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The Effect of Small-Sided Games on Futsal Passing Accuracy at SMA Negeri 2 Percut Sei Tuan

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Abstract
Objectives:
This study aims to determine the effect of the Small Sided Games training method on passing accuracy in the futsal extracurricular program at SMA Negeri 2 Percut Sei Tuan. This research is a quasi experimental study using a one group pretest posttest design.
Materials and Methods:
This research is a quasi experimental study using a one group pretest posttest design. The population of this study consisted of 25 players, with a sample of 10 players determined through purposive sampling technique.
Results:
The results showed that the mean passing accuracy score increased from 3.50 at pretest to 5.30 at posttest. The Shapiro Wilk normality test showed significance values of 0.220 for the pretest and 0.466 for the posttest ($p > 0.05$), indicating that both datasets were normally distributed. The homogeneity test showed a significance value of 0.438 (> 0.05), indicating that the data were homogeneous. The Paired Sample t Test showed a significance value of 0.048 (< 0.05), so H_1 was accepted and H_0 was rejected.
Conclusions:
It can therefore be concluded that the Small Sided Games training method had a significant effect on the passing accuracy of extracurricular futsal players at SMA Negeri 2 Percut Sei Tuan.
Keywords: Small Sided Games training; passing accuracy; futsal.

Introduction

Futsal is a sport played by five players on each team, consisting of one goalkeeper and four outfield players. A futsal match consists of two halves with an effective playing time of 2 × 20 minutes, requiring players to have good physical fitness to support their performance throughout the match (Yunus & Raharjo, 2022). Futsal has developed rapidly in Indonesia and is not only popular among men but is also widely played by women. The sport is played by two teams, each consisting of five players, including a goalkeeper. The popularity of futsal is inseparable from its relatively simple playing characteristics, as the sport can be played in various environments, both indoors and outdoors. In addition, the smaller number of players and reduced court size make futsal more practical and accessible to play.

Futsal is a sport characterized by high intensity, fast pace, and dynamic movements. A futsal match can run smoothly, systematically, and effectively when players are able to master and understand the various techniques involved. Futsal emphasizes the mastery of fundamental skills. The basic techniques that futsal players need to master include passing, dribbling, shooting, heading, and ball control. Fundamental techniques are essential in futsal because players must be able to execute them properly. In addition to technical skills, players must also possess good physical abilities because futsal requires high levels of speed and agility in both attacking and defensive situations. One of the essential techniques in futsal is passing. Passing is the technique of transferring the ball from one player to another with the aim of maintaining possession and facilitating the flow of play. Although passing may appear simple, it requires accuracy, concentration, and proper targeting so that the ball reaches a teammate rather than an opposing player.

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Passing accuracy is one of the most important aspects of futsal, particularly when building an attack to create scoring opportunities, which is the primary objective of a match. Accurate passing requires a combination of technical skills, concentration, and consistent practice. The inability to perform accurate passes often results in loss of possession (turnovers), which can be exploited by opponents to launch quick counterattacks. Therefore, passing accuracy is a crucial indicator in assessing a team's technical and tactical quality. This can also be observed during the training sessions of futsal players at SMA Negeri 2 Percut Sei Tuan, where players frequently make errors when performing passes in both attacking and defensive situations. Good passing accuracy supports the smooth execution of playing patterns and improves the effectiveness of team strategies. Conversely, inaccurate passing can result in loss of possession, opponent counterattacks, and an overall decline in playing quality.

Based on the results of an initial observation conducted among the futsal extracurricular participants at SMA Negeri 2 Percut Sei Tuan, it was found that the players' passing accuracy was still relatively low and had not reached an optimal level. This was evident from the pretest results, which showed an average passing success score of only 3.50 out of 10 attempts per player. The results were obtained from a total of 100 passing attempts performed by 10 players. These findings indicate that most players still experienced difficulties in performing accurate passes toward the designated targets. The low level of passing accuracy was presumably influenced by a lack of concentration during passing, inadequate cooperation among players, and training methods that had not sufficiently simulated actual match situations. If this condition continues, it may negatively affect the overall quality of team play, particularly in maintaining possession and building attacks. Therefore, a more effective training method that is appropriate to the characteristics of futsal is needed to improve players' passing accuracy, one of which is the application of the Small Sided Games (SSG) training method.

