



The Effect of Triangle Clock Needle (SJJ) Training Method on Passing Accuracy of Futsal Extracurricular Students

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Abstract

This study aimed to investigate the effect of Triangle Clockwise (SJJ) training on improving passing accuracy among students participating in the futsal extracurricular program at SMP Negeri 2 Karanggayam. The study employed a quantitative approach with a one-group experimental design. A total of 15 male students were selected through purposive sampling. Passing accuracy was assessed using a standardized passing accuracy test, and the collected data were analyzed using the N-Gain test to determine the effectiveness of the training program. The results demonstrated a moderate improvement in passing accuracy, with a mean N-Gain score of 0.5481, indicating a moderately effective intervention. Furthermore, the mean passing score increased from 4.63 in the pretest to 7.31 in the posttest, representing an improvement of 2.69 points or 58.11%. These findings suggest that Triangle Clockwise (SJJ) training is an effective method for improving passing accuracy and can be recommended as a practical training strategy for futsal coaching programs at the junior high school level.



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Introduction

Sports are physical activities performed in a systematic and organized manner, involving repetitive body movements with the goal of improving physical fitness. Sports are an important part of daily life because they help improve the fitness needed to perform various activities ([Hidayat et al., 2022](#)). In the context of education in Indonesia, sports training starting in junior high school (SMP) serves as a crucial foundation for developing physical fitness, motor skills, and the values of sportsmanship. This aligns with the view that physical education and extracurricular activities in schools are strategic platforms for nurturing future high-achieving athletes ([Rahadian et al., 2021](#)).

Extracurricular activities are programs carried out by students outside the classroom and outside of regular class hours (curriculum) with the aim of helping to develop students' human potential, whether in relation to the application of knowledge they have acquired or, more specifically, to help students develop their inherent potential and talents through both required and elective activities ([Khusna Farida Shilviana & Tasman Hamami, 2020](#)). Training in various sports is being stepped up at the school level, one of which is futsal.

Futsal is a sport played by two teams, each consisting of five players, including a goalkeeper. The game is played on a field smaller than a soccer field, so players are required to master basic techniques such as passing, ball control, dribbling, and shooting ([Puput Widodo & Arum Subekti, 2025](#)). Basic passing is the most dominant, crucial, and frequently used technique throughout a game ([Andika Ryan Anjaya et al., 2022](#)).

Passing is the "lifeblood" and the primary means of communication among players in futsal. Because of the very limited space, players rarely have much time to hold onto the ball (dribbling). With good passing, a team can control the pace of the game, break down a tight opponent's defense, and conserve energy, since the ball moves much faster than a running player ([Kusuma, 2020](#)). Every student participating in the futsal extracurricular activity should already be able to master the basic technique of passing with the inside of the foot with consistent accuracy.

One training method that can improve futsal passing skills is the Clockwise Triangle (SJJ) drill. The SJJ drill is a modified version of a passing drill in which three players are positioned in a triangle formation at specific distances from one another.

The benefits of the Clockwise Triangle (SJJ) drill have been scientifically supported by research findings (Al Mukminin & Akbar, 2023), which demonstrates an exceptionally high level of feasibility and effectiveness.

Based on the results of initial observations at Karanggayam Public Junior High School No. 2 in June 2026, there is a significant gap between the ideal conditions and the reality on the field. Currently, students' passing accuracy remains relatively low and falls far short of expectations. During training sessions and game simulations, it is common to see passes that veer far out of reach of teammates due to the supporting foot not consistently being positioned toward the target.

The researcher evaluated the training methods currently used by coaches or extracurricular instructors. Futsal passing drills at SMP Negeri 2 Karanggayam are predominantly conducted using static methods. Students are typically lined up facing each other and then pass the ball back and forth in pairs while remaining stationary at a single spot.

