Horizon | Journal of Humanity and Artificial Intelligence

EFFECT OF COMPETITIVE EXERCISES IN MULTI PLAYING AREAS TO DEVELOP SOME BIOMOTOR ABILITIES AND SKILL PERFORMANCE OF (17-19) YEARS OLD FOOTBALL PLAYERS

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Abstract

The study aimed to investigate about effect of competitive exercises in multi playing areas to develop some biomotor abilities and skill performance of (17-19) years old football players, The research problem crystallized from multiple axes and from these axes is the weakness in some of the biomotor abilities, and thus the researchers to apply competitive exercises with a variety of playing spaces on the young players in the clubs of Karbala, the 12 clubs participating in the provincial league and the sample was withdrawn from the research community in a simple random way randomly, the sample became two groups (control and experimental) by (10) players for each group, The aim of the research is to identify the impact of exercises in the variables studied, and the researchers assume that competitive exercises in various spaces have an impact on the development of biomotor abilities and skill performance of young football players research sample, and after carrying out pre-tests and the application of exercises which prepared and set by the authors for a period of (10) weeks, and at a rate of (3) sessions per week, then the post-tests were conducted to obtain the results and proved the exercises impact on the research sample through the results.

Keywords: Competitive exercise, Biomotor abilities, Football.

1-Introduction:

The game of football is one of the sports that has received increasing attention at all levels and age groups, and this is what made specialists search and seek to develop this game by searching for various training methods that help young players develop their biomotor abilities and skill performance by focusing on competitive exercises within a variety of play spaces of different shapes and spaces, which the researchers consider the main or basic factor for the purpose of developing these abilities and skills, which are necessary and important for all games, whether These games are team or individual, and these exercises may be individual one-on-one or be collective within play spaces determined by the coach in geometric shapes of different shapes and spaces that develop the skill performance, qualities and physical and motor abilities of young football players,In the age groups and according to the stages of learning, the youth group must have skill and motor abilities at a high level on the basis that the training in these stages is directed to the development of skill and motor abilities, although there is a fluctuation in the level of skill and physical and motor abilities of the youth category and through the developments that have occurred in the sports field of football in Arab, Asian and international clubs, due to the use of modern training methods and the integration of various sports sciences and the introduction of modern means and benefit from The great potential offered by technology in order to keep pace with this

development. The game of football is one of the widespread sports in the world, which has taken a large place in the fields of scientific research in order to stand at the level of physical, motor and skill capabilities in order to be planning on a well-studied scientific basis and access to the best levels.

2-Method:

2-1 Research Methodology: The approach which has adopted is the experimental approach by designing two equal groups (experimental and control) with two tests pre- and post-test because it is the suitable approach to figurout the studied problem.

2-2 The research community: The research community was identified as the young football players in the holy Karbala clubs for the sports season (2023_2024), which numbered (10) clubs, and (20) players were selected as a sample for research in a random manner and homogeneity was carried out for it and after ensuring the moderation of the normal distribution, the sample was divided into two control and experimental groups for each group (10) players in a random manner and in a draw manner.

2-3 Devices and tools:

2-3-1 Collection of Data: The researchers used the interview, observation, references, testing and measurement.

2-4 Procedures of the Research:

2-4-1 Research sample Homogeneity: the researchers identified the factors that affect the variables of the research studied, which are the height, mass, chronological age and training, which is related to the variables of the research studied was conducted using Levine test between the players of the two groups in measurements, in addition to modify the variables that may affect the experiment, also to return these factors to the neutral variable as table (1) shows.

Table (1) shows homogeneity

Variables	Measurement units	Levine test	Freedom degree	Significance value	Significance type
Height	Cm.	.247	**18**	.643	Insignificant
Chronological Age	Month	.156	**18**	.599	Insignificant
Mass	Kg.	2.672	**18**	.089	Insignificant
Training age	Month	.188	**18**	.721	Insignificant

According to table (1) the authors observed the value of (sig.) and for variables that affect the experiment, which is bigger than (0.05) and accept the hypothesis, which states the homogeneity of variables are equal for the research sample, which means that data are homogeneous.

2-4-2 Identification of variables: through the authors access and review of scientific methods for football, and due to the study problem, which is the weak of biomotor capabilities and the effect of variables on skill output in addition to the relationship of the independent variable variables surveyed where three variables of biomotor abilities (speed of response, speed endurance, agility) and three variables of skill performance (dribbling - passing - scoring).

