



## Futsal Learning Innovation (Passing Technique): Modification of the Traditional Cat and Mouse Game

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### ABSTRACT

This study aimed to determine the effect of modifying the traditional cat-and-mouse game on the futsal passing skills of extracurricular students at SMPI Al Isyrof Mrecah Tanah Merah and hypothesized that the modified game would significantly improve students' passing performance. This research employed a quantitative experimental approach using a one-group pretest-posttest design. The study was conducted at SMPI Al Isyrof Mrecah Tanah Merah, Bangkalan, involving 15 extracurricular futsal students selected through total sampling. Data were collected using a futsal passing skills test in which students performed 10 passes toward a predetermined target before and after the treatment. The treatment consisted of modified traditional cat-and-mouse game activities integrated into futsal training sessions. Data analysis included descriptive statistics, normality testing using the Kolmogorov-Smirnov test, and hypothesis testing through a paired sample t-test with a significance level of 0.05. The findings revealed a significant improvement in students' passing ability after the treatment, as indicated by the increase in the mean score from 4.13 in the pretest to 6.60 in the posttest. The paired sample t-test showed a significance value of 0.000, indicating that the modified traditional game had a significant positive effect on futsal passing skills. The results suggest that game-based training methods can effectively enhance technical skills, motor coordination, concentration, teamwork, and students' motivation during learning activities. Therefore, traditional game modifications can be utilized as innovative and enjoyable training alternatives in futsal learning. This article contains 15 references, 4 tables, and 1 research instrument.

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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

Traditional games are part of the cultural heritage that have educational value and play an important role in the physical, social and motor skills development of students (Khodari & Nurhidayah, 2025). In the context of physical education, traditional games serve not only as entertainment but also as learning tools to support the development of athletic skills. One sport that requires optimal motor skill mastery is futsal. Futsal is a



team sport that demands speed, accuracy, coordination, and cooperation between players in dynamic game situations (Aziz et al., 2024). One of the most important basic techniques in futsal is passing, because good passing skills will determine the effectiveness of teamwork and the smoothness of ball control during the match.

Passing skills in futsal need to be trained systematically through appropriate training methods so that students are able to pass quickly, accurately and effectively (Ahsani et al., 2023). However, basic futsal training in schools often uses monotonous, conventional methods, leading to boredom and decreased student motivation. This situation results in students' passing skills not developing optimally. Therefore, innovative training methods are needed that are more engaging, enjoyable, and tailored to student characteristics, one of which is through modifications to traditional games.

Several previous studies have shown that traditional games have a positive influence on the development of students' motor skills and sports skills. Research conducted by (Wawan et al., 2024) shows that traditional games can improve gross motor skills through activities involving movement coordination, agility, and balance. In addition, research (Saputra et al., 2026) proved that a small-sided games-based game approach had a significant influence on improving students' futsal passing accuracy. Another study conducted by (Akmal Istighfar, 2020) also shows that cat and mouse training can improve passing ability in futsal games because it trains concentration, cooperation, and accuracy of passes in game situations.

However, studies on the application of modified traditional cat-and-mouse games specifically as training methods to improve futsal passing skills in junior high school extracurricular activities are still relatively limited. Most previous studies have focused on the use of small-sided games, drills, or traditional games in general without specifically examining modified cat-and-mouse games in the context of futsal passing training (Iskandarsyah et al., 2025). Thus, this research has an element of scientific novelty because it integrates the traditional game of cat and mouse which is modified as a game-based training method to improve the futsal passing skills of extracurricular students.

The modifications to the cat-and-mouse game in this study involved adjusting the rules of the game to use a futsal ball, limiting touches, and implementing continuous passing within a specific playing area. These modifications require students to pass quickly, precisely, and with direction to prevent the "cat" player from stealing the ball (Fitrian, 2022). This situation resembles the actual conditions of a futsal game so it is hoped that it will improve students' basic technical skills, especially passing.

Based on the description, the problem in this study is whether there is an effect of modification of the traditional cat-and-mouse game on the futsal passing results of extracurricular students of SMPI Al Isyrof Mrecah Tanah Merah. The hypothesis of this study is that there is a significant effect of modification of the traditional cat-and-mouse game on improving the futsal passing results of extracurricular students. The purpose of this study was to determine the effect of modifying the traditional cat-and-mouse game on the futsal passing results of extracurricular students at SMPI Al Isyrof Mrecah Tanah Merah.

## METHODS

This research uses a quantitative research method with an experimental approach (Abdurrohman Akbar, 2024). The quantitative method was chosen because the study aimed to determine the effect of modifications to the traditional cat-and-mouse game on futsal passing results through statistically analyzing numerical data. An experimental approach was used to test the effects of the treatment given to the research subjects, namely modifications to the traditional cat-and-mouse game, during futsal training activities.

