

# The Effectiveness of A Training Program Using Mini-Spaces in Improving Collective Possession among Soccer Players

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## Abstract

*The study aims to identify the effectiveness of a training program in small spaces and its role in improving collective possession among football players. For this purpose, we used the experimental method on a sample consisting of three teams, each team comprising 18 players - classified as Cubs - from the original research community, divided into three sections. (One team represents the experimental sample, one team represents the control sample (1), and one team represents the control sample (2)). After collecting the results and processing them statistically, the researchers concluded that the training program applied to the experimental sample in the mini-spaces improves the method of collective possession as a function of time and passing, which recommended that football teams and academies should program special training sessions and units for the mini-spaces in the younger groups. For its role in improving the technique of ball possession, which is often the reason for winning matches.*

**Keywords:** Football, mini-spaces, possession.

Received: 01.01.2025

Accepted: 11.05.2025

## Introduction

The sport of football is among the largest popular sports in the world for men and women, and it has occupied advanced positions among sports, and the demand for it has increased from different ages and both sexes, it is receiving great attention from countries, and the development of this sport was not born of chance, but was the result of the merger and interaction of several different sciences such as physiology, anatomy, sociology, psychology... and other sciences that have been credited with raising the level of sports achievement and developing the training status of players.

The most prominent styles of play that have emerged nowadays are two opposing styles, the first is the lumpy defense and counter-attacks, and the second style is the possession of the ball and high pressure. (Raphaél COSMIDIS, Christophe KUCHLY, Julien MOMONT, 2017, p. 16)

It is also known that the method of ball possession is one of the most difficult methods to apply, as this thought has been unified on all age stages in the club, starting with the buds and up to the first team, so that the teaching and development of this method is gradual in proportion to each age stage, and the best way to develop this method is the miniature spaces, as it is one of the modern training methods in developing the planning performance and increasing its effectiveness, especially the principles of offensive planning, as many experts emphasize Training using mini-spaces as an alternative to traditional spaces for the age stages, starting with the cubs, is the best way to develop young players.

Junaidi emphasizes that training in miniature spaces is an alternative to traditional exercises for the age stages and is the best way to develop young players (Junaidi Junaidy, 2011, p. 30)

The method of possession of the ball is one of the most important methods and modern means used in order to develop the game as well as win matches, as the loss of the ball is considered a negative factor for the team, which may create an opportunity to score a goal against it, and many researches and studies have

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confirmed that the team that possesses the ball in a greater percentage than the opposing team will create psychological and mental problems for the latter that take it out of the match and be a cause of loss.

The style of possession in matches is very important in enhancing the self-confidence of the winning team, which makes it impose its own style and play on the opposing team, as well as implement its plans comfortably, which enables it to fully control the match.

And because applying the method of ball possession requires the players to prepare well in terms of skill and planning, and this is what the training in the stadiums and mini-spaces translates, it works to acquire planning and tactical performance as well as technical performance, by mastering the appropriate fast passing, and how to maintain the ball and change places, it is very similar to playing in matches, and it is one of the best ways to stimulate the player's activity and increase the motivation of his practice Towards performance, because it depends on the dynamic of team play similar to performance during matches (Muhammad Kishk, Amr Allah Al-Basati, 2000, p. 184), and training in purposeful and attractive mini-spaces that are based on scientific foundations have a role in the development of the nervous and muscular system, the development of sensory-motor perception, as well as the vision of the place, the speed of decision-making, creative thinking, problem solving, and other mental and mental abilities. (Christian TARGERT, 2016, p. 642)

Through the aforementioned, and on this basis, we decided to develop a training program for mini-spaces because of their role in improving the style of ball possession and as a way to develop the aspects of preparation, which is an important factor to win matches and achieve positive results.

Accordingly, we ask the following question:

Does the miniature training program have a positive impact on improving the collective possession of the ball in footballers?

To answer this, the following sub-questions had to be answered:

- 1- Does the implementation of the training program using miniature spaces have a positive impact on improving ball possession in terms of passes?
- 2- Does the application of the training program using miniature spaces have a positive effect on improving the possession of the ball in terms of time?

### **Research Objectives**

- Ensure that the miniature space based training program contributes positively to the development of ball possession among football players in terms of time and correct passes.
- Identify the impact of small spaces on the development of ball possession and the number of passes by teams.

