

The Effect of Passing Variation Training on Short-Distance Passing Accuracy Using the Inside of The Foot In SSB JTS Football Athletes in Jambi City

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ABSTRACT

This study aimed to investigate the effect of passing variation training on short-distance passing accuracy using the inside foot among football athletes at SSB JTS Jambi City. The research employed an experimental method with a one-group pretest-posttest design. The population consisted of 25 athletes from SSB JTS Jambi City U-12 category, with all 25 athletes serving as the research sample. The training program was conducted over 6 weeks with 3 sessions per week, totalling 18 meetings, including pre-test and post-test sessions. Data collection utilized a football passing accuracy test instrument measuring the ability to pass the ball to designated targets from a 4-meter distance. Data analysis was performed using descriptive and inferential statistics with a t-test, preceded by normality and homogeneity tests. The results showed a significant improvement in passing accuracy from pre-test to post-test. The pre-test average score was 2.96 (categorized as poor), while the post-test average score increased to 6.12 (categorized as good). Statistical analysis revealed a t-value of 25.239, which exceeded the t-table value of 1.71 at a 95% confidence level, indicating that the hypothesis was accepted. The study concluded that passing variation training significantly influenced short-distance passing accuracy using the inside foot among SSB JTS Jambi City athletes. The variation in training methods helped reduce training monotony, increased athlete focus, and improved passing movement mechanics and accuracy. These findings suggest that implementing varied passing exercises can effectively enhance fundamental football skills in youth athletes.

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AUTHORS' CONTRIBUTION

- A. Conception and design of the study;
- B. Acquisition of data;
- C. Analysis and interpretation of data;
- D. Manuscript preparation;
- E. Obtaining funding

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INTRODUCTION

Football developed and entered Indonesia in 1914, during the Dutch East Indies colonial period. Initially, football was only played by the Dutch in their communities, but over time, it began to be played by Indonesian students in major cities. Subsequently, this sport spread rapidly to various regions throughout the archipelago. Not long after, PSSI

was established on April 19, 1931, in Yogyakarta, marking the beginning of football history in Indonesia (Hasanuddin, 2023).

On April 19, 1930, representatives from various bonds gathered to establish a football organization for all of Indonesia, thus founding the All-Indonesia Sports Association, which in 1950 changed to the All-Indonesia Football Association (PSSI), with Ir. Soeratin as its first chairman in 1931 (Hasyim, 2016).

The objective of football is for players to score as many goals as possible in the opponent's goal while preventing the ball from entering their own goal. To create good gameplay in football requires mastery of basic football techniques, including: passing (ball passing technique), control (ball stopping technique), dribbling (ball control technique), shooting (kicking or shooting the ball hard toward the opponent's goal), heading (heading technique), intercepting (ball stealing technique), sliding tackle (ball sweeping technique), throw-in (throw-in technique), goal keeping (ball catching technique), and juggling (ball juggling technique for training ball control) (Utomo & Indarto, 2021). Passing is one of the most complex and important basic techniques in football, frequently performed during matches, with most of the game involving passing (Utomo, 2021). Generally, the execution technique involves standing with shoulders facing the target, placing the supporting foot beside the ball, positioning the kicking foot sideways with toes pointing upward, then kicking the ball in its center using the inside of the foot, followed by forward kicking motion while maintaining foot position (Rustanto, 2017:22). According to (Nanag, 2023:41), passing techniques are divided into four types: Wall pass, Through pass, Crossing, and Diagonal pass.

Passing functions to distribute the ball anywhere according to team needs and requirements. By mastering good passing techniques, players can control the match as the ball cannot easily be stolen by opponents (Syafi'i & Setiawan, 2019).

From my observations at the Jasa Tiga Saudara Football School (SSB JTS) in Jambi City, the training methods used tend to be monotonous, causing athletes to become bored during practice. Consequently, many football players have not mastered the basic inside-foot passing technique due to common mistakes such as swinging the foot across the front of the body when passing. The SSB JTS Jambi City athletes' difficulty with inside-foot kicks can be seen from the slow ball speed, making it easy to intercept or steal by opponents. Additionally, athletes lack precision in ball contact when passing. Furthermore, passes performed are often inaccurate or off-target. Based on the background above, the researcher attempts to provide passing variation training to improve ball kicking ability using the inside foot in football.

