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Tactical Approach with Drilling Method on Shooting Ability of Futsal Extracurricular Participants in Elementary Schools

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ABSTRACT

The background of this study is based on the importance of mastering shooting skills in futsal games, especially at the elementary school level, as well as the need for effective training methods to improve these abilities. This study aims to determine the effect of tactical approaches and drilling methods on the shooting abilities of elementary school futsal extracurricular participants. This study uses a quantitative approach with an experimental method and a two-group pretest-posttest design. The sample in the study amounted to 28 students who actively participate in futsal extracurricular activities at elementary school Parang Tambung II Makassar City. The sampling technique used the total sampling method and then divided into two groups: the tactical approach group and the drilling method group. The research instrument used was a shooting accuracy test from Maulana (2009), which has been tested for validity and reliability. Data analysis was carried out using a t-test with a significance level of 0.05. The results of the study showed that (1) there is a significant influence of the tactical approach on shooting ability ($p < 0.05$); (2) there is a significant influence of the drilling method on shooting ability ($p < 0.05$); and (3) there is a significant difference in the influence between the tactical approach and the drilling method on shooting ability ($p = 0.002 < 0.05$). The group with the tactical approach showed a higher increase in shooting ability than the drilling method group, with an average difference of 3.50 points.

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1. INTRODUCTION

Futsal is a rapidly growing sport in Indonesia, especially among elementary school students (Ishak et al., 2022; Perdana et al., 2023). As a sport that emphasizes technique and strategy, futsal requires mastery of basic skills such as passing, dribbling, and shooting. Shooting, or the ability to kick the ball toward the goal with accuracy and power, is a key skill in futsal (Budi et al., 2021; Yusuf & Zainuddin, 2020). Effective shooting skills can increase a team's chances of scoring goals and winning matches (Febrian et al., 2020; Anzer & Bauer, 2021).

Futsal is a ball game played by two teams of five players each, with the goal of scoring goals into the opponent's goal by manipulating the ball and the feet (Usman & Mappaompo, 2018). The tactical approach is a learning approach that incorporates technical training into game situations tailored to the students' ability levels (Anggara, 2015). Drilling is an activity involving repeated and diligent practice with the goal of strengthening an association or perfecting a skill to make it permanent (Mudariani et al., 2021). Shooting in futsal is the skill of shooting the ball toward the goal with the goal of scoring (Mappaompo et al., 2024).

To improve shooting skills, various training methods have been developed (Junaidi et al., 2018). One of these is the drilling method, which involves repetitive practice that focuses on specific techniques to improve specific skills (Kharisma et al., 2024). Several studies have shown that shooting practice using the drilling method can significantly improve elementary school students' shooting accuracy (Wolfe et al., 2018; Hasibuan, 2022; Wijaya et al., 2025). Furthermore, a tactical approach, which emphasizes understanding game strategy and decision-making in match situations, is also considered effective in improving overall futsal skills. Both technical and tactical approaches influence futsal skills (Festiawan et al., 2024).

Although drilling and tactical approaches have been shown to be effective individually, questions remain about their relative effectiveness in improving shooting skills in extracurricular futsal participants at the elementary school level. Does the drilling method outperform the tactical approach in enhancing shooting skills? Or conversely, does the tactical approach produce better results? These questions are objective issues that require further research.

Futsal extracurricular activities at Parang Tambung II Elementary School in Makassar City have become an important part of student development. However, initial observations indicate that students' shooting skills still need improvement. This raises the question of the most effective training method for strengthening this skill. Is a tactical approach that emphasizes game strategy more effective, or a drilling method that focuses on repetition of basic techniques? This question is an objective issue that requires further research.

Although numerous studies have examined the effectiveness of tactical approaches and drilling methods separately, few have directly compared the two methods in the context of futsal training at the elementary school level. Most previous research has focused on junior high or high school levels. To date, research directly comparing the effectiveness of tactical approaches and drilling methods on shooting ability in extracurricular futsal participants at the elementary school level is limited. Most studies focus on only one method or on different age groups. Although Salam's (2021) study compared the two methods, it focused on junior high school extracurricular futsal participants. This gap suggests that there must be research comparing the two methods in the context of elementary school students to determine the most effective method for improving shooting ability.

This study offers a novel approach by directly comparing the effects of tactical approaches and drilling methods on shooting ability in extracurricular futsal participants

at the Elementary School Parang Tambung II, Makassar City. Therefore, the results of this study are expected to provide new contributions to the field of sports training, particularly in the context of physical education at the elementary school level.

