

Effectiveness of Training Using Small-Sided Games (SSG) in Enhancing Selected Fundamental Football Skills Among Under-13 Youth Players.

فاعلية التدريب بالألعاب الجانبية المصغرة في تحسين بعض المهارات الأساسية بالكرة لدى براعم كرة القدم اقل من 13 سنة .

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Abstract : This study aimed to examine the effectiveness of small-sided games in developing selected fundamental football skills among U-13 youth players. Classified as an experimental study, it involved a sample of 16 male players aged 12 ± 0.5 years from the Atfa Oued Chorfa football team. Statistical analyses included the Shapiro-Wilk test for normality, Levene's test for homogeneity, the paired sample t-test, and the Mann-Whitney U test, all conducted at a significance level of 0.05. The findings revealed that the implementation of small-sided games had a statistically significant positive impact on the development of core football skills in young players. Notably, the experimental group showed substantial improvement in passing and dribbling performance, whereas ball control did not exhibit significant enhancement. These results may be attributed to the game-like nature of SSG, which encourages frequent use of passing and dribbling in realistic play situations

Keywords: Small-sided games, youth players, fundamental skills, football.

المخلص : هدفت هذه الدراسة إلى التعرف على فعالية الألعاب الجانبية المصغرة على بعض المهارات الأساسية لدى لاعبي كرة القدم فئة البراعم. تُصنّف هذه الدراسة ضمن البحوث التجريبية، وقد شارك فيها 16 لاعب براعم ذكور 12+/- 0.5 سنة فريق (أتفا واد الشرفا). اعتمدت الدراسة على اختبار الجري بالكرة والتمرير والتنطيط كأداة لجمع البيانات. أما أدوات التحليل فشملت: اختبار شايبروويلك، اختبار ليفن للتجانس، اختبار "ت" واختبار مان ويتني، وأظهرت نتائج الدراسة أن تطبيق الألعاب الجانبية المصغرة كان له تأثير معنوي كبير على تحسين المهارات الأساسية لدى لاعبي البراعم. وقد حققت المجموعة التجريبية نسبة تحسن معتبرة في اختبار التمرير والمراوغة، على عكس اختبار

التنطيط الذي لم يعرف تحسن معنوي. ويُعزى هذا التحسن إلى أن الألعاب الجانبية المصغرة تحاكي الشكل الحقيقي للمباريات، مما يحفز اللاعبين إلى تنفيذ أكبر عدد ممكن من حركات التمرير والمراوغة أما التنطيط فهو مهارة مغلقة لتحسينها يفضل التدريب عليها بشكل منفرد.

- الكلمات المفتاحية : الألعاب الجانبية المصغرة، البراعم، المهارات الأساسية، كرة القدم.

1-Introduction and problematic of the study

In recent decades, football has undergone significant modernization and development, marked by several revolutions in sports training aimed at achieving the highest levels of performance and technical proficiency with minimal effort. This objective represents the core ambition of coaches and football specialists, who increasingly adopt modern training methods grounded in creative thinking and supported by academic and scientific research.

Recently, the concept of football academies has gained prominence, emphasizing the development of young players. Today's youth are the stars of tomorrow, and proper engagement with football activities must begin at this foundational stage. In this context, Issam Abdel Khaleq (1994) highlighted that training young players aims to help them reach their highest possible level, in alignment with their individual characteristics and biological development.

The training process in football is fundamentally built upon the improvement of basic skills, which are considered the foundation of player development. As noted by Mahmoud Abu Al-Einin and Mufti Ibrahim (1983), the fundamental skills in football represent the cornerstone of youth training and are essential to the tactical execution and achievement in later stages of player development.

Football is distinguished by the diversity and variety of its skills, which contribute to the beauty of the game and add to its excitement during play. Ball control, in particular, is considered the foundation of all aspects of modern football and the

key to executing numerous other skills. Short and quick passes, combined with receiving the ball in the air using the foot or the body, are excellent methods for practicing ball control, becoming familiar with the ball, and building self-confidence (FIFA grassroots manual,2011).