Therefore, the author will research: "Passing variation training on improving short-distance passing results using the inside foot among SSB JTS Jambi City athletes." The author hopes this research will benefit both the author personally and the school where this research is conducted.

METHODS

This research focuses on 25 U12 SSB JTS Jambi City athletes. The research was conducted at the Persijam field in Jambi City from June 24, 2025, to August 5, 2025. The research method used is experimental, which is an activity to examine a phenomenon called training or treatment. This research involves one experimental group deliberately given treatment. The research design uses a Group Pretest-Posttest Design, where the group is given treatment, but before treatment is administered, an initial test (pretest) is conducted first, then at the end of treatment, a final test (posttest) is conducted.

In this research, the researcher only conducts tests on one group, namely the experimental group, by analyzing scores obtained from pretest (01) and posttest (02) implementation. This is done by conducting experiments on one group without using a control group, first examining the independent variable situation through a pretest (01) before measuring and identifying the dependent variable's influence, then experimenting. The measurement results obtained through posttest (02) are compared with 01 results to determine whether there is an effect.

The instrument used to obtain data from the SSB JTS Jambi City team is the football passing accuracy test. In this instrument, the researcher also uses tools to facilitate the research, including: balls, whistle, cones, stopwatch, and writing materials.

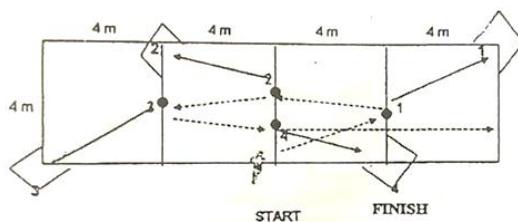


Figure 1.
Passing the accuracy test instrument (Arsil, 2010)

Test participants stand behind the start line. On the "go" signal, participants run toward ball 1 and kick to target 1, then run to ball 2 and kick to target 2, continue running to ball 3 and kick to target 3, then continue running to ball 4. Test results are recorded based on balls entering the small goal from the start to the finish line when kicking the ball. Each goal scored is given a value of 1. Athletes are given 2 attempts, with the score taken from successful balls.

Based on the instrument and treatment procedures above, the following passing accuracy test norms are created:

Table 1.
Football passing accuracy test norms.

Num.	Norm	Criteria
1.	7-8	Very good
2.	5-6	Good
3.	3-4	Fair
4.	0-2	Not good

Source: Based from research data.

To describe data and test hypotheses in this research, descriptive and inferential statistics with the t-test formula are used. Before data processing, normality tests are conducted first because t-tests can only be performed to test mean differences from two samples taken from a normal population.

RESULTS AND DISCUSSION

Result

Normality Test

Normality distribution covariate analysis using passing variation training for football pre-test and post-test data was analyzed with Lilliefors normality test statistics with a significance level of $\alpha=0.05$ as the basis for rejecting or accepting decisions about whether a data distribution is normal. Comparing $L_{\text{calculated}}$ with L_{table} using criteria: if $L_{\text{calculated}}$ is greater than L_{table} ($L_o > L_t$) means the population is not normally distributed, conversely if $L_{\text{calculated}}$ is smaller than L_{table} ($L_o < L_t$) means the population is normally distributed. The following is the table of passing variation training results for football passing accuracy:

Table 2.
Shapiro-Wilk Normality Test.

	Statistic	df	sig	
Pretest	0,924	25	0,063	Normal
Posttest	0,923	25	0,059	Normal

Source: Based from research data.

In this normality test, the researcher used the Shapiro-Wilk test because the sample was less than 50 people. The Shapiro-Wilk test shows that sig value > 0.05 , therefore the passing accuracy final test data can be considered normal.

Homogeneity Test

To determine whether the sample variance is homogeneous or not, the following homogeneity test is proposed:

Table 3.
Homogeneity Test result

Test form	N	S	Fcount	Ftable	Description
Pretes (Initial test)	25	1,09848	1,357	2,87	Homogen
Posttes (Final test)	25	1,16619	1,541	2,87	Homogen

Source: Based from research data.

Initial and final test data results show $F_{\text{calculated}} < F_{\text{table}}$, so the data is considered homogeneous.

Research Results Description

Football passing accuracy measurement results can be seen and summarized in the following table:

Table 4.
Football Passing Accuracy Description

Descriptive Statistics							
	N	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
pretes	25	1,00	5,00	74,00	2,9600	1,09848	1,207
posttes	25	4,00	8,00	153,00	6,1200	1,16619	1,360
Valid N (listwise)	25						

Source: Based from research data.