Building upon the description above, this study aims to analyze and compare the effects of tactical approaches and drilling methods on the shooting abilities of futsal extracurricular participants at Elementary School Parang Tambung II, Makassar City. The results of this study are expected to provide useful information for coaches, physical education teachers, and related parties in designing effective training programs to improve students' shooting abilities.

2. METHOD

This type of research is experimental; the experimental method is defined as a systematic method to build relationships containing causal phenomena (causal-effect relationship) (Arga, 2025). The research location is at the elementary school Parang Tambung II, Makassar City, South Sulawesi Province. In this study, samples were taken from futsal extracurricular participants, totaling 30 students who are still actively participating in futsal extracurricular activities. Futsal shooting was measured using the Shooting Accuracy Test using a test from Yanto and Sutapa (2018). The validity of this test has gone through content validity in the form of face and logical validity. Shooting using the instep has a reliability coefficient of 0.940. Before proceeding to the t-test, researchers must meet certain requirements: the data being analyzed must be normally distributed. Therefore, normality and homogeneity tests are necessary. The following diagram illustrates the experimental research model used in this study, shown in Figure 1.

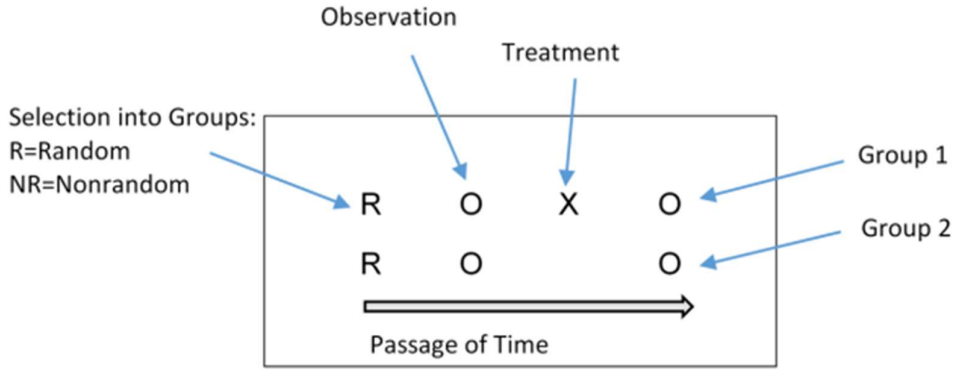

Figure 1. Experimental Research Model

After the prerequisite tests were met, the hypothesis was tested using a paired sample t-test to determine differences in student learning outcomes before and after the treatment. The test criterion was that Ho was rejected if the calculated t-value was greater than the t-table value at a significance level of 5% ($\alpha = 0.05$). Data analysis was performed using SPSS version 26.0 for Windows (Ismanto & February, 2021).

3. RESULTS AND DISCUSSION

Results

Descriptive Analysis

Descriptive analysis of research data in groups, namely the tactical approach and drilling method on shooting ability in futsal extracurricular participants at elementary school Parang Tambung II Makassar City can be seen in the summary of the descriptive analysis results listed in the Table, while the complete results are in the appendix. Calculation of descriptive data on shooting ability in futsal extracurricular participants at elementary school Parang Tambung II Makassar City as in the research appendix can be seen in the following summary:

Table 1. Descriptive Results of Shooting Ability Data

Descriptive	Tactical approach		Drilling method	
	Initial Test	Final Test	Initial Test	Final Test
N	14	14	14	14
Mean	9.7143	18.2143	9.5000	14.7143
Std. Deviation	1.97790	2.19014	1.78670	2.12779
Variance	3.912	4.797	3.192	4.527
Range	7.00	7.00	6.00	8.00
Minimum	6.00	15.00	6.00	11.00
Maximum	13.00	22.00	12.00	19.00
Sum	136.00	255.00	133.00	206.00