A training program that lacks variety leads to boredom and fails to provide sufficient stimulation for the athletes' motor nervous system (Kristriawan & Sukadiyanto, 2016). Through repetitive and structured practice using this method, it is hoped that the students' ball feel and passing accuracy will improve (Predyawan, 2021). It is hoped that the implementation of the Clockwise Triangle (SJJ) training method will improve the futsal passing accuracy of students in the futsal extracurricular program at Karanggayam Public Junior High School No. 2.

Methods

This study employed a quantitative approach. The quantitative approach was chosen because the research data collected consisted of test scores that would be analyzed using statistical procedures to test the established hypotheses (Ilma Fahmi Aziza, Arditya Prayogi, Fahmi Abdul Halim et al., 2024). Based on its objectives, this study falls under the category of experimental research, which is a research method used to investigate the effect of a specific treatment on another variable under controlled conditions. The research design used was a One-Group Pretest-Posttest Design.

The population of this study consisted of 30 students, namely 11 female students and 19 male students. Sampling in this study was conducted using purposive sampling. Purposive sampling is a sampling technique in which subjects are

deliberately selected based on specific criteria deemed relevant by the researcher. The sample used in this study consisted of 15 male students from the futsal extracurricular program at SMP Negeri 2 Karanggayam. The data collection technique used in this study was a passing accuracy test. The researcher recorded the number of balls that entered the target area out of 10 attempts.

Score 1: Awarded if the ball enters the target goal (60 cm in width).

Score 0: Awarded if the ball misses the target or fails to reach the target goal.

Maximum Score: 10 points.

The data analysis in this study used a quantitative approach to determine the extent of the influence of the Clockwise Triangle (SJJ) training method on improving the passing accuracy of students in the futsal extracurricular program at SMP Negeri 2 Karanggayam. The analysis focused on comparing the results of the pre-test, administered before the intervention, with those of the post-test, administered after 12 sessions of SJJ training. The instrument used in this study was a passing accuracy test. (Putra¹ et al., 2023). Next, a t-test and an N-Gain test were conducted to determine whether there was an improvement following the training (treatment).

To measure the improvement in students' passing ability after participating in the Clockwise Triangle Training (CTT) program, the normalized gain (**N-Gain**) was calculated using the following formula:

$$\text{N-Gain}(g) = \frac{\text{Score Posttest} - \text{Score Pretest}}{\text{Score Maksimum} - \text{Score Pretest}}$$

N-Gain Classification

N-Gain Value	Category
$(g \geq 0.70)$	High
$(0.30 \leq g < 0.70)$	Moderate
$(g < 0.30)$	Low

Results

Based on the research conducted, an overview was obtained regarding the effect of the Clockwise Triangle (SJJ) training method on the passing accuracy of students in the futsal extracurricular program at Karanggayam Public Junior High

School 2. The research data were collected through observation, testing, and a training program. The tests administered were a pretest and a posttest. The research results are presented below:

Tabel 1. Data *Pretest - Postets*

No	Pretest	Postets
1	3	6
2	3	5
3	5	8
4	4	7
5	5	8
6	2	5
7	6	9
8	3	5
9	8	10
10	5	8
11	6	9
12	4	7
13	3	6
14	5	7
15	5	8
16	7	9

Tabel 2. N-Gain score *Pretes - Postest*

N0	Pretest	Postets	N-Gain Score
1	3	6	0.43
2	3	5	0.29
3	5	8	0.60
4	4	7	0.50
5	5	7	0.60
6	2	5	0.38
7	5	8	0.75
8	3	5	0.29
9	7	9	1.00
10	5	8	0.60
11	5	9	0.75
12	4	6	0.50
13	3	6	0.43
14	5	7	0.40
15	5	8	0.60
16	7	9	0.67

Tabel 3. Statistic Deskriptive N-Gain

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Ngain_score	16	.29	1.00	.5481	.18857
Valid N (listwise)	16				

Tabel 4. Uji T

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	4.6250	16	1.62788	.40697
	Posttest	7.3125	16	1.57982	.39496