The initial test in this research conducted a football passing accuracy test with samples performing the test, so in this initial test there was no treatment for the SSB JTS Jambi City football team. In this initial test, the total score for football passing accuracy was 74.00, thus the average football passing accuracy score was 2.9600, so the initial test results for football passing accuracy can be categorized as poor.

The final test in this research was conducted after the SSB JTS Jambi City team was given treatment or training, so this final test represents testing after training using football passing targets for passing accuracy. In this final test, the total score obtained was 153.00, thus the average football passing accuracy score was 6.1200, so the final test result of 6.1200 can be categorized as good.

Comparing the initial football passing accuracy results with a total score of 74.00 against the final test results with a score of 153.00, there is a clear difference between these two results. This can be done by comparing the initial and final tests against $t_{calculated}$ at a confidence level of 0.05. If $t_{calculated}$ is greater than t_{table} , this means there is a significant difference, and conversely if $t_{calculated}$ is smaller than t_{table} , this means there is no significant difference.

Frequency Distribution

Research results will be described according to the objectives and hypotheses previously proposed. The overview of research data results can be seen in the frequency distribution and histogram for initial and final tests as follows:

Table 5.
Initial Test Frequency Table for Football Passing Accuracy - Pretest Category

	Norm	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	0-2	9	36,0	36,0	36,0
Fair	3-4	14	56,0	56,0	92,0
Good	5-6	2	8,0	8,0	100,0
Very good	7-8	0	0	0	
Total	25	100,0	100,0		

Source: Based from research data.

Based on the initial football passing accuracy test frequency above, the poor category includes 9 people with a percentage of 36.0%. The fair category includes 14 people with a percentage of 56.0%. The good category includes 2 people with a percentage of 8.0%. From the percentage table above, this can be represented in a histogram as follows:

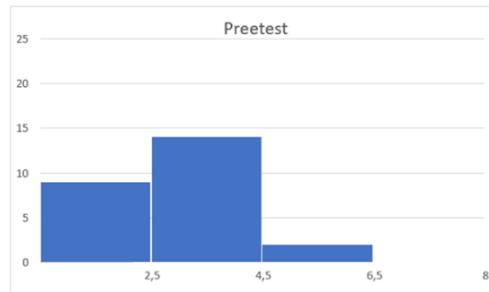


Figure 2.
Frequency of initial football passing accuracy tests by category

Table 6.
Final Test Frequency Table for Football Passing Accuracy - Posttest Category

	Norm	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	0-2	0	0	0	
Fair	3-4	2	8,0	8,0	8,0
Good	5-6	13	52,0	52,0	60,0
Very good	7-8	10	40,0	40,0	100,0
Total		25	100,0	100,0	

Source: Based from research data.

Based on the final football passing accuracy test frequency above, the fair category includes 2 people with a percentage of 8.0%. The good category includes 13 people with a percentage of 52.0%. The very good category includes 10 people with a percentage of 40.0%. From the percentage table above, this can be represented in a histogram as follows:

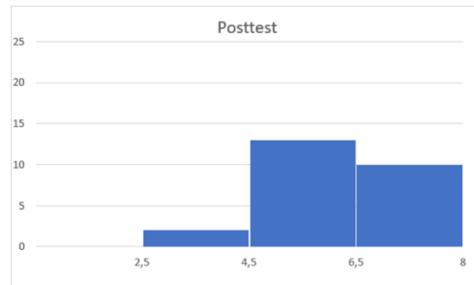


Figure 3.
Frequency of final football passing accuracy tests by category

Hypothesis Test (T-Test)

To test the hypothesis, a comparison is made between $t_{calculated}$ and the percentile value from the distribution for significance level $\alpha = 0.05$ and degrees of freedom $dk = N-1$, obtaining $t_{calculated}$ and $t_{table} = (t_{calculated} > t_{table})$. In this research, it can be understood that "there is an effect of passing variation training on passing accuracy in the SSB JTS Jambi City team."

Table 6.
Hypothesis Test Table (T-Test)

Test form	N	S	Tcount	Ttable	Description
Pretest (Initial test)	25	1,09848	13,473	1,71	Accepted at a 95% confidence level
Posttest (Final test)	25	1,16619	25,239	1,71	Accepted at a 95% confidence level

Source: Based on research data.