The initial test data on the tactical approach to shooting ability was obtained from 14 samples of futsal extracurricular participants at the Elementary School Parang Tambung II, Makassar City, resulting in a total score of 136.00. The average score was 9.7143 with a standard deviation of 1.97790. The range value was 7.00, with a minimum value of 6.00 and a maximum value of 13.00. For the final test data on the tactical approach to shooting ability of futsal extracurricular participants at the Elementary School Parang Tambung II, from 14 samples, a total score of 255.00 was obtained. The average score was 18.2143 with a standard deviation of 2.19014. The range value was 7.00, with a minimum value of 15.00 and a maximum value of 22.00. For the initial test data, the drilling method assessed the shooting ability of futsal extracurricular participants at the Elementary School Parang Tambung II; from 14 samples, a total score of 133.00 was obtained. The average score was 9.5000 with a standard deviation of 1.78670. The range was 6.00, with a minimum score of 6.00 and a maximum score of 12.00. For the final test data, the drilling method assessed the shooting ability of futsal extracurricular participants at the Elementary School Parang Tambung II; from 14 samples, a total score of 206.00 was obtained. The average score was 14.7143 with a standard deviation of 2.12779. The range was 8.00, with a minimum score of 11.00 and a maximum score of 19.00.

The results of the descriptive data analysis above are only a description of the initial test and final test of the tactical approach and drilling method on the shooting ability of futsal extracurricular participants at the Elementary School Parang Tambung II

Makassar City. The data above has not answered the existing hypothesis, namely the effect of the tactical approach and drilling method on the shooting ability of futsal extracurricular participants at the Elementary School Parang Tambung II Makassar City. To prove whether there is an influence of the independent variable on the dependent variable, further testing is needed, namely by conducting a data normality test to determine whether to use parametric or non-parametric.

Table 2. Normality Test

Variable	Kolmogorov-Smirnov		Shapiro – Wilk		α	Information
	Statistics	Sig.	Statistics	Sig.		
Tactical approach	0.145	0,200	0.970	0.875	0,05	Normal
Drilling method	0.182	0,200	0.952	0.589	0,05	Normal

Table 2 above shows the results of the data normality test using the Kolmogorov-Smirnov test. The tactical approach obtained 0.145 with a probability level (P) of 0.200, greater than the value of α0.05, while the Shapiro-Wilk test obtained 0.970 with a probability level (P) of 0.875, greater than the value of α0.05. Thus, the tactical approach data obtained follows or is normally distributed. For the drilling method, the Kolmogorov-Smirnov Test yielded a value of 0.182 with a probability level (P) of 0.200, which is greater than the α 0.05 threshold, while the Shapiro-Wilk Test resulted in a value of 0.952 with a probability level (P) of 0.589, also exceeding the α 0.05 threshold. Thus, the drilling method data obtained follows or is normally distributed.

Table 3. Homogeneity Test

Initial Test	Levena Statistic	Sig.	α	Information
Tactical Approach & Drilling Method	0.127	0.724	0,05	Homogeneous

The sample homogeneity test, which is detailed in the summary above, was conducted using the Levene Statistical Test at a significance level of 95%. According to the calculation results, the Levene Statistical Test value was obtained as 0.127 with a probability level of 0.724, which is greater than the α value of 0.05. Therefore, based on the calculation results, it can be concluded that both training groups, namely the tactical approach and the drilling method, were homogeneous.

T-test

There is an influence of the tactical approach on the shooting abilities of futsal extracurricular participants.

To answer the proposed hypothesis, the analytical test used in this study is the mean difference test using a paired t-test. The values used in calculating the paired t-test are the pre-test and post-test scores of each group. The data presentation yields the following results:

Table 4. Paired Sample Mean Difference Test Tactical Approach

Shooting in futsal game		*Mean*	*Mean Differences*	t	*Df*	*Sig (2-tailed)*	*t-table*
Group A	*Post-test*	18.2143	8,5000	27,412	13	0,000	1,771
	Pre-test	9.7143					

The T-test results table above shows that the t-test has the following pretest and posttest values for the tactical approach. The test results obtained a t-count value of 27.412, a t-table value of 1.771, and a significance value of 0.000 < α 0.05, indicating a significant difference. Since the t-count is greater than the t-table, Ho is rejected, thus meaning that there is a significant influence of the tactical approach on the shooting ability of futsal extracurricular participants at the elementary school Parang Tambung II, Makassar City. The magnitude of the increase in the tactical approach can be seen from the average difference data of 8.5000 points.

There is an influence of the drilling method on the shooting ability of futsal extracurricular participants.