Al-Hazaa and Mukhtar further emphasize that the most defining characteristic of modern football is the speed of execution and the high level of ball control. They assert that it is absolutely essential for players to possess a high degree of control and the ability to make quick decisions with the ball. A player lacking this ability becomes a burden on their team and disrupts the effective execution of team strategies (Al-Hazaa & Mukhtar, p. 108; see also p. 107). Children often come to the football field simply to play their favorite game. Play represents the primary and most natural activity for children; it is a fundamental and instinctive need. For this reason, the main objectives of football for grassroots players are to introduce children to the game and to teach them its basic principles through play itself. In recent years, many renowned football clubs—even entire football federations—have adopted the concept of "street football" within their training systems, convinced that skill-based drills alone do not sufficiently enhance cognitive abilities such as responsibility and decision-making. Instead, they believe that actual play, especially in small, game-like environments, better addresses these developmental needs. Small-sized pitches suit the physiological characteristics of young players, allowing them more frequent ball contact, greater opportunities to improve their control, and the chance to develop efficient use of the ball. *Small-sided games (SSG)*—also referred to as mini-games or reduced-format matches—are essentially structured play situations with fewer players, confined spaces, and specific rules (Shalan & Afifi, p. 191). They are considered one of the most effective forms of interval training, as they can be performed over a set duration followed by

appropriate rest intervals. The duration of play can also increase proportionally with the number of participants. Statistical evidence supports the advantages of small-sided games over traditional 11-a-side matches. For example: Players touch the ball five times more in 4v4 formats and 50% more in 7-a-side games, Players experience three times more 1v1 situations in 4v4 and twice as many in 7v7 matches, Goals are scored, on average, every two minutes in 4v4 games and every four minutes in 7v7, Goalkeepers participate in the play two to four times more in 7v7 than in full-sided matches, and The ball is out of play solely 8% of the total time in 4v4 games, 14% in 7v7, and 34% in traditional 11-a-side matches (FIFA grassroots manual,2011).Based on the aforementioned considerations, and in light of the need to adopt diverse and modern training methods to improve the skills of youth players—especially given the external stimuli they face during gameplay—we deemed it necessary to conduct this study using a small-sided games (SSG) training approach to enhance ball control skills among youth players. This led to the formulation of the following central research question:

Does the proposed training program using small-sided games contribute to the improvement of the selected fundamental football skills among under-13 players?

From this main question, the following sub-questions were derived:

1. Are there statistically significant differences between the experimental and control groups in the short passing accuracy test?
2. Are there statistically significant differences between the experimental and control groups in the dribbling test?
3. Are there statistically significant differences between the experimental and control groups in the ball-control (juggling) test?

2. Study hypothesis:

General Hypothesis: The proposed training program using small-sided games has a positive effect on improving fundamental football skills among under-13 youth players.

Sub-Hypotheses :

1. There are statistically significant differences between the control and experimental groups in the short passing accuracy test;
2. There are statistically significant differences between the control and experimental groups in the dribbling test; and
3. There are statistically significant differences between the control and experimental groups in the ball-juggling test.

3. Study objective:

1. To examine the effect of training with small-sided games on improving short passing accuracy;
2. To examine the effect of training with small-sided games on improving dribbling performance; and
3. To examine the effect of training with small-sided games on improving juggling skills.

4- Study terms:

- **Small-Sided Games (SSG):**

Terminologically: Also known as "mini-games" or "reduced games," these are competitive matches played under specific rules and conditions, involving a small number of players within confined spaces. They are crucial for player development as they allow youth players to perform skills in pressure situations similar to actual competition (Shaan & Afifi, 2001, p. 191)

Operationally: Modified forms of play where the coach adjusts the field size, number of players, goals, or rules (special game regulations) to achieve specific physical, technical, or tactical objectives effectively and efficiently.

- **Fundamental Ball Skills:**

Terminologically: The various essential and purposeful movements performed by players with the ball within the laws of the game.