The research design used is One Group Pretest-Posttest Design (Al Muhandis & Riyadi, 2023). In this design, research subjects were given a pretest before treatment, then given treatment in the form of a modified traditional game of cat and mouse, and then given a posttest after the treatment was completed. This design was used to determine differences in students' futsal passing abilities before and after treatment.

Systematically, the research design can be described as follows:

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The research was conducted at SMPI Al Isyrof Mrecah Tanah Merah, Bangkalan. The population in this study was all students participating in the extracurricular futsal activities at SMPI Al Isyrof Mrecah Tanah Merah, totaling 15 students. Due to the relatively small population, the sampling technique used was total sampling, so that all members of the population were used as research samples.

The research instrument used was a futsal passing skills test. The test was conducted by having students pass using the inside of their foot toward a predetermined target (Ajhari et al., 2023). Each student is given 10 passes. A pass that hits the target is awarded a score of 1, while a pass that misses the target is awarded a score of 0. The maximum score a student can earn is 10.

The research procedure began with a pretest to determine students' initial futsal passing abilities. Afterward, the students were given a modified version of the traditional cat-and-mouse game during several extracurricular training sessions (Moh. Karimullah et al., 2021). In this game, students are required to pass quickly and accurately to maintain possession of the ball from the "cat" player. After the treatment was completed, a posttest was administered using the same procedure as the pretest.

The data analysis technique was carried out through several stages. First, descriptive statistical analysis was conducted to determine the average value, highest value, lowest value, and standard deviation of the pretest and posttest results. Next, a normality test was conducted using the Shapiro-Wilk test to determine whether the data were normally distributed. After the data were declared normal, hypothesis testing was conducted using a paired sample t-test to determine the effect of the modification of the traditional cat-and-mouse game on students' futsal passing results. The significance level used in this study was 0.05. If the significance value is less than 0.05, then there is a significant effect of the treatment given on students' futsal passing results.

## RESULTS AND DISCUSSION

### Result

This study aimed to determine the effect of a modified traditional game of cat and mouse on the futsal passing skills of extracurricular students at SMPI Al Isyrof Mrecah Tanah Merah. Data were obtained through pretests and posttests administered to 15 students as a sample.

The results of futsal passing ability measurements before and after the treatment showed an increase in scores for the majority of students. The pretest and posttest results are shown in Table 1.

**Table 1.**  
 Passing Pretest and Posttest Results

No.	Student Name	Pretest	Posttest
1	Farhan	5	9
2	Wahyu	4	7
3	Rayhan	3	6
4	Andi	3	5
5	Izal	5	7
6	Akbar	6	8
7	Tofa	6	9
8	Zaen	2	5
9	Agil	4	6
10	Riki	2	4
11	Sandy	5	7
12	Amin	4	7
13	Adit	3	6
14	Salman	6	8
15	Farizi	4	5

Table 1 shows that students' posttest scores improved compared to their pretest scores. This indicates a change in futsal passing ability after being treated with a modified version of the traditional cat-and-mouse game.

**Table 2.**  
 Descriptive analysis results

Variables	N	Mean	Standar Deviasi
Pretest	15	4.13	1.356
Posttest	15	6.60	1.502

Based on Table 2, the average pretest score was 4.13, while the average posttest score was 6.60. These results indicate an average increase in futsal passing ability of 2.47 after the treatment.

A normality test was conducted to determine whether the research data was normally distributed. The Kolmogorov-Smirnov method was used to test for normality. The results of the normality test can be seen in Table 3.

**Table 3.**  
 Normality Test Results

Data	Significance	Information
Pretest	0.200	Normal
Posttest	0.200	Normal

Based on Table 3, the significance values for the pretest and posttest data were greater than 0.05. Therefore, the research data were normally distributed, allowing for further analysis using parametric tests.

Hypothesis testing was conducted using a paired sample t-test to determine the effect of modifications to the traditional cat-and-mouse game on students' futsal passing skills. The results of the hypothesis testing are shown in Table 4.

**Table 4.**

Paired Sample T-Test Results

Variables	Mean Difference	t count	Sig. (2-tailed)
Pretest-Posttest	-2.467	-12.854	0.000

Based on the results of the paired sample t-test, a significance value of 0.000 was obtained, which is less than 0.05. This indicates a significant difference between the pretest and posttest results. Therefore, the modified traditional cat-and-mouse game significantly improved the futsal passing skills of extracurricular students at SMPI Al Isyrof Mrecah Tanah Merah.

Furthermore, the higher average posttest score compared to the pretest indicates that the treatment improved students' futsal passing skills more effectively. This improvement occurred because the modified cat-and-mouse game required students to pass quickly, accurately, and consistently in an active and enjoyable game environment.

