

## The Influence of Training Methods and Agility Towards Futsal Dribbling Speed Result in High School Teams in Blora Regency

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### Abstract

Futsal is a complex sport because it requires special methods and tactics. Futsal is a version of the indoor soccer game that is recognized by the international governing body of association football, FIFA. The futsal sport itself has basic methods that must be developed to create a qualified game. This study aimed to analyze the difference in the influence of training methods in dribbling circuit and slalom dribble towards the dribbling speed of futsal players in high school teams in Blora Regency. The method of this study was quasi-experimental research that used a two factor factorial design. The data that had been collected was arranged in a framework research design of 2x2 factorial. The population was 36 players of high school students in Blora Regency, the sample collection used purposive sampling. The study took 24 samples of players of high school students in Blora Regency. The result of the hypothesis test in the first research proved that there was a significant difference between the training methods in dribbling circuit and slalom dribbling towards the dribbling speed of high school male futsal players in Blora Regency. Blora. It was proved by ANOVA test with  $F_{count} = 0,116$  with a significant value of 0,037 with a significance level of  $0,037 < 0,05$ . The second result of the hypothesis test showed that there was a different influence on students who had fast agility and slow agility towards the dribbling speed. It was supported by the result of ANOVA test with  $F_{count} = 389,795 = 5.832$  with a significance value of 0,000 with a significance level of  $0,000 < 0,05$ . The third result of the hypothesis test showed that there was an interaction between training methods and agility towards the dribbling speed in high school male futsal players in Blora Regency. The result of the analysis showed that there was an interaction between training methods and agility towards the speed of football dribbling in men's futsal team in Blora Regency. It was proved by ANOVA test with  $F_{count} = 5.832$  with a significance value of 0,025 with a significance level of  $0,025 < 0,05$ . From the result of the analysis, it can be concluded that: there was a different influence between the training methods of dribbling circuit and slalom dribbling towards the dribbling speed of football in high school male futsal teams in Blora Regency. There was an interaction between training methods and agility towards the dribbling speed in high school male futsal players in Blora Regency. There was a different influence between the high and low agility towards the dribbling speed in high school male futsal players in Blora Regency. There was an interaction between training methods and agility towards the dribbling speed in high school male futsal players in Blora Regency.

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## INTRODUCTION

Futsal is a game played by two teams, each of which consists of five people (Sugiyono, 2017). Futsal is a sport that is carried out at various intensities such as low, medium, and high (Sudarsono, Saichudin, and Andiana, 2020). In addition to health purposes, the interesting thing that can be done in futsal sport is conducting the match with other teams (Pramana and Yuningsih, 2017). The game of futsal can go on well, regulated nicely, and interesting if all of the players can skill the basic methods in futsal game which the players must know that it is important to master the basic methods. One of the basic methods that must be compulsorily skilled is dribbling.

According to Justinus Lhaksana (2011:33) in (Nopriansyah, Keguruan, and Ilmu, 2020), the dribbling method is an important skill, and the player should be mastered by each futsal player. According to (Afrina and Tohidin, 2019) Dribbling is a skill that each player has to maintain the ball before passing it to the other player to create the goals opportunity. Whereas, agility is a key to get success while doing dribbling in a futsal game.

In the preliminary research of the high school male futsal team in Blora Regency, two high school teams were having a match in school event held by the high school in Blora Regency. It was observed that a lot of players were constrained by their less-skilled dribbling method which confused the strategies arranged by the coach in advance, so the ball tended to be taken over by opposing players. This happened because, in the futsal game, a player would pass direct encounters with the opposite player face to face, known as a man man-marking. So, it would bound the movement of a player while passing the ball to another player. One of the ways to increase the speed and agility in futsal players is by having circuit training (Devi, 2017).

Andi Cipta Nugraha (2013:38) said that the norm of dribbling speed in male is categorized into excellent with rack record 18 seconds, good with a track record 19 seconds and medium with a track record, averaged—less

than 22.00-26.00 seconds and poor—less than 24.00-26.00, and the last is bad with track record less than up to 27.01 seconds. The dribbling technique is compulsorily skilled by the players, for a player who can perform effective ball dribbling method, it can give a big opportunity for the team. A player must understand when they have to do the dribbling method when they have to pass the opposite player and destruct their defense strategy. By majoring the effective and fastball dribbling skills, a player can break into and destruct the opposite defense.