Operationally: The technical skills or techniques used by players during ball play. In this study, these include passing, dribbling, and ball control through juggling.

- **Youth Players (Grassroots):**

Terminologically: The age category under 13 years, also referred to as the "older grassroots" to distinguish from the "younger grassroots" under 11 years.

Operationally: Players aged 12 and 13 years, according to the requirements and scope of this study.

5- Fields of study:

Study Scope

1. Human Scope: The experiment was conducted on youth players (U-13 category) from the Atfa Football Academy.

2. Spatial Scope: The study was carried out at the Oued Charef Municipal Football Field.

3. Temporal Scope: The field experiment was conducted from **February 25, 2022** to **April 9, 2022**.

The training program lasted for *seven weeks, with two training sessions per week*.

- **Pre-tests** were administered on **February 15, 2022**.
- **Post-tests** were conducted on **April 13, 2023**.

Second: Previous studies:

1. **Hajarul Susanto & Walid Djaba's study** titled "The Effectiveness of Small-Sided Games in Improving Passing in Futsal" aimed to determine the impact of small-sided game training on passing skills. The researchers employed an

experimental method on a sample of 20 female futsal players. The intervention involved 18 training sessions using small-sided games. The results showed a significant improvement in passing skills, with an increase of 14.55%, indicating the effectiveness of SSG drills.

2. **Kuroman et al. (2021)** conducted a study titled *"The Effectiveness of Small-Sided Game Training in Improving Fundamental Futsal Skills."* The aim was to assess how various small-sided formats (4v2, 4v3, and 4v4) influence core futsal skills. The researchers adopted an experimental design involving 30 adolescent futsal players in the Banyumas region. Statistical analysis revealed that all formats (4v2, 4v3, 4v4) had a significant impact on skill development. The highest improvement was recorded in the 4v4 group, with an average increase of ± 13.63 . One-way ANOVA tests indicated significant differences between the groups, with the 4v4 format proving most effective—likely due to its similarity to real match conditions in futsal.
3. **Muñoz et al. (2022)** conducted a study titled *"The Effect of Small-Sided Games on Decision-Making and Technique in U-12 Football Players."* This study aimed to analyze how small-sided games, with modified playing spaces, affect technical skills and decision-making in male football players under 12 years old. A total of 12 players participated in 20 training sessions using small-sided games on a pitch enclosed by walls, creating a confined playing space. The Shapiro-Wilk test confirmed normal data distribution. The results demonstrated statistically significant improvements in variables related to passing and control, as well as notable enhancements in execution and decision-making processes.

Third: Study procedures:

1. Methodological Approaches Used

Before conducting the main study, the researcher carried out a preliminary exploratory investigation with the aim of:

- Diagnosing the current state of training in selected football academies;
- Conducting a comprehensive review of related literature and key publications in the field;
- Evaluating the effectiveness of the proposed skill tests and scheduling their implementation;
- Conducting anthropometric measurements and ensuring homogeneity between the research groups; and
- Determining the period and scheduling the dates for pre- and post-testing.

2. Research Approach: The researcher adopted the **experimental method** by dividing the study sample into two groups: an experimental group and a control group.

3. Study Population and Sample: The study sample was deliberately selected from players of the Atfa Oued Chorfa Football Academy, ensuring similarity in variables such as weight, height, and years of playing experience. The participants were divided into two groups: 8 players in the experimental group and 8 in the control group.

Table 1: Results of Levene’s Test for Homogeneity between Groups (Age, Weight, and Height)

Variable	Control Group	Experimental Group	Levene's Test Value	p-value (Sig.)	Statistical Significance
	Mean ± SD	Mean ± SD			
Age	12.50 ± 0.53	12.37 ± 0.51	0.46	0.50	Not significant

Weight (kg)	35.62 ± 2.26	36.62 ± 2.61	0.17	0.67	Not significant
Height (m)	1.43 ± 0.87	1.42 ± 0.77	0.16	0.69	Not significant
Sample size = 8 players per group			Level of significance = 0.05		

Source: prepared by the researcher based on the findings

Data Collection Tools and Research Instruments

1. Sources and References: The researcher relied on both Arabic and international sources, including scientific journals, online databases, and previous studies relevant to the topic of this research.

