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The effect of coordination exercises to develop motor compatibility and dribbling skill for football players ages (13-15) years

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Abstract

The aim of the research is to identify the impact of coordination exercises in developing motor compatibility and dribbling skill in football for football players. The researcher used the experimental approach by designing the two equal groups for the research sample of (30) players from the two teams of Babel and Al-Janaen Club for the season (2022-2023) with ages (13-15) years from the original research community of (36) players. A sample was divided equally into two groups, one experimental and the other control. The researcher used appropriate auxiliary tools to conduct tests for the research variables, in addition to implementing the proposed exercises. A mini-exploratory experiment was conducted on a sample of second-stage students who numbered (6) players, and after conducting the pre-tests and implementing the vocabulary of special exercises for a period of (4) weeks and by (3) two educational units and a total number of (12) units. After that, the dimensional compatibility and dribbling tests were conducted in football, and after extracting the data and processing it statistically and then presenting, analyzing and discussing it based on the relevant scientific sources, the researcher reached several conclusions, the most important of which was the effectiveness of the proposed educational exercises in developing the ability of movement coordination and dribbling for players.

Keywords: Coordination exercises, motor compatibility, dribbling skill

1. Introduction

Football is one of the team sports in which the motor performance is characterized by difficulty, diversity, multiplicity, and the necessity of mastering the technical performance, its accuracy, and motor compatibility, as well as continuous movement throughout the duration of the matches. The nerve cells and their center in the brain play a major role in directing the muscular work involved in the skillful performance performed by the player or the learner.

Play exercises are the ammunition of every coach, as it may not be devoid of an educational unit without its use and for a long period, whether in the educational unit or throughout the season. The various exercises are the basis of the game and the coach's means to apply and master the basic skills. Therefore, the coach must find and form many positions or formations to play because the process of learning basic game skills and developing the accuracy of its performance requires repetition and diversification. As for the diversification of repetition, it renews the activity of the learner and his motivation for the continuity of the skillful performance, in addition to that it gives the learner opportunities to confront the changing playing situations that occur in the match, and the motor and skill capabilities can be developed through good planning of the educational curriculum that aims to reach the learner to accuracy, upgrading and integration in the performance of all basic skills so that the learner can perform them mechanically and perfectly under any circumstances of the match, because the success of the skillful performance depends on the degree of mastery of the basic skills no matter how the circumstances change, which leads to the learner reaching a good degree of performance mechanism And its effectiveness so that the inevitable result is achieving the goal, which is learning exponential skills and developing the accuracy of their performance.

Through the foregoing, the importance of the current research lies in standing on the nature of

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the movement coordination ability that the players of this age group may enjoy, and the amount of accuracy they enjoy in performing the dribbling skill in football, so that coordination exercises are applied and are sufficient to develop what is required, in a way that exceeds the cases of weakness in which the student may pass in the ability of movement movement dribbling.

1.1 Research problem

And through the field researcher's follow-up of the educational units for football for this age stage, he noticed that there is a weakness in the performance of the elusive skill and that it is far from skillful specialization, This may lead to a lack of ability for learners to perform skills, and this may come as a result of some team coaches following separate learning methods and exercises for each skill separately and without linking the skills with each other to form game situations that learners may benefit from in developing their motor and skill abilities.

1.2 Research objective

- Preparing suggested exercises for the development of motor coordination and dribbling skill in football for players aged (13-15) years.

1.3 Research hypothesis

- There is a positive effect of using the proposed coordination exercises to develop motor coordination and dribbling skill for football players ages (13-15) years.

1.4 Research fields

The human field

Babylon Club players and Babylon Gardens, aged (13-15) years, for the 2022-2023 season.

Time field

From 28/1/2023 to 15/4/2023.

Spatial field

Al-Mashrou' Sports Club Stadium – Babylon Governorate.

2. Research methodology and field procedures

2.1 Research Methodology

The researcher used the experimental method due to its suitability to the nature of the research it is an organized process that takes place under certain and controlled circumstances or conditions or testing from a new point of view to discover something new. (Al-Yasiri, Muhammad Jassim, 2017, p. 258) ^[2].

2.2 The research community and its sample

The researcher identified the research community with the players of Babel Club and Babel Gardens Club at the age of (13-15) years, whose number is (30) players, (15) players from Babel Gardens Club, representing (60%), and (15) players from Babel Club, whose number is (23) players representing a percentage of (65.21) for the 2022-2023 sports season.

2.3 Methods and tools used

1. Personal interviews.
2. Arabic and foreign sources and references.
3. (10) metra footballs.
4. Colored cones number (15).
5. (8) colored rings with a diameter of (60) cm.
6. Ground runway number (1) with a length of (3) m.
7. Ropes of different lengths.
8. Japanese Casio stopwatch.
9. iPhone (2) for photography.
10. One (1) imaging CD.
11. Electronic calculator type (hp).
12. A special optical program (switched on).
13. (1) Fox whistle.

2.4 Field Research Procedures

The researcher identified the search variables (movement compatibility and dribbling in football).

2.4.1 motor compatibility test

A special device was designed to measure kinetic compatibility and obtained a patent numbered 8049 for the year 2023.