The first dribbling skill was collected from the result of preliminary research in four high schools in Blora Regency. It resulted that there were 3 out of 16 players who had been categorized into average dribbling speed with track record 22,13 seconds, 23,40 seconds, 23,16 seconds; 8 players who were categorized into poor with track record showed 25,53 seconds, 26,21 seconds, 24,56 seconds, 26,23 seconds, 24,39 seconds, 25,07 seconds, 26,40 seconds, 26,23 seconds; and 5 players who were categorized into bad classification with track record 28,19 seconds, 29,36 seconds, 31,10 seconds, 28,46 seconds, 30,29 seconds.

According to the consideration above, in this research finding, the researcher concluded that the dribbling speed was not to be put aside, and should become the main primary concentration to achieve better achievement, especially in futsal sport. Considering that the agility in futsal players is important particularly in the player's fast dribbling skill, so it needs to research training method and agility towards the enhancement of dribbling speed. For that purpose, the researcher brought up the title of the study "*The Influence of Training Method and Agility Towards Futsal Dribbling Speed Result in High School Teams in Blora Regency*"

## METHOD

The research design of this study is a-two factorial design. The data of this study was arranged in a framework research design that was used 2x2 factorial design.

**Table 3.1** Blocking in Factorial Design

Level of Agility (B)	Training Method ( A )	
	Dribbling circuit training (A1)	Slalom dribbling training (A2)
High Agility (B1)	A1 B1	A2 B1
Low Agility (B2)	A1 B2	A2 B2

Source: (Peneliti, 2020)

Note:

A1 B1: Group of players which has a high level of agility was trained by the *dribbling circuit* method.

A2 B1: Group of players which has a high level of agility was trained by the *slalom dribbling* method.

A1 B2: Group of players which has a low level of agility was trained by the *dribbling circuit* method.

A2 B2: Group of players which has a low level of agility was trained by the *slalom dribbling* method.

The population of this study was the students of high school in Blora Regency who joined the futsal team. There were 36 players and they were all students taken from each high school in Blora Regency

The sample collected for this study was the futsal players who studied in high school in Blora Regency. The researcher took 24 players out of 36.

**Table 3.2** Sample Classification of Experiment

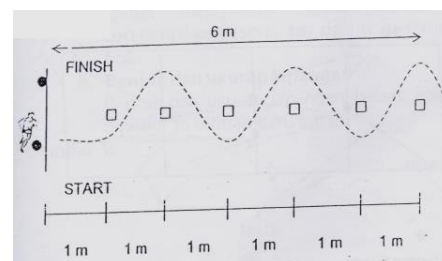
Classification	Type of Research Treatment	Total Sample
A1B1	Group of players which has a high level of agility was given Dribbling Circuit	6
A1B2	Group of players which has a low level of agility was given Dribbling Circuit r training	6
A2B1	Group of players which has a high level of agility was given Slalom Dribbling	6
A2B2	Group of players which has alow level of agility was given Slalom Dribbling	6

The method of data collection used *instrument administration* method which included test of agility in sport. The tests consist of:

1. Test of Agility in dribbling

It is the dribbling balls in the zig-zag method throughout 10 markers in two meters distance of each. The tester stands in the start line, and after the tester instructs by saying “go”, the player dribbles the ball in a zig-zag way and goes through 10 markers and goes back dribbling the ball through each mark until he reaches the first marker or finish line. With level of

reliability = 68,8 and level of validity = 0,18 (Andi Cipta Nugraha,, 2015:34).



**Picturer 3.1** Test of Agility in dribbling  
Source: (Andi Cipta Nugraha, 2013:34)

The picture above is the dribbling test instrument that will be used by high school futsal players in Blora Regency. The test will

record the time of speed that the players have and the speed of dribbling that later will be categorized as follow:

**Table. 3.2** Norma of dribbling speed

No	Norm	Time / Second
1	Excellent	less – 18.00
2	Good	19.00 – 21.00
3	Average	22.00 – 23.00
4	Poor	24.00 – 26.00
5	Bad	27.01 – more

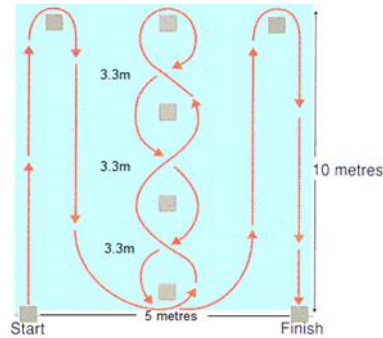
(Source: Andi Cipta Nugraha, 2015:38)

2. Illinois agility run

Widiastuti (2015:141) explained that the ilinois agility run is supposed to measure agility. The instruments needed to conduct the Illinois agility run are 1) cone, 2) meter, 3) stopwatch.