2. Skill Tests:

The following **modern and standardized tests**, approved by the **German and Swiss Football Federations**, were selected and implemented by the researcher:

Dribbling Test (Running with the Ball):

-Objective: To assess the player's dribbling speed.

-Equipment: Six poles, four cones to mark the course, a measuring tape, and foot balls.

Test Specifications: As shown in Figure 1, the ball is placed at the starting point, which lies in the center of the starting line. The player stands directly behind the ball on the starting line and may choose which foot to use. To complete the test, the player must cross the finish line while keeping the ball close to the foot (no farther than one meter away). Each player is given two attempts (Deutscher Fußball-Bund, n.d., P8).

-Important note: An attempt is not disqualified if the player loses control of the ball but retrieves it and completes the attempt in accordance with the rules.

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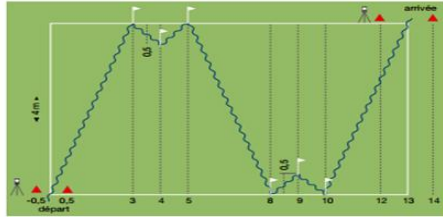


Figure 1 illustrates the dribbling speed test.

2. Passing Accuracy Test:

- **Objective:** To measure passing accuracy.
- **Equipment:** 10 cones, measuring tape, and foot balls.

Test Specifications: The ball is placed at the starting point in the center, and the player stands directly behind the ball. As illustrated in Figure 2 below, the player attempts to pass the ball between the cones and is free to choose the striking foot. The player performs six passes through three target gates (two passes per gate). Each player is given two attempts, and the better of the two is recorded.



Figure 2 illustrates the passing accuracy test.

3. Ball Control Test (Juggling):

- **Objective:** To assess ball control ability.
- **Equipment:** 6 cones, measuring tape, footballs, stopwatch.

Test Specifications: the player performs alternating foot juggles, switching between the left and right foot. As it is clear in Figure 3 below, the ball control test requires the player to move around the cones in a chosen direction. After passing the first three cones, they return diagonally to the starting point to begin a new cycle using the remaining three cones. The movement path forms a figure-

eight shape. The player has 45 seconds and continues the test as long as the ball remains airborne (see Deutscher Fußball-Bund, n.d., P12) .

-Note: The ball must be juggled using both feet alternately. Cones must not be touched. Each player is allowed two attempts, and the best result is recorded. If the first attempt is unsuccessful, a score of zero is recorded. The player may freely choose the direction of movement. The player starts with the ball in their hands. Juggling must be done exclusively with the feet, alternating between left and right.



Figure 3 illustrates the alternating ball control test.

Scientific Foundations of the Tests

Test Reliability: The researcher conducted a pilot study on a sample of 4 players outside the main research sample. The same tests were administered twice to assess consistency. Using Pearson's correlation coefficient, the calculated reliability score was **0.92**, which exceeds the tabulated value of **0.87**, indicating a high degree of reliability.

Test Validity: To verify validity, the square root of the reliability coefficient was calculated. The result was **0.95**, which is higher than the tabulated Pearson correlation value (**0.87**), confirming that the tests reveal a high degree of validity.

Test Objectivity: The researcher used standardized and well-established tests, officially recognized by both the German and Swiss Football Federations, ensuring high objectivity and consistency in evaluation.

7.1 Statistical Tools

The researcher used SPSS (Statistical Package for the Social Sciences), version 25 to analyze the collected data. The following statistical tests were employed:

Levene’s Test for homogeneity of variance; **Shapiro-Wilk Test** for normality ; **Paired and Independent Samples t-tests**; and **Cohen’s d** for quantifying practical significance.

