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EXERCISES HARMONIC CAPABILITIES TO DEVELOP BALANCE AND COMPLEX SKILL FROM THE ROLLING SPEED AND ACCURACY OF SCORING FOR FOOTBALL PLAYERS UNDER 17 YEARS

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ABSTRACT:

Equilibrium is one of the important motor abilities that must be available to football players, especially during the acquisition of the ball and the performance of the skills installed in football, because the good balance of the player helps him to control the ball as well as positive control of his body parts and linking skills without mistakes. Here, the idea emerged in conducting an experimental scientific study by giving harmonic abilities to develop balance and compound skill of rolling speed and accuracy of scoring, as well as making additions and modifications to the fixed balance test machine and the scientific basis for that test. Industry Club under the age of 17 years as a sample of research was divided randomly into two experimental and control groups for each group (10 players), the main experiment was carried out on 2/4/2019 until 3/6/2019, and three training units per week for eight weeks, and Give the exercises in the main section of the training unit and a time ranging between (30-40) minutes, and then conducted post-tests on 5/6/2019, the results were taken and the data were treated statistically and presented and discussed in a scientific method based on reliable sources.

***Keywords**: Harmonic abilities, balance, complex skills.*

INTRODUCTION

Sports training is a complex and complex process, it depends on the training program, coach, player and other sciences as its tools to achieve the desired goals, and the achievement of these goals is no longer left to randomness but is due to good preparation using scientific methodology aimed at developing the capabilities and skills of players at all levels, and this is confirmed by (Mustafa 1992, p. 21) "Good preparation requires standardized training programs based on scientific principles that take into account the principles of training science and the nature of the practice game," and football game of collective games, which was greatly influenced by the development of science in the field of sports and the development of exponents Leeb and ways to prepare the players physically and Mharria and Khtttiya, which helped to raise the level of performance of the players to achieve athletic achievement.

Harmonic abilities are important in various sports activities, including football, and must be available to football players because of their significant role in acquiring motor skills and energy economy and shorten the time required for the training process and develop the speed and accuracy of the performance of

complex skills of the game, and the diversity of skill performance of the player is due to the presence A high level of harmonic abilities (Mr. 2006, p. 124), and harmonic abilities according to (Lamzam 2000, p. 79) "are essential foundations for training in a full range of motor activities", and works to develop the kinetic balance of various motor forms and the speed of motor performance of the oryx. Harmonic capabilities are not inherited but are acquired capabilities that evolve based on some basic traits during positive interaction with surrounding conditions. Harmonic capabilities, cited by Badri and Sudanese 2011, p. 77, consist of seven capabilities (ability to assess the situation, and ability to connect) Motor, ability to exert appropriate effort, balance, motor rhythm, rapid response, and finally adaptability to changing situations).

The concept of motor abilities from the point of view (Darwish 1999, p. 29) is "known and trained kinetic work and is represented by access to performance in the form of dynamic kinetic", and consists of several kinetic abilities are (compatibility, balance, agility, accuracy), and balance is one Important abilities that must be developed for the athlete, it is known that the sport is increasingly in need of balance functions significantly, the ability of the athlete to determine his position in the vacuum and the relationship with time and speed and accuracy of the performance of difficult movements in anxiety and instability or high base of equilibrium is achieved as a result of the development and growth of sensory systems It has a role in the balance process, wa To a balance from the point of view (Aathi 2004, p. 361). It is "the ability of man to keep his body or its various parts in a given position as a result of the complex harmonic activity of a set of vital organs and systems directed to act against the effects of gravitational forces."

Combined skills training has become very important in the game of football, and composite skills, according to Hammad (2012, p. 17) means the individual skill sentence, "the player's performance of a successive series of consecutive interconnected basic skills of football," and the skill sets consist of combining skills together in The form of sequential performance is uninterrupted and fast, and confirms (Keshk and Rugati, 2000, p. 21) that the composite skills "represent models of different forms of a set of individual skills merge with each other and overlap in their final stages to form the beginning of the next skill, which is performed by the player in a particular playing position to achieve A specific target according to MIT "The link between the performance of two or more skills achieves very important goals in the development of the level of players, as it can be a mental program of the nervous system of the player, which in turn is reflected on the balance and speed of the accuracy of the performance of complex skills.