### **Hypotheses**

#### **General Hypothesis**

The training program using miniature spaces has a positive impact on improving collective ball possession.

#### **Partial hypotheses:**

- 1- The application of the training program using miniature spaces has a positive effect on improving the possession of the ball in terms of passing.

2- The application of the training program using miniature spaces has a positive effect on improving the possession of the ball in terms of time.

#### Research Terms:

**Football:** It is a fast-paced team game between two teams or teams, each of which includes 11 players, who pass, receive, throw and dribble using the ball of the game by foot, where each team tries to score the most goals, the team that scores the most wins the match. (Ali Hassan, 2012, p. 96)

**Training Program:** It is one of the elements of the plan, and without it, the planning is incomplete, as the program is the executive steps in the form of detailed activities that must be done to achieve the goal. (Mr. Abdel Maqsood, 1997, p. 23)

**Miniature spaces:** These are stadiums whose area is reduced or enlarged according to ruled, differentiated goals with specific conditions (number of touches and shooting, increase and decrease in the number of players, succession of increasing opponents, increasing the number of goals, switching from defense to attack... etc.). (Frédéric BORDINEAU, 2007, p. 29)

**Possession:** Possession is possession, which is an offensive team-based tactical style of play, used by the team to possess the ball through short passes, intermediates, and other motor skills between players without losing the ball within the boundaries of the field and the actual time of the match. (Ali Hassan, 2012, p. 17)

#### Previous Studies and Similar Researches

**1/ The first study:** Junaidi Mustafa Mohamed Junaidi study entitled: "The Effect of a Training Program Using Skill Training in Mini Stadiums on Some Offensive Planning Principles for Football Juniors".

The study aims to design a training program using skill training in mini-stadiums at the level of performance of some offensive planning principles in Assiut Governorate, where the experimental approach was used using pre- and post-measurement on a sample of 22 junior players, which concluded that the proposed training program in mini-stadiums positively affected some of the offensive planning principles for football juniors, and recommended the need to use skill training in mini-stadiums in special training programs for junior footballers. Foot because of its positive impact on the development of the level of performance.

**The second study:** The study of Jaghdam bin Dhahiba entitled: "The Effect of Using Training on Mini Stadiums in Improving the Physical and Skill Aspect of Football Players Participating in School Sports Teams".

The study aims to find out the extent of the effect of the use of mini-stadiums on improving the physical and skill aspect of the football players participating in school sports teams using the experimental method on a sample of 30 students from the completion stage who were selected in a deliberate way between the ages of (13-15) years, where it was concluded that the training of mini-stadiums has a positive effect on the development of the physical and skill qualities of the football players participating in the school sports teams, and it was recommended to give great importance and attention to school sports. Especially in the field of football, because it is considered the main source of elite teams and proposing a program to be applied to school sports teams, represented by mini-stadiums.

**3/ The third study:** the study of Dr. Meqrani Jamal, Dr. Ben Zeidan Hussein and Dr. Bashir Hossam under the title: "The effectiveness of using miniature courts in improving some physical traits and basic skills in handball players (13-15) years".

This study aims to find out the effectiveness of using training in mini-courts in improving some physical traits and some basic skills of handball players, where they used the experimental method on a sample of 30 players who were selected in a deliberate way, which concluded that training on mini-courts is one of

the effective methods in developing physical qualities and improving the basic skills of handball players. Positive in the development and development of physical and research skill requirements.

## Research Methodology and Field Procedures

**Research Methodology:** The researchers used the experimental method as a result of their research due to its suitability with the nature of the research.

**Research Population and Sample:** The research sample is considered the basis of the researcher's work, and it is the model in which the research field is conducted, where the students identified the original community of the study, which was represented in the State Football Championship - Tlemcen State - under 17 years old, Group (B), which includes 8 teams and a total number of 200 players, where we took three samples, which are three teams from the original research community, where each sample included 18 players from the research community, and due to the nature of the method. The experimental research sample was selected, which was represented by the Ramshi youth team, while the control sample (1) was represented by the Ain Youssef youth team, while the team of Taraji Zenata represented the control sample (2), which are three teams of the same category under 17 years old, and they are active at the same level and in the same group of the state championship.

