



THE EFFECT OF MULTI-STATION INTERACTIVE TRAINING ON TRANSITION SPEED AND DRIBBLING IN YOUNG FOOTBALL PLAYERS

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Abstract

This study identifies the effect of multi-station interactive training on developing transitional speed and dribbling skills among young football players. The study employed an experimental design with two groups (experimental and control). This approach allows for direct measurement of the training program's impact and comparison of performance between the two groups, while controlling for external factors that might influence the results. The population of the study was purposively selected to include all young football players in Diyala Governorate for the 2023 football season, totaling 176 players. The research sample consisted of 22 players from the Jadida Al-Shatt Club. The experimental group was randomly selected by lottery, comprising 10 players, while the control group also consisted of 10 players, selected using the same method. With the exclusion of (2) goalkeepers for statistical purposes to ensure consistency of technical performance in the tests, and to ensure the validity of the exercises and tests, the pilot study was conducted on (5) players from outside the research sample. This was to assess the suitability of the training, the clarity of the instructions, and to determine the time of each exercise in accordance with the level of the players. The results led to the most important conclusion that interactive multi-station training is an effective way to improve the physical and technical aspects of young players. The most important recommendations were: It is recommended that similar training programs be included in the plans for preparing young players in sports clubs.

Keywords: Interactive multi-station training, transition speed, dribbling, football.

المستخلص

تهدف هذه الدراسة إلى تأثير التدريب التقاطعى متعدد المحطات على تطوير مهارات السرعة الانتقالية والمراوغة لدى لاعبى كرة القدم الشباب. وقد اتت الدراسة تصميمًا تجريبىًّا بمجموعتين (تجريبية وضابطة). يسمح هذا النهج بالقياس المباشر لتأثير البرنامج التدريبي ومقارنة الأداء بين المجموعتين، مع التحكم في العوامل الخارجية التي قد تؤثر على النتائج. وقد تم اختيار مجتمع الدراسة عميدًا ليشمل جميع لاعبى كرة القدم الشباب في محافظة ديالى للموسم الكروي 2023 والبالغ عددهم 176 لاعبًا. وتكونت عينة البحث من 22 لاعبًا من نادي جديدة الشط. وقد تم اختيار المجموعة التجريبية عشوائياً بالقرعة وبلغ عددهم 10 لاعبين، بينما تكونت المجموعة الضابطة أيضاً من 10 لاعبين تم اختيارهم باستخدام نفس الطريقة. وبعد استبعاد (2) حارس مرمى لأغراض إحصائية لضمان اتساق الأداء الفني في الاختبارات، وللتأكد من صحة التمارين والاختبارات، أجريت الدراسة الاستطلاعية على (5) لاعبين من خارج عينة البحث. وذلك لتقييم مدى ملاءمة التدريب، ووضوح التعليمات، وتحديد زمن كل تمرين بما يتناسب مع مستوى اللاعبين. وقد توصلت النتائج إلى أهم استنتاج وهو أن التدريب التقاطعى متعدد المحطات يُعد وسيلة فعالة لتحسين الجوانب البدنية والفنية للاعبين الناشئين. أما أهم التوصيات فكانت: التوصية بإدراج برامج تدريبية مماثلة ضمن خطط إعداد اللاعبين الناشئين في الأندية الرياضية.

1.1. Introduction

Football is one of the most popular and widespread team sports in the world. It is of great importance in developing the physical and technical abilities of players, as well as promoting cooperation and team spirit. This sport combines physical, tactical and technical aspects. This makes it necessary to adopt advanced training programs to improve the overall performance of players.

The interactive training is considered one of the modern methods in developing the skills of football players. It involves placing the player in an interactive training environment that simulates real-life match



situations and increases the player's ability to make decisions quickly and execute movements accurately under multiple time and movement pressures. (Hamzah, 2023,157). This type of training is characterized by the simultaneous integration of physical and technical exercises and contributes to improving general physical fitness and neuromuscular endurance. This enhances the players' motor response efficiency and increases their readiness for the demands of real matches , and he believes (Eraslan, 2025). Interactive multi-station training is one of the most prominent practical applications.

The players are distributed across several training stations that vary between aerobic exercises. Speed and acceleration drills, ball control, passing and shooting, and dribbling drills under competitive pressure. The transitional speed is one of the fundamental physical attributes in football. The player was able to move quickly and effectively between different positions on the field to cope with unexpected situations during the match. Whether on the offensive or defensive side, its importance lies in its ability to enhance technical performance through rapid forward movement. Returning to defensive positions and moving laterally to cover spaces. According to Khuraybit “transitional speed is closely related to skills in terms of the ability to control the ball while moving at varying speeds” (Khuraybit, 2014, 212). Changing directions quickly to bypass defenders to utilize available spaces efficiently, and from this standpoint.