It is known that the training of young people under the age of 17 according to the classification of the Asian Federation, aims primarily to prepare them to develop their levels and abilities and physical, motor, skills and psychological according to the characteristics of the age stage to which they belong (pride, 2000, p. 46) Football depends on the scientific foundations to reach good results, by relying on theories of training science and planning their training programs properly, where it is the responsibility of the coach to plan the training process to reach them to the best level"

The nature of the game of football requires the preparation of the player and acquire the necessary physical, motor and skill qualities by following the modern scientific methods and methods, because of this game of many different variables, and this game has evolved in terms of its different vocabulary as it became characterized by fast and steady level of performance, and although Football is a collective game, but the individual performance of the composite skills is crucial in some times of the game, therefore, the development of motor balance is very important because of its impact on the performance of skills composite football, and not without any skill composite football of more than the ability of harmony Consequently, training on these harmonic abilities leads to the acquisition and development of motor balance ability, and to perform complex skills quickly and correctly, and that the preparation of harmonic abilities is appropriate for the game of football depending on changing attitudes and abundance throughout the stadium in addition to the use of compound skills To carry out the duties and strategies of play as well as suitable for small ages, from here comes the importance of research in the importance of the character of balance in the game of football and its vital role in the performance of complex skills of football, and through the use of new methods based on

scientific foundations, has been developed exercises Harmonic abilities to develop balance and compound skill of rolling speed and accurate scoring for football players under the age of 17.

The problem of research is that football is one of the games that need to perform high-level motor skills during the implementation of the skills of the game, especially the vehicle, so the researcher noted that there is an imbalance in the performance of compound skills, which leads to the loss of control of the ball and the end of performance wrongly, especially During scoring, this weakness is attributed by the researcher to several reasons, including is the lack of interest in the development of the balance of motor skills as well as training on skills compound football, and accordingly has been studying this problem and the development of scientific solutions through the preparation of harmonic capacity exercises to develop the character of balance and skill Knee speed rolling and scoring accuracy of football players aged under 17 years old.

The aim of the researcher was to prepare harmonic abilities to develop balance and skill skill of rolling speed and accuracy of scoring for football players under 17 years, as well as to know the impact of harmonic abilities to develop the ability of compound balance and compound skill of rolling speed and accuracy of scoring for football players under 17 years.

The researcher hypothesized that there are statistically significant differences between the results of the tests before and after the tests of balance and skill combination of rolling speed and accuracy of scoring for football players under 17 years for the experimental and control groups, as well as there are statistically significant differences in the distance tests between the experimental and control groups in the tests subject.

Previous studies were a master's study of the researcher (Azhar Taher Munshid) from the University of Baghdad / College of Physical Education and Sports Science, in 2018 and tagged ((the effect of harmonic abilities exercises in some offensive planning principles of the players of the first division football players)).

MATERIALS AND METHODS:

Research Methodology:

The researcher used the experimental method in the two groups (control and experimental method) to suit the research problem.

Search community and sample:

The research community was represented in the Iraqi League for ages under 17 years (20) players and divided into two equal groups (control, and experimental), and by (10 players) for each group, and divided by the simple random method which is the lottery method.

Means of gathering information, tools and devices used in research:

The researcher used the following tools:

.Bosu Ball (5) made in China -

- Balance terrace, width (5 cm), length (2 m), height (20 cm) number (2), made by the researcher.
- Inhibitions of different heights number (6), handed training number (2), and training rings number (6).