## Research Tools

### Arab and foreign sources and references

**Scientific Methods and Research Equipment:** Raw Scoresheets, Medical Scale, Metric Tape, Ordinary Pens, Clocks, Scientific Calculator (BMI Calculation, Intensity Calculation), Whistle, Adhesive Tape Marker Medical Balls, Stairs (Runway), Signs and Chairs.

**Tests:** The researchers conducted tests that consisted of conducting an interview between teams of the same class, place and time and with the same official rules adopted in the sport of football.

**Program:** The researchers used an athletic training program as a tool that helped them reach the goal.

**Survey Study:** The students conducted the survey study on a sample of the same research population, and this sample consists of 22 players who are active in the youth team of Bourj Arima - Cub - Bourj Arima - Tlemcen - Group (B) and the difficulties facing the students in finding the best way to conduct the test were identified.

### Scientific Foundations of Tests:

Stability of the test: The researchers performed the test stability on a sample of 22 players who meet the aforementioned conditions, which represent the survey study, and after four days under the same conditions, the test was repeated on the same sample, so that we used the simple correlation coefficient after detecting in the table of the semantics of the simple correlation coefficient to find out the rate of test stability at the degree of freedom 21 and the significance level of 0.01, it was found that the value is 0.92, and therefore the calculated values are greater than the tabular This confirms that the test has a high degree of stability as shown in the table below:

	Sample size	Reliability Coefficient (r) calculated	Correlation Coefficient (r) calculated	Degree of Freedom (df)	Significance Level	Statistical Significance
Physical test	22	0.92	0.87	21	0.01	Significant

**Table (01) shows the correlation coefficients and their significance for the basic physical tests for research in the pre- and post-test.**

**Accidental Test:** The researchers used subjective honesty for the basic physical tests under study, which means that the honesty of the experimental scores for the real scores that are free of accidental errors... The document separates between consistency and honesty in that the consistency of the test is based on the correlation of the real scores of the test itself if it is repeated on the same page. Subjective honesty is calculated by the following equation:

$$r = \sqrt{\text{Reliability Coefficient}} \quad (\text{Ferhat, 2003, page65})$$

The validity of the basic physical tests of the search was found by means of the correlation coefficient of internal consistency between all tests on a sample of 22 players, and the results resulted in the existence of acceptable correlations, which are shown in the following table:

	Sample size	Validity coefficient (calculated value)	Correlation coefficient (r) tabulated value	Degree of Freedom	Significance Level	Statistical Significance
Physical test	22	0.95	0.87	21	00.1	Significant

**Table (02) shows the correlation coefficients of the scheduling values and the subjective validity of the tests.**

It is clear from the tables 01 and 02 above that the values of the honesty and consistency coefficient of the tests are greater than the values of the tabular t-table, which means that the instrument is characterized by a high degree of honesty and consistency.

**Objectivity of the test:** In order to ensure the highest degree of objectivity, the proposed tests were presented to a group of professors of the Institute of Physical Education in the specialization for arbitration and weighting, where the weighting of the tests applied in the field was because the tests with good objectivity mean that they are not affected by the change of the referees and that the test gives the same results regardless of the referee.

From the above, we can conclude that the physical tests that we applied under our study are characterized by consistency, honesty and objectivity, that is, they meet all the scientific conditions for them, which makes them good, appropriate and fit to measure what they were designed for, and through statistical processes, it became clear that all the vocabulary of the tests has a great degree of consistency, honesty and objectivity.

**Statistical study:** The researchers used the Excel table to unload and calculate the data through the following equations: arithmetic mean, standard deviation, correlation coefficient of Carl Pearson and the significance test "T" student to compare the results of the pre- and post-test of the sample.

### **Presentation, analysis and discussion of the results**

Presentation, analysis and discussion of the pre- and post-results of the research samples in terms of scrolling and time:

Presentation, analysis and discussion of the pre- and post-results of the experimental sample of the research (Remchi Youth) in terms of passage and time:

	Sample size	Total passing	Arithmetic mean	Variance	Degree of freedom	The calculated value	Tabular value at significance	Statistical significance
Pre-test	18	356	19.77	45.35	17	9.39	2.89	significant
Post-test		520	28.88	86.10				

Table (03) shows the comparison between the results of the pre-test and the post-test of the experimental sample in terms of passing.