8.1 Training Program: The proposed training program was implemented based on the following key principles:

1. The integration of small-sided games within the training sessions was appropriately tailored to the players' physical and technical capabilities.
2. The program emphasized variety and engagement through diversified and enjoyable small-sided games.
3. Progressive overload was applied, with training loads increasing gradually in line with the physical development of the participants.
4. Precise regulation of training load components (e.g., number of repetitions, sets, and rest intervals) was ensured to prevent overtraining.
5. Short passive rest periods were included after each game to facilitate recovery.
6. At least 30 minutes of each training session were allocated specifically to small-sided games.
7. Training was conducted at a frequency of two sessions per week, incorporating formats such as 2v2 and 4v4, with modifications to rules, goals, and other variables to suit the objectives of each session.

Fourth: Results Presentation, Interpretation, and Discussion

3.1 Presentation and Analysis of Pre-Test Results for Both Research Groups (homogeneity)

To ensure the homogeneity of the experimental and control groups prior to the implementation of the training program, pre-test scores were analyzed. The table 2 below presents the statistical results of the pre-tests for both groups:

Table 2: Pre-Test Results for the Experimental and Control Groups

Test	Control Group	Experimental Group	Sig. Value	Statistical Significance
	Mean $\pm$ SD	Mean $\pm$ SD		
Ball Dribbling Test	11.98 $\pm$ 0.29	12.23 $\pm$ 0.54	0.27	Not significant
Short Passing Accuracy Test	4.62 $\pm$ 1.76	4.87 $\pm$ 1.55	0.76	Not significant
Ball Juggling with Both Feet	3.12 $\pm$ 1.12	3.62 $\pm$ 1.06	0.90	Not significant
Significance level = 0.05				

Source: prepared by the researcher based on IBM SPSS Statistics 25.0.

As can be observed in Table 2, the sig. values for all skill tests exceeded the 0.05 significance level, indicating no statistically significant differences between the two groups in the pre-test measures. This confirms the homogeneity of the control and experimental groups at baseline. It is worth to note that the normal distribution of data was verified using the Shapiro-Wilk test for both pre- and post-test scores within each group. The obtained values exceeded the 0.05 significance level, confirming that the data followed a normal distribution.

Accordingly, parametric tests (i.e., Student's t-test) were used for statistical analysis of normally distributed data. However, for the post-test results of the short passing accuracy variable, the data did not follow a normal distribution, and thus the non-parametric Mann–Whitney U test was applied.

Presentation and Analysis of Pre- and Post-Test Results – Control Group

Table 4: Pre- and Post-Test Results for the Control Group

Test	Pre-Test	Post-Test	t (calculated)	Statistical Significance
	Mean $\pm$ SD	Mean $\pm$ SD		
Ball Dribbling Test	11.98 $\pm$ 0.29	11.87 $\pm$ 0.33	2.27	Not significant
Short Passing Accuracy Test	4.62 $\pm$ 1.76	5.00 $\pm$ 1.06	1.42	Not significant
Ball Juggling Test	3.12 $\pm$ 1.12	3.37 $\pm$ 0.91	1.00	Not significant
Degree of freedom = 7 Significance level = 0.05 Critical t-value = 2.36				

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Source: prepared by the researcher based on IBM SPSS Statistics 25.0.

After reviewing the results presented in Table 4, the following findings are worth noted: In the Ball Dribbling Test, the control group recorded a pre-test mean of **11.98** with a standard deviation of **0.29**, and a post-test mean of **11.87** with a standard deviation of **0.33**. The calculated t-value was **2.27**, which is lower than the critical t-value of **2.36** at the **0.05** significance level and 7 degrees of freedom. This indicates that no statistically significant difference exists between the pre- and post-test scores for this variable.

-For the Short Passing Accuracy Test, the group achieved a pre-test mean of **4.62** (**SD = 1.76**) and a post-test mean of **5.00** (**SD = 1.06**). The t-value calculated was **1.42**, again below the critical threshold of **2.36**, confirming the absence of a significant difference between the two testing phases.

