



The Influence of Tactical Approach on Heading Skills in Football Games at SSB Persita Junior FC East Lampung Ages 13-14

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Abstract

The purpose of this study was to determine the effect of tactical approaches on the ball heading skills of SSB Persita Junior FC Lampung Timur football school athletes. The research method used was a comparative experiment. The sample used in this study was 30 athletes using the Ordinal Pairing technique. The instrument used was the Heading test. The results of this study indicate that (1) There is a significant effect of the tactical approach treatment group on the ball heading skills of SSB Persita Junior FC Lampung Timur football school athletes. With the results of the t test at a significant level of 5% (0.05), the calculated t value was $9.731 > \text{the } t \text{ table value} = 2.145$. An increase of 53.46%. (2) There is a significant effect of the control group or without treatment on the ball heading skills of SSB Persita Junior FC Lampung Timur football school athletes. With the results of the t test at a significant level of 5% (0.05), the calculated t value was $4.467 > \text{the } t \text{ table value} = 2.145$. An increase of 24.41%. (3) There is a significant difference between the treatment group and the control group in the ball heading skills of the SSB Persita Junior FC East Lampung football school athletes. With a 2-sided test data analysis (significant = 0.025), the calculated t value was $6.108 > t \text{ table} = 2.048$.

Keywords: *Tactical Approach, Heading The Ball, Heading Test*

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INTRODUCTION

Football is the world's most popular sport, with over 4 billion fans worldwide. Besides being a form of physical activity, football also fosters character, teamwork, discipline, and sportsmanship (Salim, 2020). The primary objective of the game is to score goals by getting the ball into the opponent's goal. If both teams are tied and have the same number of points, extra time or penalty kicks will be played. Winning in such situations requires well-trained skills.

In the context of physical education, football not only aims to improve physical fitness but also to develop healthy lifestyle habits (Anwar, 2019) and social skills such as communication and collaboration (Amirudin, 2021). One important skill to master in football is heading, the technique of heading the ball with the head to defend, attack, or score (Prasetyo et al., 2012). This technique plays a strategic role and requires good mastery because it can impact player safety if performed incorrectly (Hermanto, 2017).

Several previous studies have highlighted the effectiveness of a tactical approach in sports learning. This approach is considered to improve movement comprehension, motivation, and active player engagement in real-life game situations (Saputra, 2017). Apandi & Walinga (2023) emphasized that a tactical approach encourages students to understand playing concepts strategically and deeply. Furthermore, a tactical approach has been shown to be effective in improving decision-making skills, tactical understanding, and technical performance in various sports, including soccer (Ricky, 2014; Pratama, 2019). Research by Supriyanto et al. (2023) showed that a technical approach has a more significant impact than a tactical approach on students' basic soccer technical skills, emphasizing the importance of mastering basic techniques in achieving good performance in sports. However, most of these studies still focus on general aspects such as attacking and defensive play, without specifically evaluating heading skills in early childhood development.

Based on the results of observations at SSB Persita Junior FC East Lampung, it was found that heading skills in football games are still relatively low, this is because many of the players are not yet able to perform basic heading techniques properly and correctly. Therefore, a training approach is needed that not only emphasizes technical aspects, but also tactical understanding so that heading skills can be significantly improved according to the developmental characteristics of the golden age (Saputra, 2017; Suryadi, 2018; Salim, 2020). The right approach for players during training will facilitate the training process to achieve goals. Therefore, the author is interested in conducting research on "The Effect of Tactical Approaches on Heading Skills in Football Games at SSB Persita Junior FC East Lampung Ages 13-14".

METHOD

The method used in this study is a comparative experimental method, which is a form of variable (data) analysis to determine the differences between two or more data groups. The aim is to determine the effect of an independent variable (treatment) on the dependent variable by manipulating the independent variable and then observing its effect on the dependent variable. The research design used in this study is a pre-test and posttest experimental design. The sampling technique used in this study is a saturated sample, namely using the entire population to be sampled as many as 30 people. The instrument used in this study involves data collection through testing in the form of heading skills of soccer players. The data collected in this study were obtained from pretest and posttest data after the sample was given treatment using a tactical approach method.

This study employed quantitative data analysis. The data obtained in this study included the independent variable, namely the tactical approach (X), and the dependent variable, namely heading skills. To analyze the data between these variables, a t-test formula was used, following the normality and homogeneity tests previously conducted.

RESULT AND DISCUSSION

Result

The sample in this study was 30 athletes from the SSB Persita Junior FC East Lampung football school. The results of the pretest and posttest of the ball heading skills of athletes at the SSB Persita Junior FC East Lampung football school after being given tactical approach training are described as follows.