Before carrying out the test, the tester stands on start line, and when he instructs “go”. the athlete runs as fast as possible to reach the line A, one of the legs must need to touch the line. Afterward, he has to turn back to the first cone, and turn left in the first cone, then doing zig-zag way toward the first cone. Later he spins around the fourth bench then makes a zig-zag run to reach the first cone. Spinning around to

the left direction in the first core, then go to line B, and spin around to go to the finish line.



**Picture: 3.2** the Illinois agility run  
Source: (Widiastuti, 2015:141)

**Table 3.58** Standart Test Norm of Illinois agility run

Gender	Excellent	Good	Fair	Poor
Male	>15,2	16,1-15,2	18,1-16,2	18,3-18,0
Female	>17,0	17,9-17,0	21,7-18,0	23,0-21,8

Source: (Widiastuti, 2015:141)

**Reability Test Instrument**

Reliability concerns the accuracy of measurement results. A measuring instrument that has high reliability or can be trusted if the measuring instrument is steady. To find the reliability of the instrument, it is obtained by retesting, that is, a test is given twice to the same group and the same measuring instrument, with a short time. The measurment will be counted in capital words formula.

$$r_{xy} = \frac{N \cdot \Sigma Y - (\Sigma X)(\Sigma Y)}{\sqrt{\{N \cdot \Sigma X^2 - (\Sigma X)^2\} \{N \cdot \Sigma Y^2 - (\Sigma Y)^2\}}}$$

Note :  
N = total samp  
X = first test  
Y = second test

### Normality Test

The normality test used the Lilliefors Kolmogorov-Smirnov test with the assistance of SPSS 16.0 at the significance level ( $\alpha$ ) 0.05. The decision-making criterion is if the significance value obtained is greater than  $\alpha$ , then the subject comes from a normally distributed population, whereas if the significance value obtained is smaller than  $\alpha$ , then the subject does not come from a normally distributed population (Candiasa, 2010: 237).

### Homogeneity Test

The homogeneity test of the data used the test Levene with the help of SPSS 16.0 at the significance level ( $\alpha$ ) 0.05. Retrieval criteria the decision if the significance value of Levene is greater than  $\alpha$  then the sample comes from the

same population (homogeneous), whereas if the significance of Levene is smaller than  $\alpha$ , then the sample comes from a population that is not the same / not homogeneous (Candiasa, 2010:290)

## RESULT AND DISCUSSION

### 4.1.1 Dribbling Speed Pretest

The dribbling speed of the players studied is the treatment and hypothesis testing two-way ANOVA with GLM complete with test requirements.

#### 1) Dribbling Speed Pretest

The dribbling speed of the experimental and control group students before being given the treatment can be training of the players before and after being given seen in the table below.

**Tabel 4.1** Deskripsi Kecepatan Dribbling Pretest

Descriptive Statistics				
Dependant Variable: Pretest				
Training	Agility	Mean	Std. Deviation	N
Dribbling Circuit	High	193.550	0.75091	6
	Low	234.800	133.946	6
	Total	214.175	239.007	12
Slalom Circuit	High	208.117	0.33084	6
	Low	251.933	0.38019	6
	Total	230.025	231.334	12
Total	High	200.833	0.94061	12
	Low	243.367	129.685	12
	Total	222.100	243.862	24

(Sumber: SPSS 22)

Based on the table above, the information on mean dribbling speed. It was obtained by measuring the time needed to complete the test of dribble run to the team that was given dribbling circuit training was (21.41) while the mean of speed in the experimental group that iwas given slalom dribbling was (23.00)

#### 2) The Result of Normality Test Calculation

The calculation of the normality test is carried out in order to find out if there is one research results are normally distributed or not. The results of the normality calculation can be seen in the table below:

**Table 4.2** Normality Test of Pretest Data Calculation

One-Sample Kolmogorov-Smirnov Test		
	N	Pretest
		24
Normal Parameters	Mean	22.2100
	Std. Deviation	2.43862
Most Extreme Differences	Absolute	0.102
	Positive	0.102
	Negative	-0.918
	Kolmogorov-Smirnov Z	1.432
	Asmp. Sig (2-tailed)	0.280
a. Test distribution is Normal.		