Under these circumstances, coaches need to respond promptly to the problem and make improvements to the training methods, particularly those aimed at improving passing accuracy so that team performance can develop optimally. Various training methods can be used to improve players' passing accuracy, including paired passing (pair passing), passing involving three players (triangle passing), wall passing combinations, and target based passing (target passing). However, given the current condition of the players, it is necessary to apply a training method that can produce a significant improvement in their passing accuracy.

One training method considered effective for improving players' passing accuracy is Small Sided Games. Small Sided Games are game based training activities involving fewer players and a reduced playing area, allowing players to have more frequent interactions with the ball. The training formats may include 3 versus 3 without goals, 4 versus 4 using small goals, 5 versus 5 using half of a futsal court, and 4 versus 2 keep away games. The primary objectives of this method include improving the quality of passing, dribbling, and ball control under opponent pressure from a technical perspective; enhancing players' understanding of creating space and off the ball movement from a tactical perspective; improving endurance, speed, agility, and core muscle strength through repeated high intensity movements from a physical perspective; and improving communication among players. This method is believed to improve fundamental technical skills, including passing accuracy, because players are trained in more realistic and competitive situations that closely resemble actual match conditions.

Based on previous studies, several research gaps have been identified as the fundamental basis for this study. First, a specific problem was identified in the extracurricular program, namely low passing accuracy, as indicated by the initial pretest results, which showed an average passing success score of only 3.50 out of 10 attempts per player.

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These results were obtained from 100 total passing attempts performed by 10 players and were attributed to a lack of concentration, low passing accuracy, and training methods that had not been optimal. Although the Small Sided Games (SSG) method is widely recognized as an approach for improving skills under pressure, there is still a limited body of research examining its application in this specific context. A study conducted by Ribka et al. (2025) showed that the Small Sided Games (SSG) training method was able to improve passing accuracy among high school futsal extracurricular participants. Similarly, Iskandarsyah et al. (2025) demonstrated that Small Sided Games training had a positive effect on students' basic passing skills. Nevertheless, no study has specifically examined the application of the Small Sided Games method to improve passing accuracy among futsal extracurricular participants at SMA Negeri 2 Percut Sei Tuan. Therefore, this study seeks to address this research gap by examining the effectiveness of the Small Sided Games method in a school context characterized by different participant characteristics, training environments, and facilities.

Second, research on the Small Sided Games training method has been widely conducted among various groups of participants, including sports students. For example, a study by Presto et al. (2024) showed that the Small Sided Games method had an effect on improving passing accuracy among sports students at Universitas Negeri Medan. However, the study was conducted among university students whose physical characteristics, training experience, and level of maturity differed from those of high school futsal extracurricular participants. Therefore, further research is needed to examine the effect of the Small Sided Games training method on passing accuracy among high school futsal players, particularly at SMA Negeri 2 Percut Sei Tuan.

Materials and Methods

Study Design

This study employs a quasi experimental method with a quantitative approach, utilizing a one group pretest posttest design specifically structured to examine the effect of the Small Sided Games (SSG) training method on improving passing accuracy among futsal players in the extracurricular program at SMA Negeri 2 Percut Sei Tuan.

Study Participants

The population for this study consists of all active futsal players at SMA Negeri 2 Percut Sei Tuan, aged 16-18 years, totaling 25 players from grades X and XI. From this group, 10 players who are members of the school's futsal extracurricular program and serve as the core team have been selected as the sample for this research.

Study Organization

Data were collected using a passing accuracy test and documentation. The test measured the players' inside foot passing accuracy before and after the Small Sided Games (SSG) intervention. Ten players performed 10 passes at a 6 meter distance during the pretest and posttest. Successful passes scored 1 and unsuccessful passes scored 0, with scores ranging from 0–10 and categorized from very low to very good. The instrument was adopted from previously validated and reliable tests. Documentation included photos and videos of the testing and training activities. SSG training was conducted three times a week for four weeks (12 sessions), using 3v3, 4v4, and 4v2 keep away formats.