Table 1. Heading Skills Research Results

Results	Group			
	Tactical Approach		Control	
	Pretest	Posttest	Pretest	Posttest
Average	14,6	22,6	14,4	18
SD	3,48	2,16	3,60	2,10
Min	10	20	10	15
Max	20	26	20	21
< Average	6	5	6	6
> Average	9	10	9	9

A comparative overview of the initial ball heading skill test for the SSB Persita Junior FC East Lampung football school athletes in the tactical approach group and the control group can be described through the bar chart below:

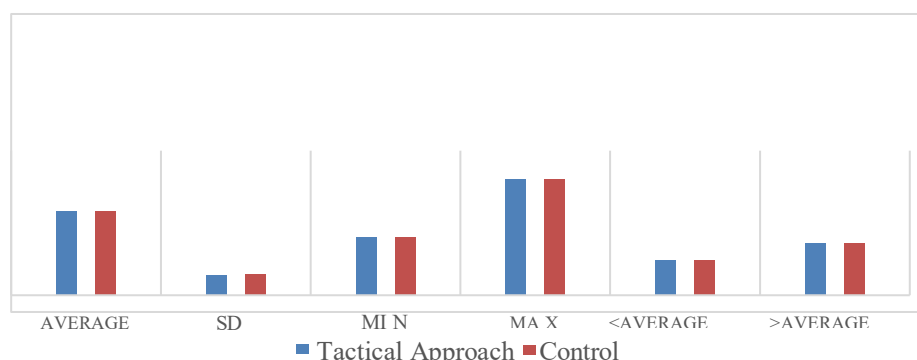


Figure 1. Comparison of the Initial Test of the Tactical Approach Group and the Control Group

Based on the diagram and table above, it can be seen that in the initial test, both groups had almost the same abilities because they had been divided using the ordinal pairing method,

so if there were differences in the final test, it was due to the treatment given. Meanwhile, a comparative description of the final test of the ball heading skills of the SSB Persita Junior FC East Lampung football school athletes in the tactical approach group and the control group can be depicted through the bar chart below:

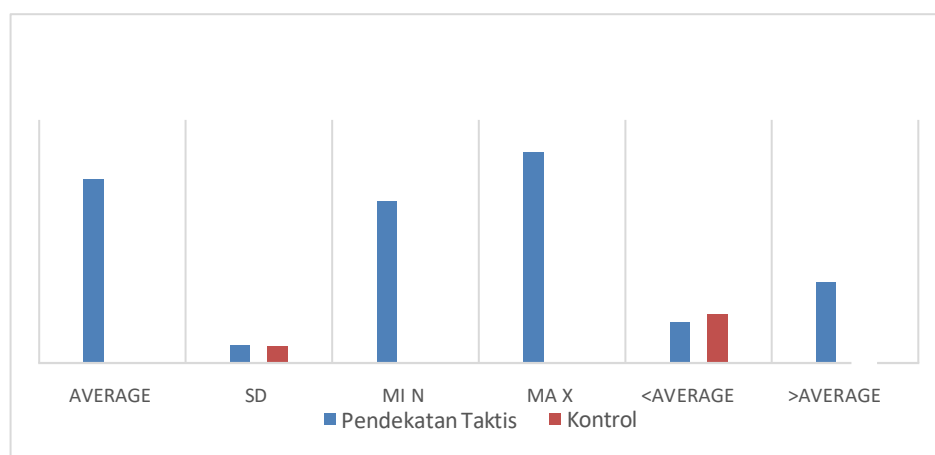


Figure 2. Comparison of the Final Test of the Tactical Approach Group and the Control Group

The results of the initial test of the ball heading skills of the SSB Persita Junior FC East Lampung football school athletes in the tactical approach group obtained an average value of 14.6, the number of athletes who were below the class average was 6 athletes, the number of athletes who were above the class average was 9 athletes, the standard deviation was 3.48, the minimum value was 10, and the maximum value was 20.