Moreover, it can be said that developing both transitional speed and dribbling skills contributes to improving a player's response to rapid changes in the game. Increasing the effectiveness of tactical decisions and enhancing ball control during counter-attacks make these two skills fundamental pillars for developing the overall performance of young football players. Dribbling is considered an essential skill in football, representing the ability to control the ball while moving, bypass defenders, and effectively exploit spaces on the field. It enables the player to move quickly and effectively between different areas of the field to confront sudden attacking and defensive situations.

Dribbling requires high eye -foot coordination, and it was defined by Jabr et al. (1991, p. 128) as “a fundamental means by which a player can outmaneuver the opponent in individual duels”. It represents an individual method to overcome the opponent's defense and find suitable spaces for attack. The more varied the dribbling methods, the more effective they are in confusing the opponent and creating successful attacking opportunities, which contributes to achieving a numerical advantage for the team through successful dribbling and enabling the player to break free from the opponent's control and control the course of the game . Hence the importance of research in presenting a practical training model that contributes to developing the transitional speed and dribbling skill of young football players, which enhances their technical and physical performance in matches.

1.2. Research Problem:

Through his monitoring of the youth league in Diyala Governorate, and especially the matches of Jadida Al-Shatt Club, given his contact with the club's management, the researcher observed a noticeable slowness in the players' transition from defense to attack or vice versa, which negatively affects the team's collective performance . The players also faced difficulty in breaking free from the opponent's marking and losing possession when executing individual dribbles. This reduces their chances of building successful attacks and affects ball possession , and from here a research problem emerged in the researcher's mind that needed to be studied and analyzed. With the aim of finding appropriate solutions that contribute to developing players' skills and improving their technical and physical performance. Reducing field errors during matches this situation also highlighted the urgent need to implement specialized training programs that improve , transition speed and dribbling skills, thereby enhancing players' ability to adapt to game changes and make quick decisions.



Hence, the research question arises: What is the effect of applying interactive multi-station training on developing transitional speed and dribbling skills among young football players?

1.3. Research objectives:

- 1- Preparing a set of exercises based on interactive multi-station training aimed at developing transitional speed and dribbling skills among young football players.
- 2- The research aims to identify the effect of multi-station interactive training on developing transitional speed and dribbling skills among young football players.

1.3. Research Hypotheses:

- 1- There are statistically significant differences between the pre- and post-tests of the two groups (experimental and control) in the transitional speed and football dribbling skills tests.
- 2- There are statistically significant differences between the two groups (experimental and control) in the post-tests of transitional speed and football dribbling skill.

1.5 Areas of Research:

- 1- Human field: Players of the New Al-Shatt Youth Football Club for the 2023 football season.
- 2- Time period: from 9/6/2023 to 1/8/2023.
- 3- The spatial area/football field of the New Shat Club.

2. Research Methodology and Field Procedures:

2.1. Methodology:

The researcher used the experimental method with a two-group design(experimental and control) because it was suitable. To address the research problem and contribute to drawing accurate, scientific, and applicable conclusions.

2.2. Population and Sample of the Study:

The study community was intentionally determined, and it consists of the players of the Diyala Governorate Youth Football League, numbering (176) players divided among (8) clubs. The research sample consisted of the players of Jadida Al-Shatt Club participating in the Governorate League for the 2023 sports season, numbering (22) players. After conducting a random draw, (10) were selected for the experimental group, and in the same way, (10) players were selected for the control group. Goalkeepers were statistically excluded. The exploratory sample consisted of (5) players outside the research sample, as shown in Table(1) .

Table(1)
It shows details of the research community and sample.

exploratory sample	Control group	Experimental group	Their number	Participating clubs	T
	-	-	22	Khanaqin	1
	-	-	22	Qazaniya	2
	-	-	21	The face	3



	-	-	22	Martyr Arkan	4
	10	10	22	New Shat	5
	-	-	23	Jalula	6
	-	-	23	Mendele	7
5	-	-	21	Baladruz	8
5	10	10	176	the total	9

2.2.1. Sample homogeneity:

Table (2)

The homogeneity of the sample is shown in the variable (age - height - mass - training age)

Torsion coefficient	The mediator	standard deviation	arithmetic mean	Variables
0.27	18	0.79	18.15	the age
0.87	15.5	3.23	180	height
0.10	68.5	4.01	68.2	The block
1.23	44.5	2.23	45.7	Training age

2.2.2. Sample Equivalence:

Table (3) shows

The sample is equivalent in transition speed and dribbling skill.