Paired Samples Test									
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pretest - Posttest	-2.68750	.47871	.11968	-2.94259	-2.43241	-22.456	15	.000

Discussion

Based on the N-Gain scores in Table 2, there were 2 children in the low category, 11 children in the moderate category, and 3 children in the high category. Based on the descriptive statistics in Table 3, the N-Gain scores ranged from a minimum of 0.29 to a maximum of 1.00, with a mean of 0.5481 and a standard deviation of 0.18857. Based on these data, it can be concluded that the “clockwise triangle” (SJJ) training method was quite effective in improving the passing accuracy of students in the futsal extracurricular program at SMP Negeri 2 Karanggayam, as evidenced by the mean N-Gain score of 0.5481. This value falls within the range of $0.30 \leq g < 0.70$, which is categorized as moderate or sufficiently effective.

Based on the t-test in Table 4, there is a significant difference between the pretest and posttest, as indicated by a significance value (2-tailed) of $0.000 < 0.05$. This indicates that the differences observed in each variable are significantly influenced; therefore, H_0 is rejected and H_1 is accepted. This means that the clockwise triangle drill (SJJ) method has a significant effect on the passing accuracy of students in the futsal extracurricular program at SMP Negeri 2 Karanggayam. The mean for the pretest data was 4.6250, and the mean for the posttest data was 7.3125. The difference in mean scores was 2.6875, representing a 58.11% increase.

The results of this study indicate that the Clockwise Triangle (SJJ) training method has an effect on improving the passing accuracy of students in the futsal extracurricular program at Karanggayam Public Junior High School 2. This improvement occurred because the SJJ training was conducted repeatedly and systematically, allowing students to become accustomed to performing passing movements using the correct technique. These results are consistent with (Ardiyanto et al., 2021), which states that varied drill methods can improve passing skills because the movements are repeated until they become more precise and consistent.

In addition, the variety of drills keeps students more engaged and helps prevent them from getting bored during practice. These conditions help improve coordination and passing accuracy. This is supported by [Bogy Restu Ilahi, Muhammad Nuryogatama, \(2024\)](#), which states that variations in passing drills have a positive effect on improving futsal players' passing skills. The results of this study are also consistent with research [Al Mukminin & Akbar, \(2023\)](#), which states that the Clockwise Triangle (SJJ) training model is effective for improving passing skills. According to [Andika Ryan Anjaya et al., \(2022\)](#), explains that drills that simulate game situations can improve passing skills. Thus, the SJJ training method can be used as an alternative training method to improve the passing accuracy of students in futsal extracurricular activities.

According to the researcher, the clockwise triangle (SJJ) training method can serve as an effective training method to improve passing accuracy in futsal. This method is suitable for both extracurricular students and higher levels, such as futsal academies. Based on the results of the research, the researcher hopes that the futsal extracurricular students at SMP Negeri 2 Karanggayam will further improve their passing skills in futsal.

Conclusion

Based on the findings of this study, it can be concluded that the Clockwise Triangle Training (CTT) method has a positive effect on improving the passing accuracy of students participating in the futsal extracurricular program at SMP Negeri 2 Karanggayam. This training method proved to be effective in enhancing students' passing skills through a structured and systematic training program focused on the development of fundamental futsal techniques.

The results indicate that students demonstrated improved passing accuracy after participating in the Clockwise Triangle Training (CTT) program compared to their performance before the intervention. These findings suggest that the CTT method can serve as an effective alternative training approach for developing passing skills in futsal extracurricular activities.

Therefore, the Clockwise Triangle Training (CTT) method is recommended for continuous implementation by coaches and physical education teachers as part of a fundamental technical training program in futsal. The application of this method is expected to further improve students' passing accuracy, thereby contributing to better

game performance and supporting the achievement of higher levels of athletic performance in futsal extracurricular programs.

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