(Source: SPSS 22)

According to the table above, it showed that the value of *sig data pretest* (0,280) > (0.05). So the data is normal.

### 3. Calculation Result of Hegemony Test

The calculation of the homogeneity test is carried out in order to find out whether the research data on each assessment indicator or each sample has the same variance (homogeneous) or not. Homogeneity testing was carried out using the homogeneity test of

variants assisted by SPSS 22 software used in the homogeneity test are as follows

Ho: sample data of homogeneity.

Ha: sample data of non-homogeneity.

Criteria for concluding

Ho is accepted if the value of Sig  $\geq$  5%

Ha is accepted if the value of Sig < 5%

The homogeneity test results of each assessment indicator can be shown in the following table.

**Table 4.3** Calculation Result of Homogeneity Pretest Levene's Test of Equality of error Varians<sup>a</sup>  
Dependent Variable: Pretest

F	f1	f2	ig
0.166	1	2	0.687

Test the null hypothesis that the error variance of the dependent variable is equal across groups.

Design: Intercept + Training + agility + training \* agility

(Sumber: SPSS 22)

The table above shows information from all the testing indicators for the sig value (0.687)  $\geq$  5%, so Ho is accepted, thus the research data is homogeneous.

### 4. Result of GLM (*two-way ANOVA*) Test in Pretest Data

Two ways of ANOVA test on the pretest data in the study was conducted to determine whether or not the dribbling speed of the students in the training aspects before being given different treatment. The following is a table for calculating the hypothesis test.

**Table 4.4** Calculation Result of GLM Data Pretest Tests of Between-Subject

Source	Type III Sum of Squares	Df	Mean Square	F	Sig
Corrected Model	123.717 <sup>a</sup>	3	41.239	63.152	.000
Intercept	11838.818	1	11838.818	18129.659	.000
Training	15.073	1	15.073	23.083	.000
Agility	108.545	1	108.545	166.223	.000
Training *	.099	1	.099	.151	.701
Agility					
Error	13.060	20	.653		
Total	11975.596	24			
Corrected Total	136.777	23			

Dependent Variable: Pretest

a. R Squared = .905 (Adjusted R Squared= .890)  
(Source: SPSS 16.0)

Based on the results of calculations on the exercise variable, the sig value (0,000) < (0.050) was obtained, which showed that there was a difference in dribbling speed between experimental 1 and experimental groups 2. In the agility variable, the sig = (0,000) < (0.050) was obtained, this shows that There was a difference in dribbling speed between respondents who had high agility and students who have low agility.

5. The Difference Test Upon The Mean Experimental Group 1 And Pretest Data And Posttest Data (Hypothesis Test 1)

The difference test between the two means of experimental group 1 in the pretest and posttest data was carried out to determine whether there was a difference in the results of the dribbling speed between before and after being given dribbling circuit on the high school men's futsal team in Blora Regency. The results of the calculation of the difference between the two means using the paired sample-t test statistics are presented in the table below.

**Tabel 4.5** Hypothesis Test 1

Mean	Posttett Eksperimental 1	$T_{hit}$	$t_{table}$	Sig	Criteria
pretest Eksperimental 1					
21.41	16.94	2.905	2.178	.000	There is difference

(Source: SPSS 22.0)

**Analysis of input data:**

The mean difference test of experimental data 1 between pretest and posttest data, used the following hypothesis:

Ho: No difference in dribbling speed result in experimental group 1 before and after being given dribbling circuit training

H1: There was a difference in dribbling speed result in experimental group 1 before and after being given dribbling circuit training

Criteria for Ho Acceptance:

With level of accuracy = 95% or ( $\alpha$ ) = 0.05. The amount of sample in experimental data 1 = 12 obtained  $t_{table}$  = 2.179

H0 is accepted if  $-t_{table} \leq t_{count} \leq t_{table}$  atau  $sig \geq 0,05$

H0 is rejected if ( $t_{count} \leq -t_{table}$  atau  $t_{count} \geq t_{table}$ ) atau  $sig \leq 0,05$

Based on the result of calculating t, it gained a value of  $t_{count} = 12,905$  with  $sig = 0,000$  so H1 is accepted, So it can be concluded that there was a difference of dribbling speed result in experimental group 1 before and after being given dribbling circuit training, in other word, there was the result of dribbling circuit training towards the the result of dribbling on the high school men's futsal team in Blora Regency.