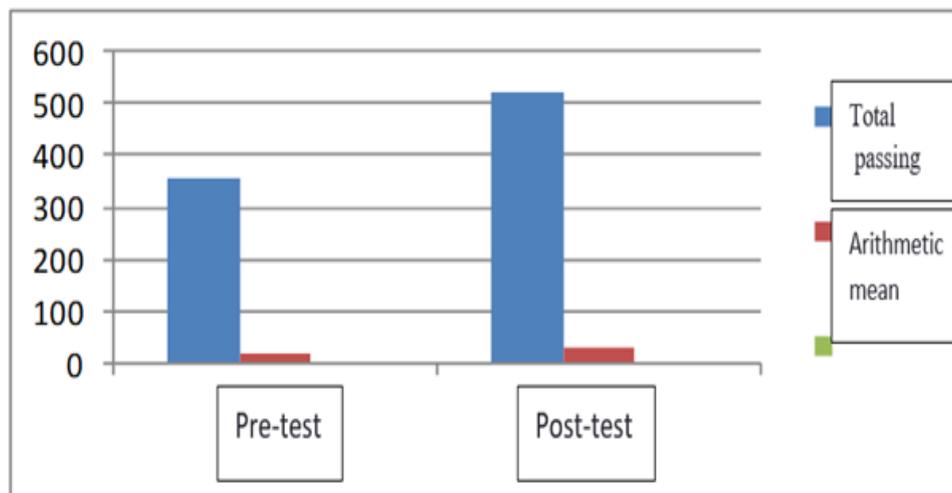


Figure (01) shows the comparison between the results of the pre-test and the post-test of the experimental sample in terms of passing.

Through Table No. 03, which shows the results of the pre-test and the results of the post-test of the experimental sample, where the difference between the two averages is clearly shown, where the arithmetic average in the pre-test was (19.77) and in the post-test it was (28.88), while the calculated T-value was (9.39), which is greater than the tabular T-value (2.89) at the significance level of 0.01 and the degree of freedom is 17, which indicates that there are statistically significant differences between the results of the pre-test and The results of the post-test, which are significant differences in favour of the post-test in terms of passing.

	Sample size	Time Total	Arithmetic mean	Variance	Degree of freedom	The calculated value	Tabular value at significance	Statistical significance
Pre-test	18	3250	180.5	4637	17	5.85	2.89	significant
Post-test		4355	241.9	9932				

Table (04) shows the comparison between the results of the pre-test and the post-test of the experimental sample in terms of time

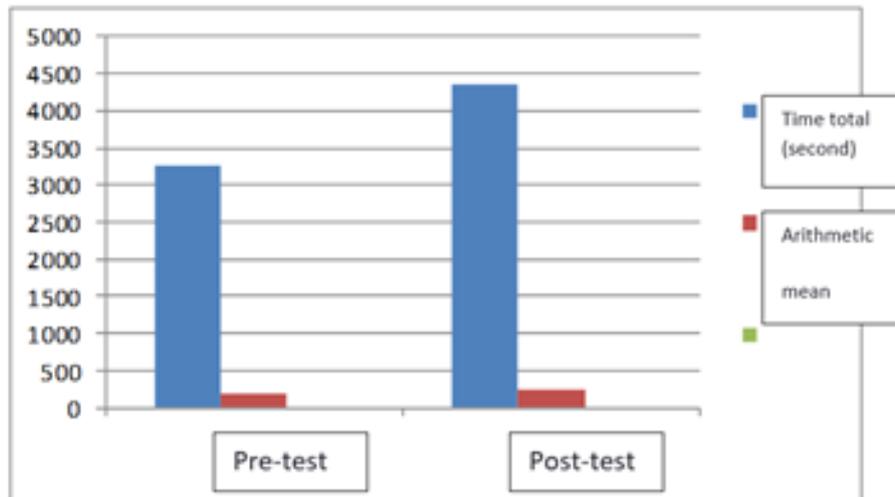


Figure (02) shows the comparison between the results of the pre-test and the post-test of the experimental sample in terms of time

Through Table 04, which shows the results of the pre-test and the results of the post-test of the experimental sample in terms of time, where the arithmetic average in the pre-test was (180.5), as it was (241.9) in the post-test, while the calculated T-value was (5.85), which is greater than the tabular T value (2.89) at the significance level of 0.01 and the degree of freedom is 17, which indicates that there are statistically significant differences between the results of the pre-test and the results of the post-test, which are: Significant differences in favour of the post-test in terms of time.