Statistical Analysis

Data were analyzed using the pretest and posttest passing accuracy scores. The analysis included calculating the mean, testing data normality using the Shapiro Wilk test, and testing homogeneity using Levene's Test with IBM SPSS version 26. Hypothesis testing was conducted using the Paired Sample t Test at a 0.05 significance level. If Sig. (2 tailed) < 0.05, H_1 was accepted, indicating a significant effect of the Small Sided Games training method on futsal players' passing accuracy.

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Results

Before the intervention, a pretest was conducted to assess the players' baseline passing accuracy. Following the completion of the Small Sided Games training program, a posttest using the same testing format was administered to determine whether there had been any change in the players' passing accuracy. The results from both tests were then analyzed to evaluate the extent to which the Small Sided Games training method influenced the improvement of passing accuracy among futsal players in the extracurricular program at SMA Negeri 2 Percut Sei Tuan. The data is presented in the following table:

Table 1. Passing Accuracy Score Categories

Intervals	Category	Pretest (f)	Pretest (%)	Posttest (f)	Posttest (%)
0 - 2	Very Low	3	30%	0	0%
3 - 4	Low	5	50%	3	30%
5 - 6	Moderate	2	20%	5	50%
7 - 8	Good	0	0%	2	20%
9 - 10	Very Good	0	0%	0	0%
Total		10	100%	10	100%

Based on Table 1 above, the distribution of passing accuracy score categories for futsal players in the extracurricular program at SMA Negeri 2 Percut Sei Tuan can be observed for both the pretest and posttest. In the pretest, 3 players (30%) fell into the Very Low category, 5 players (50%) into the Low category, and 2 players (20%) into the Moderate category, with no players reaching the Good or Very Good categories. This indicates that the majority of the players (80%) possessed a low level of passing accuracy prior to the intervention, suggesting that their fundamental ability to direct the ball accurately toward a target required significant improvement through an appropriate training program.

Following 12 sessions of Small Sided Games consisting of 3v3, 4v4, and 4v2 keep away drills conducted over a 4 week period, the posttest results revealed a clear shift in the categories: the Very Low category was no longer present (0%), the Low category decreased to 3 players (30%), the Moderate category increased to 5 players (50%), and 2 players (20%) reached the Good category a level that no player had attained during the pretest.

The pretest and posttest results achieved by the players in a passing accuracy test which involves targeting a specific object from a distance of 6 meters over 10 attempts among students participating in the futsal extracurricular program at SMA Negeri 2 Percut Sei Tuan, are as follows:

Table 2. Pretest and Posttest Results

Name	Pretest	Posttest	Difference
Rafa Syaputra	4	5	1
Dean Ryanda	4	6	2

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Satria Pranata	6	4	2
Nevan Ridho	3	7	4
Abi Yuda	1	3	2
Fahri Ardiansyah	4	5	1
Rifa Armansyah	4	6	2
Ridho Febrian	1	6	5
Rizqi Fadlan	2	7	5
Evril Riandi	6	4	2
Mean	**3,50**	**5,30**	**1,80**
Standar Deviasi	**1,780**	**1,337**	**2,486**
Minimal	**1**	**3**	**1**
Maksimal	**6**	**7**	**5**

Based on Table 2, the descriptive analysis results show that the participants' mean pretest score was 3.50, while the mean posttest score increased to 5.30. The average gain achieved was 1.80, indicating that the intervention provided was effective in improving the participants' learning outcomes. Eight out of 10 participants (80%) showed an increase in their scores, while two participants (20%) experienced a decrease. The largest increase 5 points was observed for Ridho Febrian and Rizqi Fadlan, whereas a decrease of 2 points was recorded for Satria Pranata and Evril Riandi. Furthermore, the standard deviation values 1.780 for the pretest and 1.337 for the posttest indicate that the variation in scores was smaller after the intervention than it was before. Thus, in addition to an improvement in the mean learning outcome, the participants' performance also tended to become more homogeneous following the intervention. Descriptively, these findings suggest that the intervention had a positive impact on the improvement of the participants' learning outcomes.