Legal football (10), whistles (2) and electronic stopwatch (2). -

.Small targets (2) made by the researcher (height 50 cm × width 1 m -

Number of persons (12). -

Legal football goal. -

: Exploration Experience

Two experimental experiments were conducted on (28/27/2019). The experiments were conducted on a sample of (4) players from Al-Shabab Sports Club under 17 years old, and at Al-Sinaa Sports Club Stadium. The balance test device, which has been modified and designed by the researcher, has been developed scientific basis for the device (honesty, stability, objectivity) through a questionnaire submitted to experts in the field of tests, the second experiment was to test the speed of rolling and accuracy of scoring as well as exercises to harmonic abilities to know the appropriate exercises For the sample, as well as to detect the constraints that the researcher may encounter Praise a major experience and preparation prior to the requirements of the experiment in terms of time, personnel assistance, cost, validity and other tools.

:Main experience

The harmonic capacity exercises of the main experiment were applied to the experimental sample starting on Tuesday, 2/4/2019 as follows:

- Duration of the course (8) weeks, the number of units (3) training units per week (Sunday, Tuesday, Thursday).
- Exercises were applied in the main section of the training unit for 30-40 minutes and immediately after the warm-up.
- The control group applied the regular exercises prepared by the training staff of the sports club for the main section and under the supervision of the researcher.

Number of capacity exercises (12 exercises) for the pilot group -

The high intensity and repetitive interval training method was used as an important method in training harmonic abilities as well as characterized by undulation, as well as relying on the carvonin equation to calculate intensity.

Tribal tests:

The researcher used reliable sources and experts in the field of tests to determine the tests for research and consultation with the supervising professor being a specialist in training.

The tribal tests were conducted on all members of the experimental and control samples on Monday, 1/4/2019 at four o'clock in the afternoon Baghdad time, as well as the researcher conducted the homogeneity of the sample in terms of (height, weight, age and age of training), and also processed the results of tribal tests for the two control groups And experimental methods by means of statistical methods, in order to avoid influences that may affect the results of the research although the sample represents a single mix, and was treated using statistical means (arithmetic mean, standard deviation, and the value of (T) for independent samples, for a sample, and to return the differences to Experimental factor, and starting from the start point to verify the equality of the sample, as shown in the tables (1)

Table (1) shows the arithmetic media, the standard deviations and the calculated and tabulated (T) values in the equivalence tests of the control and experimental groups

Significance	Sig	The value of T	Control		Experimental		Variables	**sequence**
			P	s	P	s		
Non - moral	**0,32**	**1,008**	**0,46**	**2,25**	**0,38**	**2,06**	Balance (time)	**1**
Non - moral	**0,82**	**0,220**	**0,78**	**18,45**	**0,69**	**18,53**	Rolling speed and scoring accuracy (d / s)	**2**
* **Significant> 0.05 at freedom degree (18)***								

The first test: the equilibrium test fixed (Hussein 1985, p. 31)

The researcher made additions and modifications to the fixed balance measuring device used by the researcher (Husen. YK. 1985, p. 31) to make it suitable for achieving the research objectives. On the sides of the upper frame were installed two sensors placed at both ends of the device and connected to a stop watch, and these sensors help to stop the stopwatch at Touching the balance plate of the iron base on which the terrazzo is grounded means that the finishes are not Testing and recording the actual time of the equilibrium performed by the laboratory, ie when the two plates (the upper panel Milan on one side touches) stop the stopwatch.

Test Objective: Measure the static balance.

Test description: The laboratory stands on the terrace with both feet and takes the stability and stability so that the terrace is fixed in a horizontal position, with the help of the laboratory to stabilize in the appropriate position. (1)

- Calculates the equilibrium time since the beginning of timing and ends when touching one side of the terrace with the sensor.