**Presentation, analysis and discussion of the pre- and post-results of the control sample 1 of the research (Ain Youssef youth) in terms of scrolling and time:**

	Sample size	Total passing	Arithmetic mean	Variance	Degree of freedom	The calculated value	Tabular value at significance	Statistical significance
Pre-test	18	368	20.44	31.32	17	1.08	2.89	Non-significant
Post-test		383	21.27	31.50				

Table (05) shows the comparison between the results of the pre-test and the post-test of the control sample (1) in terms of passing

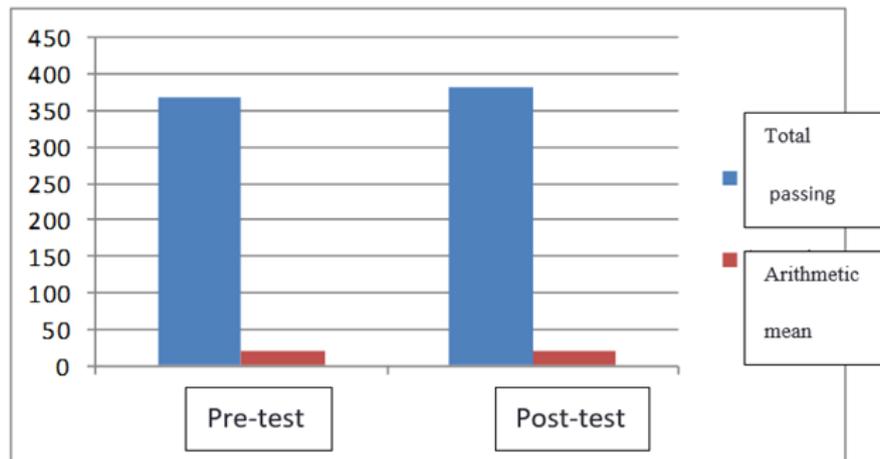


Figure (03) shows the comparison between the results of the pre-test and the post-test of the control sample (1) in terms of passing.

Through Table 05, which shows the results of the pre-test and the results of the post-test of the control sample (1), we find that the two averages are convergence, where the arithmetic average in the pre-test was (20.44), as it was (21.27) in the post-test, while the calculated T-value was (1.08), which is smaller than the tabular T-value (2.89) at the significance level of 0.01 and the degree of freedom is 17, which indicates that there are no statistically significant differences between the results of the pre-test and The results of the post-test of the control sample (1) in terms of passing.

	Sample size	Time Total	Arithmetic mean	Variance	Degree of freedom	The calculated value	Tabular value at significance	Statistical significance
Pre-test	18	3255	180.8	5547	17	0.55	2.89	Non-significant
Post-test		3390	188.3	4544				

Table (06) shows the comparison between the results of the pre-test and the post-test of the control sample (1) in terms of time.

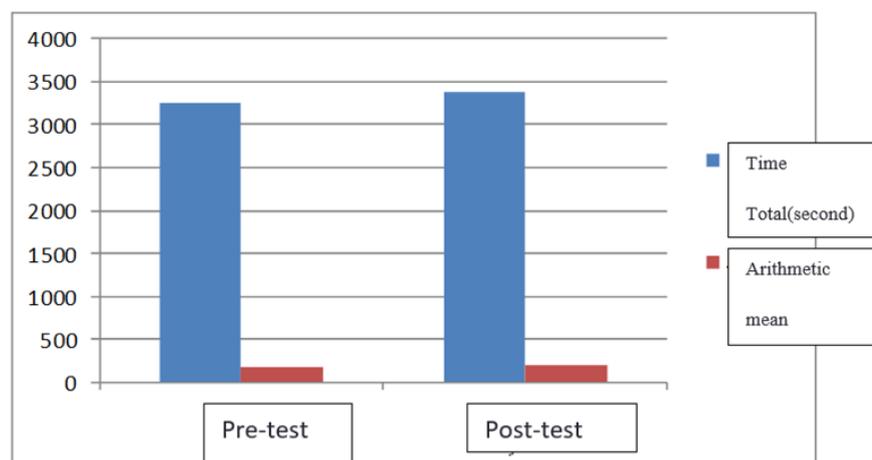


Figure (04) shows the comparison between the results of the pre-test and the post-test of the control sample (1) in terms of time.