Fig 1: Shows the test of the motor compatibility measurement device.

2.4.2 Dribble Test

(Sabah Qassem Khalaf and Youssef Kazem Abd) ^[2]

Dribbling Test Passing the opponent by dribbling within a distance of (5) meters

Objective: To measure dribbling ability

Tools used

Legal football stopwatch. Burke for the purpose of planning

Test procedures

1. Layout of the test area as shown in Figure (2).

- The tester stands with the ball behind the starting line, and when the start signal is given, the player tries to pass the opponent within the specified distance.

Register

- The time is recorded from the moment of starting until the opponent has passed
- Each player is given one attempt only.

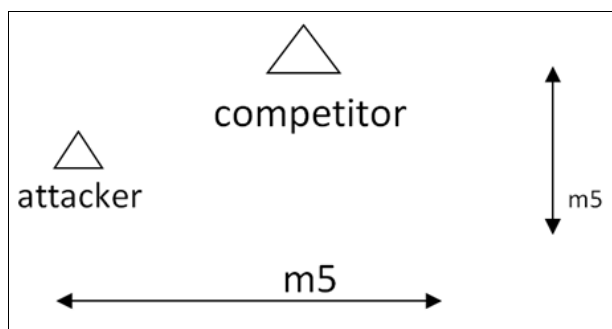


Fig 2: Dribble Test

2.5 Exploratory experience

The researcher carried out the exploratory experiment on a sample consisting of (10) players from the Babylon Club from outside the main sample to apply the tests set, on Sunday 28/1/2023 at 10:00 am at the Babylon Sports Club stadium. The aim was to verify the equipment and tools, identify the most important obstacles and find the scientific basis for the test.

2.6 Scientific foundations of the tests

2.6.1 Validity of the test: The researcher used the virtual validity method, relying on a group of experts, as the questionnaire for determining the tests for the research sample was presented to the experts, and after sorting the tests, an approval rate appeared (100%) for the two tests. (Diaa Naji and others) [3].

2.6.2 Test reliability

Table 2: Shows the arithmetic means, standard deviations, and the value of (t) in the pre-tests for the motor compatibility and dribbling test:

Test	Measuring unit	Control		Experimental		t value	Sig type
		Mean	Std. Deviation	Mean	Std. Deviation		
Motor compatibility	Degree	9.05	0.91	8.73	0.84	1.5	Non sig
Dribbling	Degree	7.438	0.87	8.87	0.87	1.66	Non sig

Table (2) shows the equivalence between the control and experimental groups, where the tabular (t) value of (2.07) was at a significance level of 0.05 and a degree of freedom (28).

2.8 Statistical methods

The researcher used the following statistical methods: (Ibrahim, Marwan Abdul-Majid, 2000, p. 243) [4]

3. Search results

3.1 Presenting, analyzing and discussing the results

Table (3) shows the arithmetic mean, standard deviations, and the value of (t) calculated between the pre and post-tests, motor compatibility and dribbling in football for the experimental group:

Test	Measuring unit	Pre-test		Post-test		t value	Sig type
		Mean	Std. Deviation	Mean	Std. Deviation		
Motor compatibility	Degree	8.73	0.84	8.09	0.72	3.36	Sig
Dribbling	Degree	8.87	0.89	8.16	0.83	3.38	Sig

The researcher used the test and re-test method on a sample of (10) players, as the test was conducted for the first time on 28/1/2023 at the Babylon Club stadium at ten o'clock in the morning, and the test was repeated on 2/4/2023 at the same place and time, as shown in Table (2).

2.6.3 Objectivity of the test

The researcher calculated the objectivity of the test by finding the correlation between two arbitrators using the simple correlation coefficient (Pearson), as shown in Table (1).

Table 1: Shows the reliability and objectivity coefficient values of the tests:

N	Test	Reliability	Objectivity
1	Motor compatibility	0.89	0.86
2	Drbbling	0.91	0.88

2.7 Main Research Procedures

2.7.1 Pre-test

Pre-tests were conducted for the research sample on 6/2/2023 at four o'clock in the afternoon for the sample of the Babylon Club and on 8/2/2023 for the sample of Al-Hilla Club at the same time and for the tests (kinetic compatibility, dribbling)

2.7.2 The vocabulary of the prepared curriculum (exercises):

The educational units lasted for a period of (4) weeks, at the rate of two units per week, and the time of the educational unit was (90) minutes. The experimental group relied on the proposed exercises (Babylon club players), while the control group (Babylon Gardens club players) relied on the private coach's approach.

2.7.3 Post-tests

After the expiry of the period of implementation of the proposed exercises, post-tests were conducted for the research sample (experimental) on 13/3/2023, and on Thursday 15/3/2022 for the control group, similar to the same conditions as the pre-test.

- Percentage.
- Arithmetic mean.
- Standard deviation.
- Coefficient of difference.
- Simple Correlation Coefficient (Pearson).
- T-test for independent samples.
- T-test for corresponding samples.