Significance	Error rate	Value of T	standard deviation	arithmetic mean	Groups	unit of measurement	Variables
immaterial	0.45	0.77	0.30	3.87	empiricism	time	Transitional speed
			0.37	4.07	The officer		
immaterial	0.91	0.12	0.75	2.88	empiricism	degree	Dribbling skill
			0.15	2.85	The officer		

2.3. Information gathering methods, devices, and tools:

2.3.1. Methods of collecting information:

- Arabic and foreign sources.
- Testing and measurement.
- world wide web.

2.3.2. Equipment and tools used:



- HP . laptop calculator
- A camera.
- Stopwatch.
- Whistle.
- Data registration form.
- Pens.
- Measuring tape.
- footballs (10)

2.4. Field research procedures:

2.4.1. Tests used in the research:

First :Testing the player's movement with the ball by performing dribbling and passing from one side. (Hidayat, 2004, 69)

The purpose of the test is to test evasion (deception).

The evaluation score for the test performance is out of 10 points, as the player performs the dribbling (deception) skill with a fixed defender for the entire group. The performance is evaluated by filming the players' performance with a video camera, and the performance is presented to three experts to evaluate the performance, then we extract the arithmetic mean of the three points. Performance description: The player moves from point (A) to point (B) while performing a dribbling (deception) movement with the ball from one side when facing the same opponent (defender) for all players. After completing the movement, the performance is evaluated.

Second: Transitional speed test: (Allawi and Radwan, 2001, p. 381)

The purpose of the test: The test aims to measure the player's transitional speed from a flying position.

Tools used:

A precise timer, and three parallel lines drawn on the field, with the distance between the first and second lines being 10 meters, and between the second and third lines being 30 meters.

Performance description:

The player stands behind the first line, and upon hearing the starting signal, he runs quickly towards the third line. The time is calculated starting from when he crosses the second line until he reaches the third line (30m).

Recording:

The time taken by each player to cover the distance of **30 meters** between the second and third lines is recorded.

2.4.2. Preparing multi-station interactive training exercises:



After reviewing several relevant previous studies and drawing on its field experience in football, the researcher prepared a set of (16) interactive multi-station training exercises. These exercises were designed in a progressive and integrated manner, taking into account the players' levels, ages, and physical and technical abilities. The aim of these exercises was to develop both physical and technical aspects simultaneously. By diversifying training stations to ensure that players are motivated and encouraged to perform cooperatively and competitively in an exciting training environment that contributes to raising the efficiency of motor response, improving the accuracy of performance, and increasing the ability to move quickly between different situations during play.

32.4.3. Exploratory Experiment:
On Friday, June 9, 2023, a pilot study was conducted on a sample of (5) players from Baladruz Club. They were chosen randomly, and this experiment aimed to ensure the validity of the tools used, the accuracy of the measurements, the players' understanding of the nature of the tests and how they were carried out, in addition to determining the time required to carry out the field procedures and avoiding any difficulties that the researcher may face during the actual application of the main experiment.

2.4.4. Pre-tests:
The pre-tests were conducted on Tuesday, June 13, 2023. On the members of the research sample. This is done to determine the physical and skill level before starting the training program. To provide comparative data that can be used to measure progress after applying the prescribed exercises. The tests were conducted under standardized and appropriate conditions to ensure the accuracy and objectivity of the results.

2.4.5. Main Experiment:

The main trial began on Saturday, June 17, 2023, and lasted for six weeks. Three training sessions per week, on Saturdays, Tuesdays, and Thursdays, were conducted using a multi-station interactive training method. These sessions formed the core of the 60- minute training program, with each session consisting of three exercises lasting between 30 and 40 minutes. The training stations were designed to simultaneously develop both physical and technical skills. Each unit contains several stations, through which players move from one station to another according to a time-based or repetitive rotation system. Each station focuses on a specific variable such as transition speed or ball control. The training is conducted in a competitive and interactive environment to enhance motivation and performance. This structure allows players to practice skills under varying conditions to strengthen their ability to adapt quickly to different situations during matches. It also contributes to increasing focus and attention during performance, which contributes to achieving research goals accurately and effectively.