To answer the proposed hypothesis, the analytical test used in this study is the mean difference test using a paired t-test. The values used in calculating the paired t-test are the pre-test and post-test scores of each group. The data presentation yields the following results:

Table 5. Drilling Method Paired Sample Mean Difference Test

Shooting in futsal game		*Mean*	*Mean Differences*	t	*Df*	*Sig (2-tailed)*	*t-table*
Group B	*Post-test*	14.7143	5,21429	20,011	13	0,000	1,771
	Pre-test	9.5000					

In the table above, the t-test has the pretest and posttest values of the drilling method as follows. The results of the data testing obtained a t-count value of 20.011, and the t-table obtained 1.771 and a significance value of 0.000 < α 0.05; this result shows that there is a significant difference. Because the t-count is greater than the t-table, Ho is rejected, thus meaning that there is a significant influence of the drilling method on the shooting ability of futsal extracurricular participants at the elementary school Parang Tambung II. The magnitude of the increase in the drilling method can be seen from the average difference data of 5.21429 points.

There is a difference in the influence of the tactical approach and drilling method on the shooting ability of futsal extracurricular participants.

To answer the proposed hypothesis, the analysis test used in this study is the mean difference test (mean difference test) using the t-test analysis of the difference between groups (independent t-test). The value used in calculating the difference t-test (independent t-test) is the post-test value of each group. With the presentation of the data, the results of the unpaired t-test calculation (independent t-test) are as follows:

Table 6. Unpaired Sample Mean Difference Test

Shooting in Futsal Game		*Mean*	*Mean Differences*	T	*Df*	*Sig (2-tailed)*	*t-table*
Post Test	Tactical approach	18.2143	3,5000	4,289	26	0,000	2,056
	Drilling method	14.7143					

In the table above, the t-test shows a posttest value between the tactical approach group and the drilling method, as follows: The results of the data testing obtained a t-count value of 4.289, and the t-table obtained 2.056 and a significance value of 0.002 < 0.05; this result shows that there is a significant difference. Because the t-count is greater than the t-table, Ho is rejected, thus meaning that there is a significant difference in influence between the tactical approach group and the drilling method (without being given training) on shooting ability in futsal extracurricular participants. The magnitude of the increase in the tactical approach group (average value of 18.2143) with the drilling method (average value of 14.7143) can be seen from the average difference data of 3.5000 points. This study shows that the drilling method can improve the shooting ability of futsal extracurricular participants at the elementary school Parang Tambung II compared to the tactical approach.

Discussion

There is a significant influence of the tactical approach on the shooting ability of futsal extracurricular participants.

The results of this study indicate that a tactical approach significantly strengthened the shooting skills of futsal extracurricular participants. The tactical approach emphasizes game understanding and decision-making in real-life situations, which directly impacts the effectiveness of shooting techniques. Furthermore, the implementation of the tactical approach positively strengthened the shooting skills of futsal extracurricular participants. The tactical approach emphasizes game understanding and correct decision-making in match situations, which directly trains students to put the ball into the goal more effectively. This improvement is evident in the post-test scores, which showed a significant increase compared to the pre-test.

These findings align with previous research by Gaviria Alzate et al. (2025), which found that a tactical approach encourages young players to better understand the context of the game, rather than simply mastering basic techniques. With practice focused on game scenarios, students learn to read situations, determine optimal positioning, and execute shots more precisely (Emerson et al., 2023). Furthermore, this approach facilitates meaningful learning because it simultaneously engages cognitive, affective, and psychomotor aspects. Therefore, a tactical approach can be an effective strategy for developing futsal shooting techniques, especially for elementary school students participating in extracurricular activities.

Overall, the tactical approach has proven effective in improving shooting skills in futsal extracurricular participants. This approach not only improves technical skills but

also tactical understanding and decision-making in the game. Therefore, it is recommended that coaches and sports teachers integrate a tactical approach into their training programs.

The drilling method significantly impacted the shooting ability of futsal extracurricular participants.

The research data analysis revealed that the drilling method significantly enhanced the shooting ability of futsal extracurricular participants. The one-way t-test significance value of 0.000, less than 0.05 (Sig), demonstrated this. The magnitude of the improvement in the drilling method was evident by the average difference of 5.21429 points. Furthermore, the drilling method significantly improved the shooting ability of futsal extracurricular participants. The drilling method, which focuses on intensive and systematic repetition of techniques, helped students strengthen the fundamental skills of shooting the ball accurately and powerfully. The increase in post-test scores compared to pre-test scores indicates that repeated practice can improve shooting consistency and accuracy.