## Discussion

The results of the study indicate that the modification of the traditional cat-and-mouse game has a significant effect on improving the futsal passing results of extracurricular students of SMPI Al Isyrof Mrecah Tanah Merah. This scientific finding is demonstrated by an increase in the average pretest score of 4.13 to 6.60 in the posttest. In addition, the results of the paired sample t-test showed a significance value of  $0.000 < 0.05$ , so the research hypothesis stating that there is an effect of the modification of the traditional cat-and-mouse game on futsal passing results can be accepted.

The findings of this study indicate that a traditional game-based training approach can improve basic futsal technical skills, particularly passing. This improvement occurs because the modified cat-and-mouse game requires students to pass the ball quickly, precisely, and continuously in dynamic game situations. This activity indirectly trains motor coordination, ball control, concentration, and the ability to make decisions quickly. In futsal, passing ability is influenced not only by individual technique but also by quick thinking and the ability to read game situations. Therefore, game-based training is considered more effective than conventional, monotonous training.

Scientifically, the improvement in passing ability in this study occurred because students received training stimuli that mimicked real-life game situations. A modified cat-and-mouse game created pressure through the presence of a "cat" player attempting to win the ball, requiring students to pass quickly and accurately. This situation repeatedly trained students' motor responses and neuromuscular coordination. The more frequently students performed passing movements in game situations, the better

their motor adaptations developed. This adaptation led to increased movement accuracy, passing speed, and the effectiveness of teamwork between players.

Furthermore, active and enjoyable games also increase students' motivation to participate in training. Motivation plays a significant role in the success of sports skills learning (Schiff & Supriady, 2023). Students who are actively involved in games tend to be more focused, enthusiastic, and less likely to become bored during training. This increases the intensity of training, resulting in optimal development of basic futsal technical skills. Therefore, the use of modified traditional games not only benefits the technical aspects but also the psychological aspects of students during the sports learning process.

The findings of this study are in line with research conducted by (Akmal Istighfar, 2020) which states that cat-and-mouse training can improve futsal passing skills by training decision-making speed and passing accuracy in game situations. The study showed that game-based training was more effective in improving technical skills than conventional training methods. The similarity of these results reinforces the high relevance of cat-and-mouse training as a futsal training method.

The results of this study are also supported by research (M. Ridha Ansyari et al., 2024) regarding the application of small-sided games to futsal passing accuracy. The study showed an increase in passing ability after students were given game-based training. The similarity between this study and previous research lies in the use of a game approach as a medium for practicing basic futsal techniques. Through game activities, students gain a more contextual learning experience and resemble a real match situation. However, this study is novel because it uses a modified traditional game of cat and mouse as a form of training combined with local cultural elements.

In addition, the results of this study are also in line with the opinion (Fitrian, 2022) which states that repeated technical practice in game situations can significantly improve futsal passing skills. Repetition of movements in practice will create automatic movement patterns, making it easier for students to execute accurate passes under pressure. In this study, the repetition of passing movements occurred naturally through the continuous game of cat and mouse during practice.

Based on the research results and discussion, it can be concluded that a modified version of the traditional game of cat and mouse is an effective training method for improving students' futsal passing skills (Citra Ayu Lestari et al., 2025). This effectiveness occurs because the game integrates elements of technique, teamwork, concentration, and decision-making into one enjoyable training activity. These findings demonstrate that traditional games can be developed into innovative, modern sports learning tools tailored to students' needs.

Overall, the results of this study successfully answered the research hypothesis that there is a significant effect of modifying the traditional cat-and-mouse game on futsal passing results among extracurricular students at SMPI Al Isyrof Mrecah Tanah Merah. Thus, the use of modified traditional games can be used as an alternative training method in futsal learning to improve students' basic technical skills more effectively and engagingly.

## CONCLUSION

This study shows that a modified traditional cat-and-mouse game significantly improves the futsal passing skills of extracurricular students at SMPI Al Isyrof Mrecah Tanah Merah. The modified game helps students pass the ball more precisely, quickly, and effectively through training activities that mimic real-life futsal situations. In addition to improving basic technical skills, the game-based training method also contributes to the development of motor coordination, concentration, decision-making skills, and teamwork among players. This improvement in students' abilities occurs because the cat-and-mouse game requires participants to keep moving, maintain ball control, and make continuous passes in dynamic and competitive conditions. The enjoyable training environment makes students more active, motivated, and less likely to become bored during extracurricular activities. Therefore, the use of traditional games as a training method can be an innovative and effective alternative sports learning method in improving basic futsal technical skills. Therefore, physical education teachers and coaches are advised to utilize modified traditional games as a variation of training to make the learning process more interesting and optimal, while further research is expected to develop studies with a wider sample coverage and test the effect of similar methods on other futsal technical skills such as dribbling, shooting, and control.

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