2-4-3 Description of research tests:

1-Biomotor tests: (Nelson) test:

- test purpose: ability to respond fast.
- tools used: area with a length of (20 m) and a width (2 m) free of obstacles, tape measure, stopwatch.
- Method of performance: The player stands at one end of the center line facing the timer that stands at the end of the other edge of line and holds a stopwatch, and lift up and quickly move arm, to the left or the right at same time set on the clock, and at time the player runs fast to line of the side which has been indicated by coach and when reaches the line is (6.4 m) stops the timing.
- Recording: The player records the lowest time on the right side and the lowest time on the left side of three attempts for each side.

2-Speed endurance test for a distance of (5×30) m without stopping.

- Objective of the test: Measuring the speed endurance of the football.
- tools: Stopwatch, two Signs, tape measure, whistle.
- Performance description: From high start position, the player should stand behind line with ball is on starting line, and with the signal, player should run with the ball at fast in speed distance (30) m to line and rotates the finish line and back with the ball and repeat test (5) times and continue.
- instructions: Determine a distance (30) meters in the starting line determines the end by 2 signs, the player should perform only one trail.
- Recording: coach calculates time back and forth and for 5 times and scores to the second.

3-Agility Test:

- Test objective: Measuring agility.
- Test instructions: The player stands at the start line of the test near the starting sensor (presses on a special panel to start) where the time is counted when pressing the panel and at that moment it turns behind the first sign and then faces the first obstacle to jump, To embody the state of flexibility in the joints of the upper and lower limbs, as well as shows the state of compatibility through the various movements in the performance of the test and then continues to move around the fourth sign to face the high inhibitor and dive from the bottom; Jumping performs the process of jumping over him as he did in the first barrier; This is to allow the player to control the end of the test smoothly, as well as to get out of the expected repetition of the order of the test conditions tools and wrap around the fifth sign and go as quickly as possible to the end and press the sensor and thus stop the time and in this case the test ends and know the time for each player.
- Recording: The player performs one attempt and the time is recorded for it, where the lower the test time, the better the degree of the player and vice versa.

* Skill performance tests:

1-Dribbling test:

- Objective of the test: Measure the player's ability to control the ball while dribbling among the pillars.
- Tools: ten signs, football, stopwatch.
- Performance method: placing ten signs in a straight line that is equally far from each other (2) m and the first sign is also away from the starting line (2) m. The player stands with the ball behind the starting line and when the start signal is given, the player start dribbling the ball among the signs back and forth and returns to the start line.
- Recording: The time is calculated for the nearest 1/100 of a second from the moment of the start signal until he returns to the start line again.

2-Passing Test: to pass the ball to a goal for 10 m distance.

- Test objective: Measuring passing accuracy.
- Used tools: 3 coins, football, tape, target Width (120 cm)- height (68 cm).
- method: The player stands (16) m far from the target, The ball is at a distance of (10) m of target, the first coin is at a distance of (1.5) m from first ball with distance between each sign and the sign is (1.5) m and the sign is far, The last for the starting line (1.5) m.

Recording: Each player is trying 3 attempts, two grades will be given for highest attempt, one grade for attempt that touches the bar and no point for the failed attempt.

3- Scoring test.

- Test objective: measuring accuracy of scoring towards goal.
- Tools: a tape, goal, bitch, five football balls number.
- Performance method: (5) balls placed on line of penalty, 18 yards away from goal line with distance

between balls (1) yards, the player shoots in the indicated areas, according to accuracy and sequentially ball, the test should be done by running situation.

- Recording: number of correct scoring that join the specified goals is successes, so scores of five balls are calculated as follows:

Each ball is calculated with the points specified for the calculated area, taking into account in the event that the ball touches the tape, it is calculated for the highest area according to the numbered areas, and zero when it goes out outside the goal limits.

2-4-4 Pre-tests: The researchers conducted the pre-tests for the research sample on Monday, 1/5/2023 at six in the afternoon at the Al-Khairat Sports Club Stadium in Al-Hindiya district.