Hypothesis data results show $t_{calculated} > t_{table}$, so the hypothesis test results can be accepted at a 95% confidence level.

Discussion

Based on data analysis and hypothesis testing using the t-test in this research, it is expected to produce conclusions that are appropriate and consistent with the data obtained. Thus, the conclusions drawn will directly reflect the data expected during this experiment. Therefore, it is necessary to examine the methodology and theoretical framework of the research. Knowledge obtained through a scientific approach and based on systematic theories conducted with correct steps or procedures will produce correct knowledge; thus, research results can be accepted as valid.

In conducting this research, the researcher examined the improvement in samples where initially SSB JTS Jambi City athletes had poor and below-average football passing accuracy, but with treatment, the samples' football passing accuracy improved. Passing variation training can improve football passing accuracy, though this requires a challenging process as samples must always be fit and ready when given the training program. Starting from the initial test (Pretest) of football passing accuracy before the training program, the highest initial test score was 5, and the lowest was 1, with an overall average initial test of 2.9600. Next, in the treatment phase, samples underwent passing variation training.

From this treatment process, the samples' football passing accuracy showed improvement week by week. Initially, some samples still lacked good football passing accuracy, but with passing variation training for SSB JTS Jambi City athletes, passing accuracy improved. These football passing accuracy results were achieved through programmed or systematically structured training. After the treatment phase, the final test (Posttest) was conducted one day after completing the treatment phase to measure the treatment results. Here, the football passing accuracy results show whether improvement occurred or not at all. Football passing accuracy results after treatment showed the highest score of 8 and the lowest of 4, with a final test average showing improvement with a score of 6.1200.

Based on data analysis and hypothesis testing using the t-test formula, this research is expected to produce appropriate conclusions consistent with the obtained data. The understanding gained refers to and does not deviate from the obtained data. This will directly show the data obtained during the experimental research.

Based on analysis results from initial to final tests, a $t_{calculated}$ value of 25.239 was obtained, which, when compared to the t_{table} of 1.71, shows significant improvement. This was caused by implementing treatment in training sessions 18 times, with a frequency of 3 times per week. This clearly shows the results obtained in the final test compared to the initial test, as the samples that received treatment achieved better results.

From the data analysis conducted, the alternative hypothesis proposed in this research can be accepted as valid by showing that initial and final tests differ; in other

words, there is improvement between initial and final tests, and it can be understood that there is an effect of passing variation training on football passing accuracy among SSB JTS Jambi City athletes.

The relationship between passing variation training and its effect on passing accuracy is that variation training can improve athletes' focus, thereby improving passing movements and passing accuracy using the strongest foot in football players. Passing variation training is a form of training used to prevent monotonous training atmospheres and eliminate boredom, making athletes more enthusiastic in training.

Short-distance passing variation using the inside foot is important training in football to improve accuracy and ball control. This technique utilizes the wide and stable inside foot surface, enabling accurate and easily controlled passes, especially in tight spaces. This passing variation training includes repeating passes at different speeds and directions, as well as one-two touch situations that improve players' adaptation ability in real games. According to Retno Farhana Nurulita, Poppy Elisano Arfanda (2023:37), "short-distance passing variation training using the inside foot can improve passing accuracy and player response in controlling the ball in real games." Additionally, Pieter Pelamonia et al. (2020:47) state that "repetition of inside-foot passing technique at short distances helps players accelerate decision-making and improve team coordination." Thus, short-distance passing variation using the inside foot is crucial for improving technical quality and football game effectiveness.

CONCLUSION

The initial test (pretest) results show that the passing accuracy of SSB JTS Jambi City U-12 athletes was still categorized as poor, with an average score of 2.96 out of 8. The ability distribution shows 36% of athletes in the poor category, 56% in the fair category, and only 8% reaching the good category. However, after being given a passing variation training program for 6 weeks with a frequency of 3 meetings per week (a total of 18 meetings), there was a significant improvement in athletes' passing accuracy. The average score increased from 2.96 to 6.12, showing an improvement of 106.8%.

Statistical analysis with t-test showed t -calculated value (25.239) $>$ t -table (1.71) at 95% confidence level. This proves that there is a significant effect of passing variation training on improving short-distance passing accuracy using the inside foot. In the final test (posttest), there was a shift in athletes' ability distribution to better categories: no athletes in the poor category, only 8% in the fair category, 52% reached the good category, and 40% reached the very good category.

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