-In the Ball Juggling Test, the pre-test mean was **3.12** with a standard deviation of **1.12**, while the post-test mean rose slightly to **3.37** (**SD = 0.91**). The t-value of **1.00** falls well below the required **2.36** for statistical significance, further supporting that no significant improvement was observed in this skill.

In short, the results indicate that there were no statistically significant improvements in dribbling, passing accuracy, or ball-juggling skills within the control group, as all calculated t-values fell below the critical threshold at the 0.05 significance level.

Presentation and Analysis of Pre- and Post-Test Results ExperimentalGroup

Table 5: Pre- and Post-Test Results for the Experimental Group

Test	Pre-Test	Post-Test	t (calculated)	Statistical Significance
	Mean ± SD	Mean ± SD		
Ball Dribbling Test	12.23 ± 0.54	11.31 ± 0.56	10.97	Significant
Short Passing Accuracy Test	4.87 ± 1.55	6.50 ± 0.53	3.87	Significant

Ball Juggling Test (Both Feet)	3.62 ± 1.06	4.00 ± 1.19	1.42	Not significant
Degree of freedom = 7	Significance level = 0.05		Critical t-value = 2.36	

Source: prepared by the researcher based on IBM SPSS Statistics 25.0.

As can be concluded from Table 5, it is evident that in the Ball Dribbling Test, the pre-test mean was **12.23** seconds with a standard deviation of **0.54**, while the post-test mean improved to **11.31** seconds with a standard deviation of **0.56**. The calculated t-value was **10.97**, which is greater than the critical value of **2.36** at a significance level of 0.05 with 7 degrees of freedom. This indicates a statistically significant difference between the pre- and post-test scores, in favor of the post-test. Regarding **the Short Passing Accuracy Test**, the pre-test mean was **4.87 (SD = 1.55)**, while the post-test mean increased to **6.50 (SD = 0.53)**. The calculated t-value of 3.87 exceeds the critical value, indicating a statistically significant improvement in passing accuracy after the training intervention. In **the Ball Juggling Test** (with both feet), the pre-test mean was **3.62** with a standard deviation of **1.06**, and the post-test mean was **4.00 (SD = 1.19)**. However, the calculated t-value of **1.42** falls below the threshold of **2.36**, suggesting that no statistically significant difference was found between the two measurements for this skill. All in all, the results from Table 5 above show significant improvements in ball dribbling and short passing accuracy following the training intervention, while no statistically significant change was observed in ball juggling performance.

Presentation and Discussion of Post-Test Results for Both Research Groups

Table 6 presents the post-test results for the control and experimental groups across the three skill-based variables under investigation: ball dribbling, short passing accuracy, and ball juggling. The table also includes values for the t-test, Mann-Whitney U test, p-values (sig), statistical significance, and effect size

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(Cohen’s d). This comparison in fact aims to determine the effectiveness of the small-sided games training program by examining the statistical significance of differences between the two groups.

Table 6: post-test results for both the experimental and control groups

Variable	Unit	Control Group	Experimental Group	t-value	Mann-Whitney U	p-value (sig)	Statistical Significance	Cohen's d
		Mean ± SD	Mean ± SD					
Ball Dribbling Test	Seconds	11.87 ± 0.33	11.23 ± 0.56	2.42	—	0.000	Significant	1.10
Short Passing Accuracy Test	Count	5.00 ± 1.06	6.50 ± 0.53	—	8	0.01	Significant	0.63
Ball Juggling Test	Count	3.37 ± 0.91	4.00 ± 1.19	1.17	—	0.26	Not Significant	0.59
		df = 14	Significance Level = 0.05	Critical t-value = 2.14				

Source: prepared by the researcher based on IBM SPSS Statistics 25.0.