2.3.6. Post-tests:

Post-tests were conducted on Tuesday, August 1, 2023, on the research sample, with the aim of measuring the level of development achieved by the players after the application of the interactive multi-station training program. The tests were conducted according to the same procedures and standards used in the pre-tests to ensure accurate comparison of the results.

2.3.7. Statistical methods:

The researcher used the SPSS statistical software package to extract and analyze the results.

3. Presenting and discussing the results:

3.1. Presentation of the results of the experimental and control groups:

Table (4)

It shows the results of the experimental and control groups (pre- and post-tests) in the research variables.

Experimental group						
Significance			Post-test	Pre-test		Varia



	Error rate	Calculated value of t	standard deviation	In the middle of my account	standard deviation	In the middle of my account	unit of measurement	
moral	0.000	8.44	0.07	3.20	0.37	4.07	time	Transitional speed
moral	0.001	14.42	0.16	5.75	0.75	2.88	degree	Evaluation
Control group								
immaterial	0.45	0.77	0.38	3.83	0.30	3.87	time	Transitional speed
moral	0.000	37.67	0.15	3.98	0.15	2.85	degree	Evaluation

3.1.1. Discussion of the results:

Table(4) shows that the study results revealed statistically significant differences between the pre- and post-test measurements, favoring the post-test, in the variables of transitional speed (from flying position) and dribbling among youth football players. This improvement can be attributed to the effectiveness of the interactive multi-station training program, which integrated physical and technical dimensions within multi-station training units. This contributed to developing the players' efficiency in rapid transition and dribbling skills under conditions similar to real-life play.

Regarding the transitional speed variable, the improvement resulted from the nature of the stations, which included changes in direction. Fast transfer between stations and accompanying technical tasks helps to activate the neuromuscular system and accelerate the decision-making process and motor execution. According to Al-Ubaidi et al. that "sports training is the process of preparing and developing the player physically, technically, tactically, and psychologically. Based on precise scientific principles and a specific time plan, with the aim of raising his physical and skill efficiency and enhancing his mental and tactical abilities, enabling him to reach the highest levels of performance or achieve record numbers " to (Al-Ubaidi et al., 2009, p. 15).

Likewise, organizing the exercise vocabulary according to the abilities and capabilities of the sample. This is done by organizing training loads, including the duration of performance, rest periods, and the number of repetitions for each exercise. This organization aims to enable players to reach the highest levels and achieve high efficiency during competitions. This was also confirmed by Al-Shaykhli, who stated that "the training process aims to develop and qualify the athlete by applying training programs according to precise scientific principles. This development occurs as a result of adhering to the basic principles of training science, the most prominent of which is the gradual increase in training loads and adapting the training load to suit the athlete's abilities and potential."(Al-Shaykhli, 2001, p. 63),.

Regarding the dribbling variable, the results showed a tangible improvement in the players' ability to control the ball, change directions quickly, and dribble under conditions similar to time or physical pressure. This is attributed to the multiple repetitions within the various stations, which enhanced the players' ability to execute the skill accurately .

Thus, it appears that organizing exercises within multiple stations not only develops the physical aspect but also reshapes technical skills so that they can be performed under conditions closer to those of matches. The researcher believes that the environmental organization of training, i.e., dividing the unit into various stations,



has contributed to raising the effectiveness of motor and skill learning due to the diversification of tasks, renewed excitement, and the creation of a training environment closer to game situations.

3.2. Presenting the results of the post-tests between the two groups (experimental and control)

Table(5)

It shows the results of the post-tests between the experimental and control groups in the research variables.

Significance	Error rate	Calculated T	Control group		Experimental group		unit of measurement	ability
			$\xi \pm$	-Q	$\xi \pm$	-Q		
moral	0.000	4.99	0.38	3.83	0.07	3.20	second	Transitional speed
moral	0.001	25.5	0.15	3.98	0.16	5.75	degree	Dribbling skill

3.2.1. Discussion of the results:

Analysis of the study results reveals that the experimental group, which underwent the interactive multi-station training program, demonstrated superior performance compared to the control group in the variables of transitional speed and dribbling among young football players. The researcher attributes this to the organized training within multiple stations. Each station includes a physical and skills component. With changes in direction and rapid transition And evasive tasks, as Annasai (2023) confirms that interactive multi-station training "enhances neuromuscular synchronization" from during repetition *Transformations Fast between Defense And the attack from Reduces time Response And it increases effectiveness Taking decision Change trend quickly during Keeping With the ball*. Therefore raise level control The experimental group was able to transition from physical training to executing technical skills more quickly because the station- based exercises combined physical and technical elements, leading to improved speed and agility.