.The laboratory is given two attempts to calculate the best of them -

Figure (1) illustrates the static balance test

The second test: test the rolling speed and accuracy of scoring (Magni and Bangsbo 2012 p. 102)
The purpose of the test: To measure the speed of the performance of the skills of rolling and accuracy of scoring.
The tools used: 12 persons, one legal football, one goal.
Method of performance: Put the signs as shown by the measurements shown in Figure (2) and the distance between the person and the person near it (1 meter), and the laboratory stands between the persons arranged in the form of a square along the side of the rib (1 meter), and when you hear the signal begins to run at full speed to the place of the ball and rolling Between the characters and return to the starting point and scoring it, and gives two attempts counted the best.
How to register: - Calculates the performance time of each attempt.
.- The player should score once from the right and from the left
.- The ball should be shot towards the area defined by the person who is two meters away from the goal column, and when the ball out of the area is re - test after taking rest.

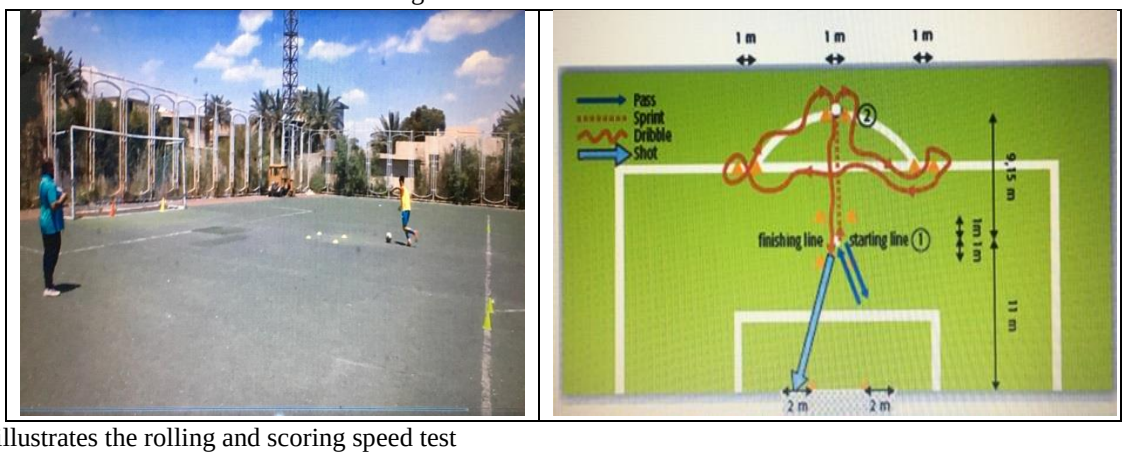

Figure (2) illustrates the rolling and scoring speed test
Tests after:L

The tests were conducted on Wednesday, 5/6/2019, and the researcher was keen on the importance of similar conditions for the tests before and after the tests, and the researcher addressed the results between the pre and post

tests of the two control and experimental groups by appropriate statistical means, for the purpose of knowing the significant differences or not in the tests in question.

RESULT AND DISCUSSION:

Table (2) shows the value of (T) calculated for the pre- and post-tests of the control group in the test of the equilibrium fixed and composite skill rolling speed and accuracy of scoring

Type of difference	sig	The value of T	P e	P	Post test		Pre-test		Variables	**sequence**
					P	s	P	s		
Non - moral	**0,08**	**3,067-**	**0,11805**	**0,36200-**	**0,48**	**2,61**	**0,46**	**2,25**	Fixed balance (time)	**1**
Non - moral	**0,08**	**1,966**	**0,09766**	**0,19200**	**0,69**	**18,26**	**0,78**	**18,45**	Rolling speed and scoring accuracy (d / s)	**2**
)**Significant> 0.05 at freedom degree (9***										

Table (3) shows the value of (T) calculated for the pre- and post-tests of the experimental group in the test of the equilibrium fixed and the composite skill of rolling speed and scoring

Type of difference	sig	The value of T	P e	P	Post test		Pre-test		Variables	**sequence**
					P	s	P	s		
moral	**0,00**	**10,790-**	**0,21565**	**2,32700-**	**0,71**	**4,39**	**0,38**	**2,06**	Fixed balance (time)	**1**
moral	**0,00**	**4,659**	**0,21743**	**1,01300**	**0,59**	**17,51**	**0,69**	**18,53**	Rolling speed and accuracy of scoring (d / s)	**2**
)**Significant> 0.05 at freedom degree (9***										