It is evident from Table 08 that the calculated t-value in the ball dribbling test was 2.42, which exceeds the critical t-value of 2.14 at the 0.05 level of significance and 14 degrees of freedom. This indicates the presence of statistically significant differences in favor of the experimental group in the ball dribbling test. Moreover, the Mann-Whitney test value for **the passing accuracy** test was 8, with a sig value of 0.01, which is lower than the 0.05 level of significance. This also reflects statistically significant differences in favor of the experimental group. However, the calculated t-value for the two-foot ball bouncing test was 1.17, which is lower than the tabulated value of 2.14. Accordingly, no statistically significant differences were observed between the

two groups in the post-test measurement. Nevertheless, when calculating the effect size using Cohen's d , the values were 1.1, 0.63, and 0.59, respectively, which are considered large to moderate effect sizes for the last test. It can thus be concluded that the effect is practically meaningful, even if not statistically significant, indicating the effectiveness of the training program based on small-sided games compared to traditional training methods in improving football skills among young players.

4.3 Results and Discussion

Discussion of the First Hypothesis: The first hypothesis suggests there are statistically significant differences between the control and experimental groups in the passing accuracy test. Following data processing and statistical analysis of the results presented in Tables (5) and (6), statistically significant differences were found in favor of the post-test measurements of the experimental group in the passing accuracy test. The researcher attributes this improvement to the effectiveness of the proposed training program, which included a variety of small-sided games with different spatial dimensions and formats. These results are consistent with the findings of Naim et al. (2024), who reported a 60.96% improvement in passing due to the implementation of small-sided games, and Walid, H. (2022), who found a 14.55% enhancement in passing accuracy due to such games. The researcher explains that small-sided games compel players to engage in frequent and continuous passing while also increasing excitement and engagement among young players. Therefore, the first hypothesis is confirmed.

Discussion of the Second Hypothesis: The second hypothesis proposes there are statistically significant differences between the control and experimental groups in the dribbling speed test. Based on the data presented in Tables (5) and (6), statistically significant differences were also found in favor of the post-test results of the experimental group in the dribbling speed test. This outcome is

attributed to the effectiveness of the proposed training program, which incorporated various small-sided games characterized by frequent individual and dual challenges. These situations often require players to rely on their individual skills to maintain possession or advance the ball past opponents. This aligns with the findings of Saputra et al. (2024), who reported that small-sided games improved dribbling techniques among Paris Saint-Germain Academy players, and Raja et al. (2023), who noted similar improvements in players under 10 years of age. The results are further supported by Abrori et al. (2023), who confirmed the effectiveness of small-sided games in enhancing dribbling among 10-year-old players. Thus, it can be concluded that the training program based on small-sided games contributed to the improvement of zigzag dribbling for the experimental group, confirming the second hypothesis.

Discussion of the Third Hypothesis: The third hypothesis of interest proposes "There are statistically significant differences between the two groups in developing alternating foot juggling skill." After statistical analysis, and based on the results presented in Tables (5) and (6), no statistically significant differences were observed between the control and experimental groups in the alternating foot juggling test. The researcher attributes the lack of improvement to the nature of the juggling skill itself, which is considered a closed skill—performed in a predictable environment without interaction with teammates or opponents. This contrasts with the characteristics of small-sided games, which primarily enhance interactive skills linked to match-like conditions. Rougers et al. (2012) noted that small-sided games are more effective in improving reactive and interactive skills, whereas juggling requires individualized practice and high repetition to master. These findings align with those of Yilmaz (2023), who also found no significant improvement in head juggling performance among the experimental group. Therefore, from the researcher's perspective, the program

did not directly target the alternating foot juggling skill, which may explain the absence of meaningful improvement. Based on these findings, the third hypothesis is not confirmed.

Conclusion:

Based on the findings of this study, it can be concluded that small-sided games contribute effectively to improving the level of fundamental ball skills specifically passing and dribbling among young football players. In light of the study's objectives and results, the following recommendations are proposed:

- Coaches should master both general and sport-specific knowledge related to the activity and the training process, enabling them to apply this knowledge practically on the field during training sessions.
- It is essential to incorporate small-sided game drills into the training programs of grassroots and youth football development.
- Efforts should be made to enhance coaches' cognitive competencies and raise their awareness of the importance of small-sided games in developing technical skills.
- Work with youth age groups should be entrusted to highly qualified, well-trained, and competent coaches.

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