION

This study was carried out with the second penalty shooting group with the instep legs and the Second Penalty shooting with the toe legs. This study aims to determine the difference in the effectiveness of kicks using the instep with toe against the results of the accuracy of shooting second penalties in the UMS futsal UKM team. This part of

the discussion will explain both hypotheses.

The results obtained indicate the value of Sig. (2-tailed) of 0.00 or less than 0.05 so it can be concluded that there is a significant difference in the average against kicks using the instep and toe against the results of the precision shooting of the second penalty. To get the results of the hypothesis test that showed that  $H_0$  it was rejected, Furthermore, the average difference in kicks was 10.25. This result showed that the average kick from the shooting group using the instep was higher than the shooting group using the toe. Thus, it can be said that shooting using the instep is more effective than shooting using the toe in shooting Second Penalty.

In the results of the hypothesis, it can be concluded that shooting using the instep is more effective than shooting using the toe in shooting Second Penalty. This is in line with research from Achmad(2018), which shows that penalty kicks using the instep are greater than the percentage of goals when compared to the inner leg and the toe so penalty kicks using the back of the foot are more effectively used. In addition, it is based on previous research conducted by (Irawan et al., 2022; Lestari, Ni Kadek Yuni, and Laksmi, 2020; Triyudho et al., 2017), that shows that penalty kicks using the instep can improve shooting technique skills in football games.

## CONCLUSION

This study aims to determine the difference in the effectiveness of kicks using the instep with toe against the results of the accuracy of shooting second penalties in the ums futsal ukm team. In the results of the analysis, it can be concluded that shooting using the instep is more effective than shooting using the toe in shooting second penalty. Where it

was shown that the average result of the shooting group using the instep was better than the shooting group using the toe, with an average difference of 10.25.

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