6. The Difference Test Upon The Mean Experimental Group 1 And Pretest Data And Posttest Data (Hypothesis Test 2)

The difference test between the two means of experimental group 2 in the pretest and posttest data was carried out to determine whether there was a difference in the results of the dribbling speed between before and after being given dribbling circuit on the high school men's futsal team in Blora Regency. The results of the calculation of the difference between the two means using the paired-sample t-test statistics are presented in the table below.

**Tabel 4.6** Hypothesis 2

Mean		T <sub>hit</sub>	t <sub>table</sub>	Sig	Criteria
Pretest Eksperimental 2	Posttest Eksperimental 2				
23.00	17.00	8.564	2.178	.000	There is difference

(Source: SPSS 22.0)

**Analysis of input data:**

The mean difference test of experimental data 2 between pretest and posttest data, used the following hypothesis:

H<sub>0</sub>: No difference in dribbling speed result in experimental group 2 before and after being given the *slalom dribbling* training

H<sub>1</sub>: There was a difference in dribbling speed result in experimental group 2 before and after being given the *slalom dribbling*.

Criteria of Acceptance

With level of accuracy = 95% or ( $\alpha$ ) = 0,05. The amount of sample in experimental data 2 = 12 obtained  $t_{table} = 2,179$

H<sub>0</sub> is accepted if  $-t_{table} \leq t_{count} \leq t_{table}$  or  $sig \geq 0,05$

H<sub>0</sub> is rejected ( $t_{count} \leq -t_{table}$  or  $t_{count} \geq t_{table}$ ) or  $sig \leq 0,05$

Based on the result of calculating t, it gained a value of  $t_{count} = 28,564$  with  $sig = 0,000$  so **H<sub>2</sub> is accepted**, so it can be concluded that there was a difference of dribbling speed result in experimental group 2 before and after being given the *dribbling circuit* training, in other word, there was the result of the dribbling circuit training towards the result of the dribbling on the high school men's futsal team in Blora Regency.

7. Dribbling Posttest Speed

The dribbling speed of the players which is being studied, is the training of the players before and after being given the treatment, and two-way ANOVA hypothesis testing with GLM as well as the test requirements. Dribbling speed of students of experimental group and the previous control before given a treatment can be seen in the table below:



**Table 4.7** Description of *Dribbling Posttest* Speed

Descriptive Statistics				
Dependent Variable: Pretest			Std. Deviation	N
Training	Agility	Mean		
	High	14.9433	0.47706	6
Dribbling Circuit	Low	18.9500	0.50754	6
	Total	16.9467	2.14447	12
Slalom Circuit	High	15.4417	0.34730	6
	Low	18.5750	0.42298	6
	Total	17.0083	1.67742	12
Total	High	15.2000	0.47675	12
	Low	18.7625	0.48695	12
	Total	16.9813	1.87956	24

(Source: SPSS 22)

According to the table above, it showed the description of mean in dribbling speed that was measured by times needed by the player to finish the dribble run test for the group that was being given *dribbling circuit* showed (16.94) while the mean of speed in group experimental that was being given *slalom dribbling* showed (17.00)

#### 8. Calculation Result of Normality Test

The calculation of the normality test is conducted in order to acknowledge whether the result of research has normal or abnormal distribution. The result of normality test calculation can be seen in the table below:

**Table 4.8** Normality Test Calculation in Pretest Data

One-Sample Kolmogrov-Smirnov Test			
			Pretest
N			24
Normal Parameters <sup>a</sup>	Mean		16.9813
	Std. Deviation		1.87956
	Absolute		0.472
Most Extreme Differences	Positive		0.472
	Negative		-0.918
Kolmogrov-Smirnov Z			1.843
Asmp. Sig (2-tailed)			0.200
a. Test distribution is Normal.			