Meanwhile, in the final test of the ball heading skills of the SSB Persita Junior Lampung Timur football school athletes, the tactical approach group obtained a significant average increase, namely the average value was 22.6, the number of athletes who were below the class average was 5 athletes, the number of athletes who were above the class average was 10 athletes, the standard deviation was 2.16, the minimum value was 20, and the maximum value was 26. The comparison of the initial test and the final test of heading skills can be described through the bar chart below:

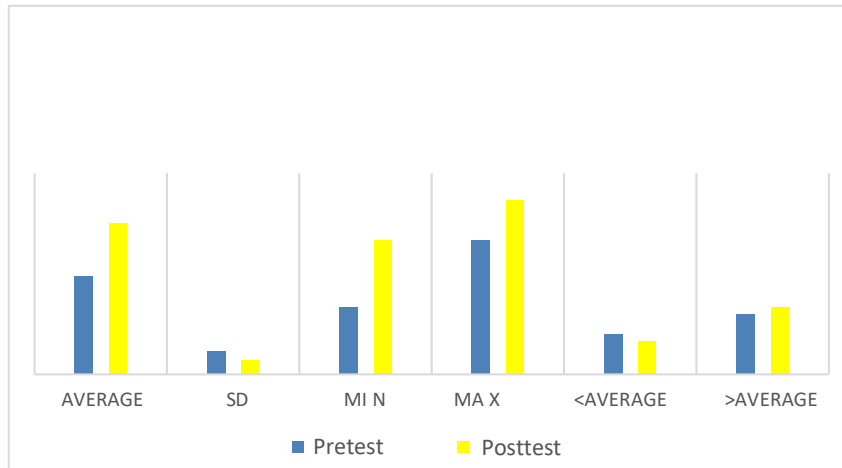


Figure 3. Initial and Final Test of Tactical Approach Group Heading Skills

An overview of the initial test and final test of the ball heading skills in the tactical approach group of 15 athletes, based on the research results after being grouped and clarified based on the norms of the heading skills test, is described in the following table:

Table 2. Frequency Distribution of Heading Skills of Tactical Approach Training Groups

Interval	Category	Frequency (f)		Percentage (%)	
		Pretest	Posttest	Pretest	Posttest
21>	Very Good	0	11	0%	73,33%
16-20	Good	6	4	40%	26,66%
11-15	Fair	7	0	46,66%	0%
6-10	Poor	2	0	13,33%	0%
<5	Very Poor	0	0	0%	0%
Total		15	15	100%	100%

The table above shows the ball heading skills of the 15 athletes from the SSB Persita Junior FC East Lampung football school in the initial test of the tactical approach group were 0 athletes or 0% in the very good category, 6 athletes or 40% in the good category, 7 athletes or 46.66% in the sufficient category, 2 athletes or 13.33% in the less category and 0 athletes or 0% in the very less category.

Meanwhile, the ball heading skills of the 15 athletes from the SSB Persita Junior FC East Lampung football school in the final test of the tactical approach group were 11 athletes or 73.33% in the very good category, 4 athletes or 26.66% in the good category, 0 athletes or 0% in the sufficient category, 0 athletes or 0% in the less category and 0 athletes or 0% in the very less category. If displayed in the form of a bar chart, the comparison percentage of the initial test and the final test of the ball heading skills of the tactical approach group is shown in

the bar chart as follows:

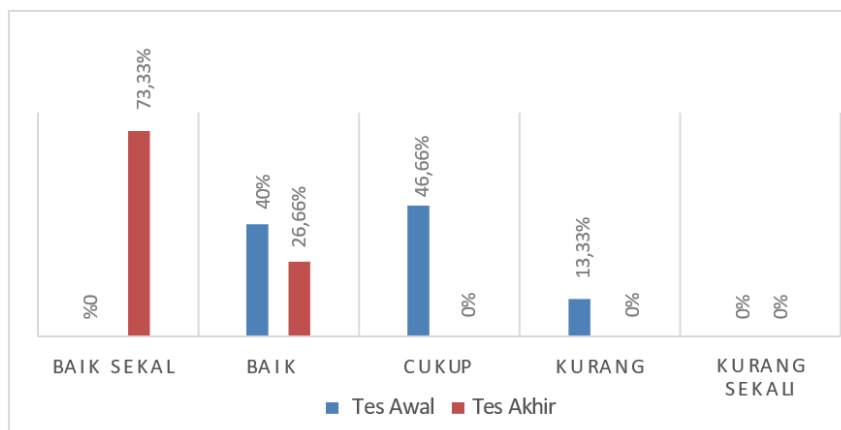


Figure 4. Percentage of Initial Test and Final Test for Tactical Approach Group

The results of the initial test of the ball heading skills of the SSB Persita Junior FC Lampung Timur football school athletes in the control group obtained an average value of 14.46, the number of athletes who were below the average was 6 athletes, the number of athletes who were above the average was 9 athletes, the standard deviation was 3.60, the minimum value was 10, and the maximum value was 20. While in the final test of the ball heading skills of the SSB Persita Junior FC Lampung Timur football school athletes in the control group, the average value did not experience a significant increase, namely the average was 18, the number of athletes who were below the average was 6 athletes, the number of athletes who were above the average was 9 athletes, the standard deviation was 2.10, the minimum value was 15, and the maximum value was 21. The comparison of the initial test and the final test of the heading skills can be described through the bar chart below:



Figure 5. Percentage of Pre-Test and Post-Test Heading Skills of the Control Group

An overview of the initial test and final test of the ball heading skills in the control group of 15 athletes, based on the research results after being grouped and classified based on the norms of the heading skills test, is described in the following table:

Table 3. Frequency Distribution of Heading Skills in the Control Group

Interval	Category	Frequency (f)		Percentage (%)	
		Pretest	Posttest	Tes Awal	Tes Akhir
21>	Very Good	0	2	0%	13,33%
16-20	Good	6	10	40%	66,66%
11-15	Fair	6	3	40%	20%
6-10	Poor	3	0	20%	0%
<5	Very Poor	0	0	0%	0%
Total		15	15	100%	100%

The table above shows the ball heading skills of the 15 athletes from the SSB Persita Junior FC East Lampung football school in the initial test of the control group, namely 0 athletes or 0% in the very good category, 6 athletes or 40% in the good category, 6 athletes or 40% in the sufficient category, 3 athletes or 20% in the less category and 0 athletes or 0% in the very less category.

Meanwhile, the ball heading skills of the SSB Persita Junior FC East Lampung football school athletes totaling 15 athletes in the final test of the control group were 2 athletes or 13.33% in the very good category, 10 athletes or 66.66% in the good category, 3 athletes or 20% in the sufficient category, 0 athletes or 0% in the less category and 0 athletes or 0% in the very less category. If displayed in the form of a bar chart, the percentage comparison of the initial test and the final test of the ball heading skills of the control group is shown in the bar chart as follows:

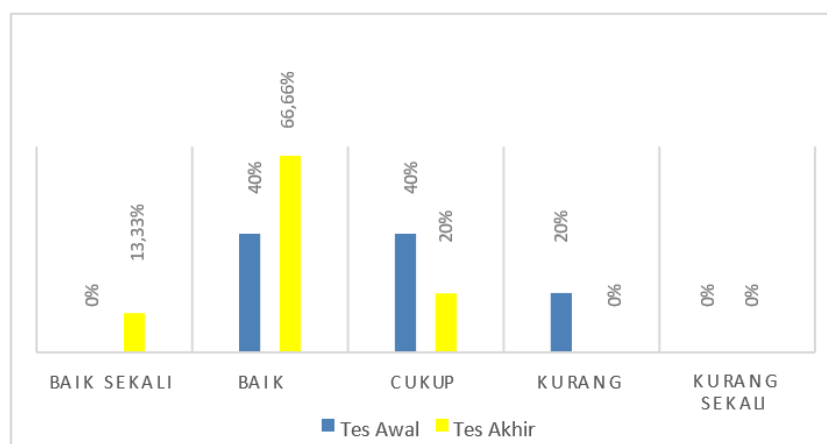


Figure 6. Percentage of Initial Test and Final Test of Control Group

To meet the analysis requirements for testing the research hypothesis, several steps will be taken to test the requirements, including: data normality testing and data variance homogeneity testing. The Lilliefors test (Sudjana, 2005:446) is used. The results are as follows:

Table 4. Normality Test

No	Variable	L count	L table	Conclusion
1	Tactical approach group pre-test	0,121	0,220	Normal
2	Tactical approach group post-test	0,158	0,220	Normal
3	Control group pre-test	0,160	0,220	Normal
4	Control group post-test	0,123	0,220	Normal

The test criteria are:

If $L \text{ count} < L \text{ table}$, then the variable is normally distributed, whereas if $L \text{ count} > L \text{ table}$, the variable is not normally distributed.

The homogeneity test was conducted to determine whether the two sample groups had homogeneous variances. The results of the homogeneity calculation are presented in the following table:

Table 5. Homogeneity Test

No	Data	F count	F table	Conclusion
1	Pre-test of tactical group and control group	1,071	1,761	Homogen
2	Post-test of tactical approach group and control group	1,058	1,761	Homogen

To analyze the experimental data using the test rule if $- t_{table} < t_{count} < + t_{table}$ then H_0 is accepted and H_a is rejected. The results of the research data analysis are as follows:

Tabel 6. Uji Hipotesis

Test	Data	t count	t table	Conclusion
Effect	Pretest and posttest of heading skills for the tactical approach group	9,713	2,145	Significant effect
Effect	Pretest and posttest of heading skills for the control group	4,467	2,145	Significant effect
Difference	Posttest of heading skills for the tactical approach group and the control group	6,108	2,048	Significant difference.