2-4-5 Equivalence of the two research groups: to start from one point of initiation of the two research groups resorted to researchers to find parity in the variables of biomotor capabilities and variables of skill performance, and the equivalence was conducted for them according to the variables researched for the two samples of the research, and through the results of the pre-tests and the application of the statistical law (test T) for independent samples, as shown in Table (2).

Table (2) shows the equivalence of the control and experimental groups and for all research variables

Test	Units	Experimental		Control		Calculated (T)	Sig. level	Sig. type
		M.	St.d	M.	St.d			
Reaction	Sec.	19.05	0.60	18.89	0.38	0.71	0.48	Insig.
Speed endurance	Sec.	42.18	2.52	42.07	2.77	0.09	0.92	Insig.
Agility	Sec.	21.95	1.07	21.51	1.11	0.89	0.38	Insig.
Dribbling	Sec.	19.64	1.17	19.84	1.03	0.40	0.69	Insig.
Passing	degree	3.50	1.35	3.40	1.07	0.18	0.85	Insig.
Scoring	degree	7.70	1.82	7.10	1.37	0.83	0.41	Insig.

From Table (2) it can be seen that the value of (sig) for all variables is greater than (0.05) and thus we are going to accept the null hypothesis, which says that there is no difference between the degrees of the control and experimental groups and that the differences are significant, which indicates the equivalence of the two research groups in the variables studied.

2-4-6 Application of competitive exercises in the specified areas on the experimental research sample:

1. The time period for applying research exercises is (10) weeks.
2. The number of sessions per week (3).
3. The total number of training sessions are (30) training sessions.
4. Exercise time in each session (24-28) minutes.
5. The number of exercises applied in each training session (3-4) exercises.
6. The exercises were carried out on 2/5/2023 on Tuesday, the beginning of the main section of the training session.
7. The intensity used in the training units was the maximum that the player can perform.

2-4-7 Post-tests: After completing the implementation of the exercises, the researchers conducted the post-tests on the research sample on Tuesday (9/7/2023) at the Khairat Club Stadium, taking into account the provision of the same conditions and conditions that were in the pre-tests as much as possible, while relying on the same procedures that were relied upon in the pre-tests.

3- Results:

3-1 Presentation, analysis and discussion of the results

3-1-1 Presentation and analysis of the results of the research test (pre-post) of the experimental group. For the purpose of identifying the results of the differences between the pre- and post-tests and research variables of the experimental group, the researchers used the (t) test for the corresponding samples, as shown in Table (3).

Table (3)

Variables	Units	Pre		Post		Calculated (T)	Sig. level	Sig. type
		M.	St.d	M.	St.d			
Reaction	Sec.	19.89	0.38	17.54	0.43	8.73	0.00	Sig.
Speed endurance	Sec.	42.07	2.77	39.38	1.46	4.38	0.02	Sig.
Agility	Sec.	21.51	1.11	19.39	0.73	4.02	0.03	Sig.
Dribbling	Sec.	19.84	1.03	18.01	0.62	6.91	0.00	Sig.
Passing	degree	3.40	1.07	5.70	0.94	7.66	0.00	Sig.
Scoring	degree	7.10	1.37	10.90	2.02	6.21	0.00	Sig.

Through Table (3) we note that the statistical indicators of the results of the pre- and post-test of the research variables of the experimental group proved the existence of significant differences between the two tests and in favor of the post-test for the experimental group and what confirms this is the value of (sig) shown in Table (3), where it was less than the level of significance (0.05) and thus we make sure that there are significant differences between the scores of the pre- and post-test and in favor of the post-test.

3-1-2 Presentation and analysis of the results of the research tests (pre-post) of the control group. To verify the hypothesis of the research, the researchers resorted to analyzing the pre- and post-data using the test (t) for correlated samples and table (4) shows the significance of the differences between the pre- and post-tests of the control group in the research variables.

Table (4)

Variables	Units	Pre		Post		Calculated (T)	Sig. level	Sig. type
		M.	St.d	M.	St.d			
Reaction	Sec.	**19.05**	**0.60**	**18.72**	**0.67**	**5.63**	**0.00**	Insig.
Speed endurance	Sec.	**42.18**	**2.52**	**41.67**	**2.42**	**3.25**	**0.01**	Sig.
Agility	Sec.	**21.95**	**1.07**	**20.92**	**0.71**	**4.01**	**0.00**	Sig.
Dribbling	Sec.	**19.64**	**1.17**	**19.39**	**1.40**	**1.16**	**0.27**	Insig.
Passing	degree	**3.50**	**1.35**	**4.40**	**1.07**	**5.01**	**0.00**	Sig.
Scoring	degree	**7.70**	**1.82**	**8.20**	**1.87**	**1.86**	**0.09**	Insig.