(Source: SPSS 22)

Based on the table above, it can be seen that the value of sig in data of pretest showed (0,200) > (0.05) so the data was considered as normal distributed.

#### 9. Calculation Result of Homogeneity Test

The calculation of the homogeneity test is carried out in order to find out whether the

research data on each assessment indicator or each sample has the same variance (homogeneous) or not. Homogeneity testing is carried out by using the homogeneity test of variants assisted by SPSS 16 software. The hypothesis used in the homogeneity test is as follows.



### **and slalom dribbling towards the dribbling speed in football in high school futsal men's team in Blora Regency**

In test result of the first research hypothesis, it proved that there was a significant difference between the dribbling circuit and slalom dribbling training methods on the football dribbling speed of the high school men's futsal team in Blora Regency. It is shown by results of ANOVA test with  $F_{count} = 0,116$  with value of significance  $0,037 < 0,05$ . Slalom circuit method was better than the dribbling circuit in order to increase the dribbling. The slalom circuit has an average of dribbling enhancement of 6,00 seconds while the training method of dribbling circuit has an average of 4,47 seconds. The average of the enhancement of dribbling speed in high school futsal, which conducted slalom circuit training method has more enhancement than the one conducted by dribbling circuit training method, and it showed a significant difference. It can be concluded that it is better to use the slalom circuit training method rather than the dribbling circuit in order to increase the speed.

### **2. There was an influence difference between high and low agility towards the dribbling speed in football in high school futsal men's team in Blora Regency**

In test result of the second research hypothesis. It showed that there was a difference influence between student who has high agility and the student. It is proven by the result of ANOVA testing with  $F_{count} = 389,795$  with value of significance  $0,000$  with level of significance  $0,000 < 0,05$ . The high school men's futsal team in Blora Regency, who have high agility, have an average of dribbling speed enhancement that is more than the men's futsal team who have low agility. However, the difference of enhancement is quite significant.

Fitriani (2016:30) declared that agility is an important component for football athlete. Without agility, the athlete will not be to gain achievement in sport field. There are some benefits of agility, as mentioned follow: (1) coordinating multiple motions, (2) making easier

to practice with high techniques, (3) making the movement efficient and effective, (4) facilitating the orientation and anticipation power towards the opposite and competing environment, (5) avoiding the injury possibility.

### **3. There was an interaction between the training method and the agility towards football dribbling speed in high school men's futsal team in Blora Regency**

The test result of the third research hypothesis test showed that there was an interaction between the training method and agility towards the dribbling speed in high school men's futsal team in Blora Regency. The result of analysis showed that there was an interaction between agility toward football dribbling speed in the high school men's futsal team in Blora Regency. It has been proven by the ANOVA testing which showed  $F_{count} = 5.832$  with the value of significance  $0,025$ . and with the level of significance  $0,025 < 0,05$ . From the result above, it is stated that the high school futsal men's team in Blora Regency is significant.

This study used slalom dribbling training, where the player moves zigzagging through the eight cones in both directions, and returns to the starting point. Then, while still in dribbling, the player runs and circles the farthest cone and returns to the starting point. The distance of the cone is 1 meter and 5 meters after the last cone, do it this way within 30 seconds. according to Kadek Aditya Darma Putra (2016:1). Along with the research discussion above, Yudha Pranatha (2016:3) stated that the dribbling slalom exercise is an exercise that can improve dribbling skills, by installing a row of cone stakes and practicing dribbling through them. Place the five cones in a row like a slalom path, the distance between the cones is approximately 1-2 meters. The dribbling circuit is the training stages of dribbling in an exercise that has been systematically designed to increase the dribbling speed of football players. Wasidi Priyanto (2015:17) stated that There are two circuit training program designs, the first is O'shea that the number of stations is 4 places, while the second design by Fox who states that the number of stations is between 6-15 places. So in

this training stage, there are eight posts with a total distance post one to post eight is 30 meters where each post has a different path.

## CONCLUSION

From the analysis above, it can be concluded that:

1. There was an influence difference between dribbling circuit training method and slalom dribbling towards the dribbling speed in football in high school futsal men's team in Bloro Regency
2. There was an influence difference between high and low agility towards the dribbling speed in football in high school futsal men's team in Bloro Regency
3. There was an interaction between the training method and the agility towards football dribbling speed in high school men's futsal team in Bloro Regency

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