Table (3) shows the results of the experimental group, as it showed significant differences between the pre and post tests and in favor of the post tests, as all the calculated (t) values

were greater than its tabular value of (2.20) at the level of significance (0.05) and the degree of freedom (14).

Table 4: Shows the arithmetic means, standard deviations, and the value (t) calculated between the pre and post-tests, the motor compatibility and dribbling in football for the control group:

Test	Measuring unit	Pre-test		Post-test		t value	Sig type
		Mean	Std. Deviation	Mean	Std. Deviation		
Motor compatibility	Degree	9.05	0.91	8.57	0.83	2.52	Sig
Dribbling	Degree	8.43	0.87	7.65	0.81	3.9	Sig

Table (4) shows the results of the control group, as it showed significant differences between the pre and post tests and in favor of the post tests, as all the calculated (t) values were

greater than its tabular value of (2.20) at the level of significance (0.05) and the degree of freedom (14).

Table 5: Shows the arithmetic mean, standard deviations, and the value of (t) calculated in the posttests, the motor compatibility and dribbling in football between the control and experimental groups.

Test	Measuring unit	Control		Experimental		t value	Sig type
		Mean	Std. Deviation	Mean	Std. Deviation		
Motor compatibility	Degree	8.57	0.83	8.09	0.72	2.52	Sig
Dribbling	Degree	7.65	0.81	8.16	0.83	2.55	Sig

Table (5) shows the results of the control and experimental groups, as it showed significant differences in the post-tests between the two groups and in favor of the experimental, as all calculated (t) values were greater than its tabular value of (2.07) at the level of significance (0.05) and degree of freedom (28).

4. Discussing the results

Through the results presented in tables (4 and 5), which showed the presence of significant differences between the pre and post tests and in favor of the post tests, and for the control and experimental groups, the researcher attributes the reason for these differences for the control group, to the commitment of the members of this group to the units of the educational curriculum followed and for the trainer. This educational method, which included appropriate repetitions that were implemented continuously, and this is consistent with what has been indicated in that practice and effort through training and continuous repetitions are necessary in the process of learning and acquisition, in addition to that training is a key factor in the process of the learner's interaction with the skill and control of his movements and achieving consistency between the movements and components of the skill in proper sequential performance and an appropriate time, and it increases the learning and development of the skill and its mastery.

As for the members of the experimental group, the researcher attributes the reason for the significant differences between the pre and post tests and in favor of the remote and the ability of agility to the introduction of the proposed exercises and the application of the learners of the experimental group these exercises during the educational units and their response to all the requirements of the motor performance required of them, as these exercises indicated their effectiveness and their role in the development of the experience gained by the learners from the educational units related to the ability of motor coordination. As these units included exercises and teaching positions for this ability, which means "the ability of the individual to control the muscles of his body collectively or individually according to the requirements of the activity." (Wajih Mahgoub, 1989). In addition, the proposed exercises led to the development of the accuracy of the performance of the researched skills among the members of the experimental

group. And according to what the results showed in the existence between the pre and post tests and in favor of the post tests, the researcher attributes the reason for the significance of these differences to the proposed exercises that were characterized by their harmony with the abilities of the learners and their skill capabilities, and the clarity of their application mechanism according to the requirements of the game required of them and thus they perform the skill with motivation and desire away from the boredom and boredom that they may feel while performing the skills traditionally, which led to an increase or development of the accuracy of the performance of this skill they have, and this is consistent with what has been indicated in Clarifying the goals for the learner leads to an increase in motivation and an attempt to exert effort to overcome the difficulties and obstacles he encounters, and gives him more enthusiasm and perseverance, and prevents the emergence of signs of fatigue and signs of boredom. (Furat Jabbar Saadallah, 2001).

The results of Table (5) indicated that there were significant differences in the posttests of the motor compatibility tests between the control and experimental groups, in favor of the experimental group. The researcher attributes the reason for these differences to the effectiveness of the proposed exercises, which helped the experimental group members in the development of their motor coordination and evasive ability. Accordingly, the motor coordination has a prominent role in the nature and accuracy of performing his skills (dribbling), so the members of the experimental research group have performed this skill well because they have acquired neuromuscular coordination through their repeated practice of it through the proposed exercises. This is consistent with what has been mentioned that the nature of skillful performance in football is characterized as a set of interrelated and integrated movements that the player (the learner) performs according to the requirements of the situation he is going through through competition or match to achieve achievement depending on the learner's motor, physical and skill abilities. Therefore, the learner's performance must be characterized by speed in moving with a high degree of effectiveness and accuracy. (Nahida Abd Zaid, 2018), as for dribbling, significant differences appeared in relation to the exercises that the trainer put in place.

5. Conclusions and recommendations

5.1. Conclusions

- The effectiveness of the proposed educational exercises in the development of the ability of motor coordination of the players.
- The effectiveness of the exercises designed for the skill of dribbling in football for this category in the post tests.

5.2. Recommendations

- The need to emphasize the use of coordination in educational units for these ages.
- Preparing complementary or new educational exercises for the players of this category to develop the accuracy of the correct performance of the skill specialization.
- Conducting other studies to develop other diverse abilities and basic football skills.

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