Through Table (4) we can see the statistical indicators of the results of the pre- and post-tests of the research variables of the control group, where the results indicated that there are significant differences between the pre- and post-tests and in favor of the post-for variables (speed endurance, agility and handling) and what confirms this is the value of (sig) shown in Table (4), where it was less than the level of significance (0.05) and thus accept the alternative hypothesis, which states that there is a difference between the degrees of the pre- and post-tests and in favor of the post-As for the variables (rolling and scoring) were not There are significant differences between the pre- and post-tests and what confirms this is the value of (sig) shown in Table (4), where it was greater than the significance level (0.05).

3-1-3 Presentation and analysis of the results of the tests (post-tests) between the experimental group and the control of the research variables:

Table (5) shows mean, standard deviations, calculated value (t) and the level of significance between the post-tests of the control and experimental groups

Variables	Units	Control group		Experimental group		Calculated (T)	Sig. level	Sig. type
		M.	St.d	M.	St.d			
Reaction	Sec.	**18.72**	**0.67**	**17.54**	**0.43**	**4.63**	**0.00**	Sig.
Speed endurance	Sec.	**41.67**	**2.42**	**39.38**	**1.46**	**2.56**	**0.02**	Sig.
Agility	Sec.	**20.92**	**0.71**	**19.39**	**0.73**	**4.67**	**0.00**	Sig.
Dribbling	Sec.	**19.39**	**1.40**	**18.10**	**0.62**	**2.65**	**0.01**	Sig.
Passing	degree	**4.40**	**1.07**	**5.70**	**0.74**	**2.86**	**0.01**	Sig.
Scoring	degree	**8.20**	**1.87**	**10.09**	**2.02**	**3.09**	**0.00**	Sig.

From Table (5) we can note the statistical indicators of the results of the post-tests of the variables studied and the experimental and control groups, the results indicated that there are significant differences between the two tests and in favor of the experimental group and what confirms this is the value of (sig) in Table (5) where it was less than the level of significance (0.05) and thus accept the alternative hypothesis, which provides for the existence of significant differences between the scores of the two dimensional tests and in favor of the experimental group and for the purpose of confirming the fact of the differences must refer to the values of the mean of the experimental group of research variables where The experimental group was better than the post-test mean of the control group and for all variables.

3-2 Discussion:

To discussion the results through what presented and analyzed in Table (3) proved the existence of significant significant differences in the pre- and post-tests and in favor of the post-tests, and this confirms the imposition of research that there is an impact of competitive exercises in the various areas on some biomotor abilities and some football skills, and that effect was positive and confirm the results of the test sample research existence of significant differences between the two groups of research and the differences were in favor of the experimental group.

To clarify more with regard to the variables studied, namely biomotor abilities and some skill performances, the researchers attribute that the competitive exercises performed in a variety of areas were simulating what performance requires in the game of football, where competition between colleagues led to the development of the aforementioned variables in addition to the small areas in which the exercise is performed made the players act quickly when the ball is in their possession and when they lose it, which reflected on the abilities and skills. What confirms the above words indicates (Mohamed Sayed Abdel Rahim 2016,16) that competition exercises are necessary factors for all sports activities that aim to raise the level of skill and physical performance because they are very similar to what happens during the match with a slight difference with some performance characteristics It has different forms and types that allow athletes to run at various levels of stress for the distances they choose (1), and this type of exercise imposes high physical pressure on the players, because the performance of those exercises must Be as best as the player can perform, and use this form of training starting from the age groups, This is because it helps in acquiring motor, physical and skill abilities, which make players more willing to adhere to the exercises because the exercises enter joy and pleasure in the hearts of the players, and thus help the players to develop faster, and the training form of these exercises is determined by certain divisions of players within a variety of spaces within different forms, so competitive exercises are characterized by suspense and a sense of fun and challenge, and it is preferable to perform them at the beginning of the main part of the training units, and the exercises have achieved good results for the experimental research sample. Points out in this regard (Mohamed Shawky Kishk and Amrallah Mohammed Al-Basati, 2006) that competitive exercises work to develop all components of the training status of the players where the activities are similar to what happens during the match and thus work to achieve stability and stability of the different stages of performance.