This aligns with the opinion of Bompa and Haff, who stated that repetitive practice is highly effective in developing muscle memory and motor skills, especially in technique-based sports like futsal (Wahyono et al., 2024). Through drilling, students also gain confidence due to familiarity with the movements they consistently practice. Furthermore, this method is highly suitable for basic development in elementary school students who are still developing motor coordination (Chang et al., 2020; Newell & Rovegno, 2021). With appropriate repetition and supervision from a coach, students can achieve significant skill improvements in a relatively short period of time. Therefore, the drilling method can be an effective approach to improving shooting skills in elementary school students.

Overall, the drilling method has proven effective in improving shooting skills in extracurricular futsal participants. This method not only improves technical skills but also tactical understanding and decision-making in the game. Therefore, it is recommended that coaches and sports teachers integrate the drilling method into their training programs.

There is a significant difference in the influence of the drilling method on the shooting ability of futsal extracurricular participants.

The research results showed significant improvements in tactical aspects and shooting technique under pressure. Accuracy improved but was not as effective as the tactical approach in match conditions. The research data showed that the tactical approach resulted in higher average scores on shooting tests. The results also indicated that both methods had a positive effect on improving shooting ability, but there were significant differences between them. The tactical approach emphasized the overall game context, where students were trained in match-like situations. This approach not only trained shooting technique but also game reading, decision-making, and tactical understanding. Thus, students were not only able to shoot technically but also knew

when and how to shoot effectively in a match. According to Kermarrec (2015), the tactical approach was well-suited for improving game understanding and skills in real-world situations.

In contrast, the drilling method focused on intensive repetition of shooting technique movements. The goal was to build automaticity in movement through repeated practice. This method was effective in building the foundation of shooting skills, especially for elementary school-aged students who were still mastering basic motor skills. Bompa & Haff stated that the drilling method was very useful for developing stable and efficient movement patterns through systematic repetition (Wahyono et al., 2024).

Although both methods showed improvement, the study found that the tactical approach had a greater impact on shooting ability than the drilling method. This is due to the more contextual and holistic nature of the tactical approach, which allows students to develop both technical skills and tactical understanding simultaneously. In futsal, quick and accurate decisions are crucial, and the tactical approach provides this stimulus through situational drills. Therefore, the tactical approach is considered more effective in the context of developing shooting skills focused on match performance. However, the drilling method remains relevant as a foundation in the early stages of learning shooting techniques. A balanced combination of the two can be the best strategy for developing optimal shooting skills in elementary school students.

Practical Implications:

1. Shooting Ability Improvement: This study can provide an example of the application of a tactical approach with an effective drilling method to improve the shooting ability of futsal extracurricular participants in elementary schools.
2. Training Program Development: The results of this study can be used as a reference for developing a more effective futsal training program to improve the shooting ability of extracurricular participants.
3. Improving the Quality of Futsal Extracurricular Activities: This study can help improve the quality of futsal extracurricular activities in elementary schools by using a tactical approach and an effective drilling method.

Theoretical Implications:

1. Futsal Training Theory Development: This study can contribute to the development of a more effective futsal training theory to improve the shooting ability of extracurricular participants.
2. Tactical Approach Application: The results of this study can provide an example of the effective application of a tactical approach in futsal training to improve shooting ability.
3. Motor Skill Development: This study can help improve the motor skills of futsal extracurricular participants in elementary schools by using a tactical approach and a drilling method.

4. CONCLUSION

The conclusion of the study is that there is a significant influence of the tactical approach on the shooting ability of futsal extracurricular participants at the elementary school Parang Tambung II Makassar City. In addition, there is a significant influence of the drilling method on the shooting ability of futsal extracurricular participants. Furthermore, there is a significant difference in the influence between the tactical approach and the drilling method on the shooting ability of futsal extracurricular participants. This is the result of an analysis of the tactical approach on shooting ability ($p < 0.05$), training methods on shooting ability ($p < 0.05$), and the influence of the tactical approach and training methods on shooting ability ($p = 0.002 < 0.05$). The group with the tactical approach showed a higher increase in shooting ability than the training method group, with an average difference of 3.50 points.

As a suggestion, practitioners can apply a tactical approach in futsal training to improve shooting skills, as well as use effective drilling methods to strengthen the shooting skills of futsal extracurricular participants. Further research can develop more specific and effective drilling methods to strengthen the shooting skills of futsal extracurricular participants in elementary schools. Further research can apply the tactical approach to various ages of futsal extracurricular participants to determine its effectiveness in improving shooting skills. In addition, further research can develop a more comprehensive training program to strengthen the shooting skills of futsal extracurricular participants in elementary schools.

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