Through Table No. 06, which shows the results of the pre-test and the results of the post-test of the control sample (1) in terms of time, where the arithmetic average in the pre-test was (180.8), and in the post-test it was (188.3), while the calculated T-value was (0.55), which is smaller than the tabular value of T (2.89) at the significance level of 0.01 and the degree of freedom is 17, which indicates that there are no statistically significant differences between the results of the pre-test and the results of the The post-test of the control sample (1) in terms of time.

Presentation, analysis and discussion of the pre- and post-results of the control sample 2 of the research (Taradji Zenata) in terms of passing and time:

	Sample size	Total passing	Arithmetic mean	Variance	Degree of freedom	The calculated value	Tabular value at significance	Statistical significance
Pre-test	18	366	20.33	22.70	17	2.42	2.89	Non-significant
Post-test		341	18.94	16.76				

Table (07) shows the comparison between the results of the pre-test and the post-test of the control sample (2) in terms of passing.

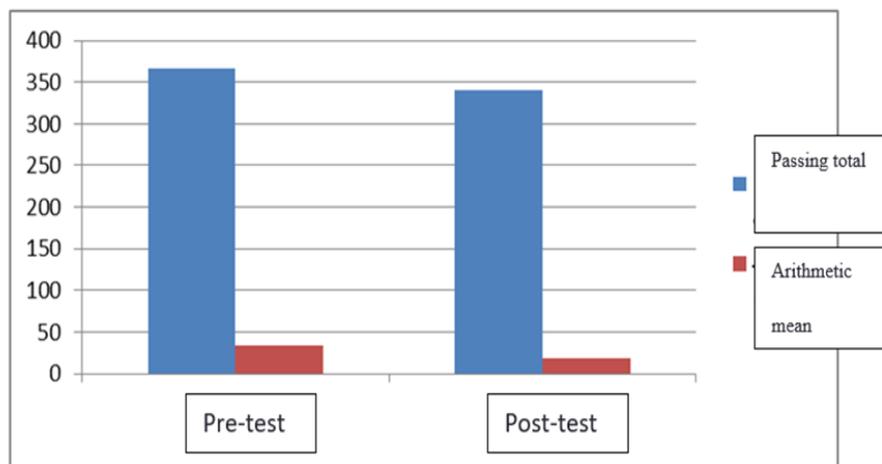


Figure (05) shows the comparison between the results of the pre-test and the post-test of the control sample (2) in terms of passing.

Through Table No. 07, which shows the results of the pre-test and the results of the post-test of the control sample (2) in terms of passing, where the arithmetic average in the pre-test was (20.33), and in the post-test it was (18.94), while the calculated T value was (2.42), which is smaller than the tabular T value (2.89) at the significance level of 0.01 and the degree of freedom 17, which indicates that there are no statistically significant differences between the results of the pre-test and the results of the The post-test of the control sample (2) in terms of passing.

	Sample size	Time Total (second)	Arithmetic mean	Variance	Degree of freedom	The calculated value	Tabular value at significance	Statistical significance
Pre-test	18	366	20.33	22.70	17	2.42	2.89	Non-significant
Post-test		341	18.94	16.76				

Pre-test	18	3255	180.8	2765	17	-3	2.89	Non-significant
Post-test		2850	158.3	1814				

Table (08) shows the comparison between the results of the pre-test and the post-test of the control sample (2) in terms of time.