As for the control group and through what has been presented in Table (4) proved that there are significant differences between the pre- and post-test and in favor of the post-test of variables (speed of response, endurance speed, agility, handling) and the researchers attribute that development to the commitment and continuity of members of the control group in the performance of training units as well as exercises provided by the team coach that contributed to the development of variables, Despite the improvement of the control group, but compared to the experimental group is less, the variables (rolling and scoring) there were no significant differences between the pre- and post-tests of the control group and the researchers attribute the lack of development of the aforementioned variables to the lack of use of competitive exercises in a variety of areas because it was the only difference between the two groups.

Through the results presented in Table (5), which concerns the post-tests, it was proven that there are significant differences between the two groups (experimental and control) and in favor of the experimental group and for all the variables studied, where the results obtained by the researchers confirmed the existence of an impact of competitive exercises in the various areas on the experimental research sample in the studied research variables, which achieves the goal of the research, The researchers confirm that these exercises have benefits from multiple aspects, the first side, which concerns the players and the development of their physical and skill level, and the other side, which concerns the extent to which the coaches benefit from knowing the real level of team members from the physical, skill and tactical aspects and who is suitable for the different centers and lines of play who participate in experimental and official matches.

In this regard, (Amrullah Al-Bassati 2009) indicates that sports training of all kinds and methods aims to improve the physical, skill, planning, psychological and mental abilities of the individual through the practice of activities that are supposed to be similar to what happens in the performance of various sports activities in various events.

4- Conclusions and recommendations:

4-1 Conclusions:

Competitive exercises helped players to move quickly to where the player is supposed to be, which helps players make the right decisions during different playing situations. Competitive training in diverse regions has produced players with physical, motor and skill abilities. The research exercises, through the diversity of spaces in which the exercise is performed, contributed to increasing harmony among team members due to the acceptance of the sample members for the exercises and the desire to apply them, due to the competition that occurs during the performance, fun and pleasure when applied.

4-2 Recommendations:

1. Conducting other studies and research dealing with competitive exercises in areas of various areas and shapes and applying them to other samples.
2. Pay attention to competitive exercises by trainers because of their impact on the development of biomotor capabilities and skill capabilities.
3. The need to develop exercises similar to matches that simulate the reality of the real performance of young football players.

References:

1. Al-Bissati, Amr Allah Ahmed (2016), Training and Functional Physical Preparation in Football, Alexandria, Egypt, Knowledge Foundation.
2. Al-Janabi, Abdel Moneim (2019), Fundamentals of Measurement and Testing in Physical Education, 1st Edition, Cairo, Book Center for Publishing.
3. Abboud, Alaa Jabbar. Abbas, Amer Musa (2014), Design and Codification of General Fitness Test, University of Al-Qadisiyah, College of Physical Education and Sports Sciences, Journal of the College of Physical Education and Sports Sciences, University of Karbala.

4. Habib, Ali Qais (2023), The effect of qualitative exercises in developing some attention methods and accuracy of skill specialization for players of sports talent centers in football, PhD thesis, University of Karbala, College of Physical Education and Sports Sciences.
5. Karim, Faeq Abdulelah (2024), The effect of training and an innovative communication device on some biomotor abilities and tactical performance of deaf football players, PhD thesis, University of Karbala, College of Physical Education and Sports Sciences.
6. Khalil, Muhammad Sayed Abdul Rahim (2016), A training program using competitive situations and its impact on the defensive and offensive tactical performance of junior football, 1st Edition, Dar Al-Ilm and Al-Iman for Publishing and Distribution.
7. Kishk, Muhammad Shawky. Al-Basati, amruallah Ahmed (2000), The foundations of skill and tactical preparation in football, 1st edition, Mansoura, Dar Alam Al-Maarifa.
8. Salal, Mushtaq (2023), The effect of high-intensity functional training on the development of special endurance abilities and some basic skills in football, Master Thesis, University of Karbala, College of Physical Education and Sports Sciences.
9. Kamash, Youssef Lazim. Saad, Saleh Bashir (2006), Physiological Foundations of Football Training, Alexandria, Dar Al-Wafa for the World of Printing.