All of the above demonstrates that the experimental group outperformed the control group for several reasons directly related to the training method. The use of multiple and varied stations , the integration of physical and skill-based training , high interaction and motivation, and near-realistic simulations demonstrate that the interactive multi-station training program is an effective methodological option for developing transitional speed and dribbling skills in young football players .

4. Conclusions and Recommendations:

4.1. Conclusions:

1. The use of interactive multi-station training effectively contributes to the development of the physical and skill aspects of young players through the organized integration of physical effort and skill performance.



2. The application of exercises according to the interactive stations method allowed for the distribution of effort and training in a gradual and harmonious manner with the players' abilities.

4.2. Recommendations:

- 1- The researcher recommends adopting multi-station interactive training in preparing football players for the junior and youth categories, given its effective role in raising the level of skill and physical performance in a stimulating training environment similar to match conditions.
- 2- Further applied studies on the interactive training method are recommended for other skills such as . scoring or ball control. For different age groups

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Appendix (1)

The resident experts explain

workplace	Specialization	Name and surname
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Proximus Journal of Sports Science and Physical Education

Volume 2, Issue 12, December, 2025

<https://proximusjournal.com/index.php/PJSSPE>

ISSN (E): 2942-9943



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Appendix (2)

It explains the exercises used in the research.

1. **Exercise 1:** The player starts from a standing position behind the starting line towards a set of cones placed in a zigzag pattern. During this time, he performs a rapid run with sudden changes in direction. Then it returns to the starting point.
2. **The goal:** Developing rapid movement speed and changing direction quickly.
3. **Exercise 2:**
A short forward run followed by a backward run. Then, turn right and left consecutively at a closed station.
Objective: Improving motor coordination and speed of movement between directions.
4. **Exercise 3:**
A sprint forward for 10 meters, followed by a zigzag run between closely spaced cones, then a final sprint to the finish line.
Objective: Developing compound speed and short-range kinetic acceleration.
5. **Exercise 4:**
The player moves between four stations in a circular motion (each station represents a different direction: front, back, right side, left side).
Objective: Improving the speed of directional change and the ability to control movement.
6. **Exercise 5:**
A group of players take a sequential sprint towards a front line for a distance of 20 meters, then return diagonally to the starting point.
Objective: Enhanced ability to accelerate and decelerate rapidly while in motion.
7. **Exercise 6**
The player performs a dribble between cones lined up in a straight line, alternating between their feet.
Objective: To improve ball control while moving.
8. **Exercise 7**
Dribbling while changing direction at each cone, then passing the ball towards the goal at the end of the track.
Goal: Enhanced guidance accuracy after dodging.
9. **Exercise 8**
The player faces a stationary defender, performs a one-sided dribble to get past him, and then returns with the ball.
Objective: To develop individual deception and speed in dealing with the opponent.



10. :Exercise 9

Dribbling between cones spaced at irregular intervals, then finishing with a directed touch towards a small target.

Objective: To increase flexibility and adapt to unexpected angles while dribbling.

11. Exercise 10: The player performs a

Z- shaped dribble using sprinting and changing direction with the ball.

Objective: To improve ball control under pressure while changing direction.

12. :Exercise 11

A 10-meter sprint, followed by dribbling between cones and then dribbling the ball towards a small goal.

Objective: To combine speed and skill in a match-like situation.

13. :Exercise 12

The player starts running from the starting station, then at the halfway point receives the ball and performs a short dribble before passing it to a teammate at another station.

Objective: To develop speed of situational response along with accuracy of skill execution.

14. :Exercise 13

,The player runs quickly towards a designated area, receives the ball, performs a short dribble and then changes direction towards a new point.

Objective: To improve quick transitions and ball control after receiving the ball.

15. :Exercise 14

The player performs a zigzag run between cones, and midway through the course, dribbles past a stationary defender before continuing to run towards the finish line.

Objective: To develop the ability to execute dribbles under conditions of physical fatigue.

16. : Exercise 15

The player performs a quick forward run, then returns with the ball while executing a light dribble, before changing direction to the other side.

Objective: To develop coordination between speed and ball control.

17. : Exercise 16

A group of players performs a team drill starting with a sprint, followed by short passing exercises with light dribbling before finishing the attack with a shot at a small target.

Objective: To enhance team interaction between speed and skill in conditions similar to competition.