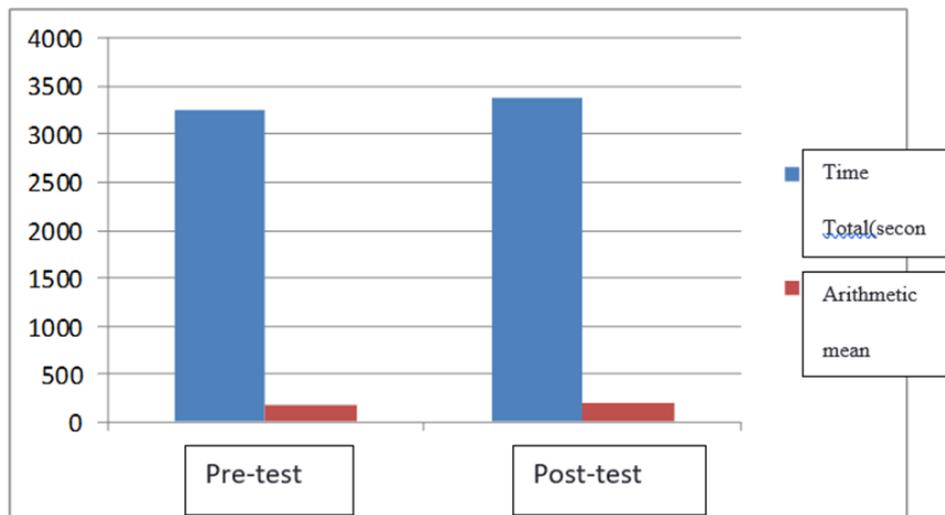


Figure (06) shows the comparison between the results of the pre-test and the post-test of the control sample (2) in terms of time.

Through Table No. 08, which shows the results of the pre-test and the results of the post-test of the control sample (2), we find that the two averages are convergence, where the arithmetic average in the pre-test was (180.8), and in the post-test it was (158.3), while the calculated T-value was (-3), which is smaller than the tabular T-value (2.89) at the significance level of 0.01 and the degree of freedom is 17, which indicates that there are no statistically significant differences between the results of the pre-test. The results of the post-test of the control sample (2) in terms of time.

### Discussing the results and comparing them with hypotheses

**Discussing the results and comparing them with the first hypothesis, which states the following: "The application of the training program using miniature spaces has a positive effect on improving the possession of the ball in terms of passing".**

It is clear to us from Table 03, which studies the evolution between the pre-test and the post-test of the experimental sample in terms of passing, that the calculated T value was greater than the tabular T in which and this difference is statistically significant in favor of the post-test in terms of passing, and accordingly we confirm that the training program in yellow areas has developed the acquisition process of football players in terms of passing, and this is consistent with the study of both Jagham Ben Dahbia and the study of Maqrani.

Jamal and Ben Zidan Hussein and from this we can conclude that the first hypothesis has been realized.

**Discussing the results and comparing them with the second hypothesis, which states the following: "The application of the training program using miniature spaces has a positive effect on improving the possession of the ball in terms of time".**

It is clear to us through Table 04, which studies the evolution between the pre-test and the post-test of the experimental sample in terms of time, that the calculated T value was greater than the tabular T, and this difference is statistically significant in favor of the post-test in terms of time, and therefore we confirm that the training program in the miniature areas has developed the acquisition process in football players in terms of time, and this is consistent with the study of Junaidi Mustafa Muhammad Junaidi and the study of Jaghdam Bin Dahbiyah, and thus we conclude that The second hypothesis has been realized.

### **Discussing the results with the general hypothesis: which states: "The training program using miniature spaces has a positive effect on improving collective possession of the ball."**

By discussing the results of our findings in discussing the partial hypotheses and reaching their realization and matching them with the most important studies that helped us solve the problem of our research, it becomes clear to us that the training program using mini-spaces has a positive effect on improving the collective possession of the ball, and this may be due to the way the researchers followed that was the reason for this improvement, and that by creating a work atmosphere full of vitality and pleasure by pushing the sample members to love work and Getting rid of all the pressures or problems that he faces, which led to development and improvement in the physical and skill aspect.

- There are no statistically significant differences between the pre-test and the post-test of the control sample (1) confirms that the training program, if applied in other than the mini-areas, does not develop the acquisition either in terms of passing or in terms of time.

- The existence of statistically significant differences between the experimental sample and the control samples (1) and (2) in the post-test confirms the effectiveness of the training program in the miniature areas and its effect on ball possession in terms of passing as well as in terms of time.

### **General Conclusion**

Raising the level of the tactical aspect and its components has become one of the necessary requirements in the formation of clubs and players in football, as it has become the decisive factor in determining the winner of the match, by adjusting training programs that develop the tactical aspect, especially the process of possession of the ball.

In light of this, the researchers addressed this topic by studying the impact of the training program in mini-spaces and its role in developing the collective acquisition process among football players who are active in the youth team of Al-Remchi under 17 years old – Al-Remchi – Tlemcen State – which concluded that the training program applied in the mini-spaces has a positive impact on the development of the collective acquisition process among football players, and this is due to the methodology and method followed by the researchers during their research. Despite the obstacles and consequences they faced to reach the goal of the study.

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