Based on the data analysis, the calculated t value was 9.713 and the t table value (n-1) = (15-1) with a two-way test, $\alpha = 0.05$, the t table value was 2.145. Because the calculated t = 9.731 > t table = 2.145, it can be concluded that the hypothesis that reads “There is a significant influence of the tactical approach on the ball heading skills of the SSB Persita Junior FC Lampung Timur football school athletes” is **accepted**.

Based on the data analysis, the calculated t value was 4.467 and the t table value (n-1) = (15-1) with a two-way test, $\alpha = 0.05$, the t table value was 2.145. Because the calculated t = 4.467 > t table = 2.145, it can be concluded that the hypothesis that reads “There is a significant influence of the ball control group on the Persita Junior FC Lampung Timur football school athletes” is **accepted**.

Based on the results of data analysis, the calculated t value is 6.108. The t distribution table is searched at $\alpha = 5\%$: 2 = 2.5% (2-sided test) with degrees of freedom (df) n-2 or 30-2 = 28. With a 2-sided test (significant = 0.025) the results obtained for the t table are 2.048. Because the calculated t value is 6.108 < t table 2.048, it means that in the final test the hypothesis that reads “There is a significant difference between the tactical approach group and the Control Group on the ball heading skills of the SSB Persita Junior FC Lampung Timur football school athletes” is **accepted**.

Meanwhile, seen from the average value (mean) of the final test of ball heading skills for the tactical approach group, it was 22.6 and for the control group it was 18. This means that the average final test of ball heading skills for the tactical approach group was higher than the average for the control group.

Discussion

Based on the results of a study conducted on athletes from the Persita Junior FC East Lampung Football School (SSB Persita Junior FC), a significant improvement in heading skills was observed in the group treated using a tactical approach. The treatment group trained for seven weeks, three times per week, using a tactical approach, while the control group received no special treatment.

The improvement in heading skills in the treatment group indicates that the tactical approach is effective in developing playing skills, particularly heading, because the training is conducted contextually in a game format that mimics real-life situations. This training combines aspects of technique, strategy, and decision-making simultaneously. This process helps players improve focus, forehead-ball coordination, and heading timing, which are essential components of heading skills.

These results align with research by Ricky Fernando (2016), which demonstrated that a tactical approach significantly improves general soccer skills, particularly in the context of real-life game situations. Similarly, Defri Mulyana (2023) found that a tactical approach was more effective in increasing motivation and learning outcomes in soccer skills than a traditional approach, although for basic techniques such as passing and control, the traditional approach was superior. However, in the context of heading, which requires an understanding of space and timing in the game, a tactical approach proves highly relevant because it not only trains heading technique but also when and how it is used tactically in matches.

Conversely, findings by Supriyanto et al. (2023) indicate that a technical approach is more dominant in improving basic technical skills. This suggests that the effectiveness of the approach depends heavily on the type of skill being trained. However, the results of this study demonstrate that heading, as a basic technique that is also highly contextualized in matches, is more effectively improved through a tactical approach, especially in the context of coaching young players who are still in the optimal motor and cognitive development phase (the golden age).

In the control group, there was a slight, though not significant, increase. This is likely due to some athletes having previously mastered basic heading techniques. However, because they did not receive additional training during the study period, this increase was not comparable to that in the treatment group.

Consistent tactical training with measured intensity has had a positive impact on heading technique mastery. Furthermore, a favorable training environment and the athletes' intrinsic motivation were also contributing factors to the success of this program.

Thus, the results of this study confirm previous theories and findings that a tactical approach can be used effectively in developing game-based soccer skills, particularly heading skills, which require the integration of technique, decision-making, and spatial awareness. Therefore, a tactical approach is worthy of being a primary strategy in developing young players by coaches and sports educators in schools and SSB.

CONCLUSION

Based on the research results and discussion, it can be concluded that there is a significant influence of the treatment group (tactical approach) on the ball heading skills of SSB Persita Junior FC East Lampung football school athletes aged 13-14, with an increase of 53.46%. In addition, the control group (without treatment) also showed an effect on the ball heading skills, although with a lower increase, namely 24.41%. Furthermore, there is a

significant difference between the treatment group (tactical approach) and the control group, where the increase in heading skills in the treatment group reached 53.46%, while the control group only 24.41%.

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