Discussion

Based on the results of the data analysis presented in the previous subsection, the Small Sided Games (SSG) training method was found to have a significant effect on the passing accuracy of extracurricular futsal players at SMA Negeri 2 Percut Sei Tuan. This was demonstrated by an increase in the mean passing accuracy score from 3.50 in the pretest to 5.30 in the posttest. The significance values (Sig.) for the pretest and posttest data were 0.220 and 0.466, respectively. Since both values were greater than 0.05 (0.220 > 0.05 and 0.466 > 0.05), the pretest and posttest passing accuracy data were normally distributed. Furthermore, the paired samples t test yielded a Sig. (2 tailed) value of 0.048, which was less than 0.05. Therefore, H_1 was accepted and H_0 was rejected.

The improvement in passing accuracy is consistent with the findings of Fatoni and Prianto (2022), who stated that Small Sided Games training in futsal can improve horizontal passing accuracy. This is because players operate within a limited playing area,

requiring them to make quick decisions and deliver accurate passes. In this study, the restricted playing spaces in the 3v3, 4v4, and 4v2 keep away formats required players to execute passes under considerable time pressure, thereby repeatedly developing this fundamental skill throughout the 12 training sessions.

In addition to technical factors, this improvement was also associated with the players' cognitive abilities. SSG training, which resembles actual match situations, encourages players to maintain focus and concentration and make immediate decisions under pressure from opponents and within restricted playing spaces. These cognitive abilities ultimately contribute to players' accuracy in directing the ball toward the intended target, consistent with one of the benefits of SSG training discussed in the theoretical framework of this study.

In terms of the training formats employed, the three Small Sided Games formats used in this study complemented one another. The 3v3 format, which focused on passing and keep away activities with a target of consecutive successful passes, provided players with a foundation for developing basic passing accuracy. The 4v4 format, which integrated passing with shooting elements, trained players to maintain passing accuracy during more dynamic attacking transitions. Meanwhile, the 4v2 keep away format emphasized teamwork and communication in maintaining possession, indirectly improving passing accuracy under pressure from opponents attempting to regain the ball. The combination of these three training formats progressively developed the players' passing accuracy, from basic skill execution to more complex and realistic game situations.

Nevertheless, the results also indicated that not all players experienced consistent improvements in their scores. Of the 10 players who participated in the study, two recorded lower posttest scores than their pretest scores, while the other eight demonstrated improvements. Such individual variations are common in experimental research using a one group pretest posttest design, as players may differ in physical characteristics, concentration levels, and psychological conditions during testing, independently of the training intervention. These variations may also influence the standard deviation of the data. Consequently, although the group mean showed a meaningful improvement, the statistical significance level was relatively close to the established threshold of 0.05.

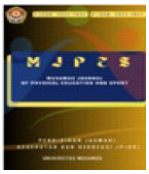
Overall, the findings of this study support previous research conducted by Halimah, Sumarsono, and Purbangkara (2023), which also identified a significant effect of the Small Sided Games training method on passing skills in futsal. Therefore, Small Sided Games can be considered an effective and relevant training method for improving passing accuracy among futsal players, particularly at the secondary school extracurricular level.

Conclusions

Based on the research findings, the mean passing accuracy score of extracurricular futsal players at SMA Negeri 2 Percut Sei Tuan increased from 3.50 in the pretest to 5.30 in the posttest after completing 12 Small Sided Games training sessions over four weeks using 3v3, 4v4, and 4v2 keep away formats. The paired samples t test yielded a significance value of 0.048 ($p < 0.05$), indicating a significant effect of Small Sided Games training on passing accuracy. Of the 10 players, eight improved their scores, while two experienced a decrease. Therefore, Small Sided Games can be considered an effective training method for improving passing accuracy among extracurricular futsal players at SMA Negeri 2 Percut Sei Tuan in 2026, although individual responses may vary.

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Conflict of Interest

The authors declare no conflict of interest.

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