Table (4) shows the arithmetic media, the standard deviations, the calculated value (T) and the statistical significance of the dimensional tests of the experimental and control samples

Type of difference	sig	The value of T	Control test		Experimental group		Variables	**sequence**
			ع	سَ	ع	سَ		
moral	**0,00**	**6,485**	**0,48**	**2,61**	**0,71**	**4,39**	Fixed balance (time)	**1**
moral	**0,01**	**2,597-**	**0,69**	**18,26**	**0,59**	**17,51**	Rolling speed and scoring accuracy (d / s)	**2**
Moral> 0.05 at degree of freedom (18)								

Table (2) shows that there are no significant differences and statistically significant between the pre- and post-tests of the control group, the researcher attributes the reason to the nature of the curriculum prepared by the coach through which he could not focus on the importance of motor balance as well as aspects of skills composite football game was the focus on Only basic skills, as well as a lack of attention to modern methods of training, so that these exercises prepared by the trainer, which was in the form of exercises for the most basic skills without incorporating them into complex skills sentences, and rely on exercises side plans with the ball in the preparation period For special.

Joule (3) shows that there are significant differences and statistical significance between the pre- and post-tests of the experimental group and in favor of the post-test. Prepared by the researcher and the importance of exercises harmonic abilities in the training and development of motor balance and thus control and acquisition of the ball in a positive and smooth and without errors during the performance of composite skills of football, as well as attributed to the diversification in the application Exercise and rippling of training units, in addition, the organization and distribution between work and rest led to raise the level of balance without feeling tired.

) Al-Aathi 2011, p. 361) asserted that "the evolving level of equilibrium growth allows the player to quickly master the complex technical aspects of exercise types and perform them easily and smoothly and at the highest possible level of technical performance, and can not achieve any success in any sport and reach the highest levels Without the growth of this functional aspect of the balance in the player, and in the description (Hakim 2004, p. 135) that when the player is away from the balance or what can be called (not balance), this mode does not allow him to quickly perform in the presence of a competitor For example, on the other hand, distinguishing the individual athlete with good balance is called H or contributes to his ability to improve his performance upgrade for many movements and situations in most sports activities.

He added (Abdul Fattah 1997, p. 112) that the development of speed is linked to the work of the nervous system, which controls the functions of the body, and muscle function in particular to do muscle contractions in the production of this speed as well as the balance and neuromuscular compatibility between fibers, which improves the ability of the athlete to perform high level.

Moreover, the diversification and the change in the exercises of harmonic abilities and that all the exercises were ball and somewhat similar to the nature of performance as it contains complex skills as well as high performance quickly, and this has been a very important role in the development of the skills of players because the footballer needs a high level From physical preparation, motor and skill so that he can meet the requirements of the nature of the game and allow him to use his technical skills throughout the game without mistakes and give him a motivation for performance and this is confirmed (Ali and Shaghati 2010, p. 165).

The acquisition of harmonic abilities helps the player to perform high level and accuracy and smoothness and speed required, acquiring the ability to link the motor and the ability to make the appropriate effort and the ability to the rhythm and the ability to balance and the ability to adapt to different situations and all these abilities are of harmonic abilities, all help the player Linking the basic skills in the form of complex skills of the game of football and the emergence of these skills in a balanced, streamlined and accurate performance and this is confirmed (Badri and Sudanese 2011, page 80) that "includes a high level and wide compatibility capabilities to Diversification in basic skills is the process of acquiring the best skills of the most difficult and the quality of his performance of movements and economics effort and the rapid and purposeful use of mathematical skills in changing conditions and situations and the speed of the need to modify or learn a new skill or link between several skills.

He advised (Hammad 2012, p. 18) that the junior coaches to introduce training in football skills in their training programs at an early stage of their life because the training in composite skills allows the formation of psychomotor programs in the nervous system of the player to achieve the ability to call one of them Or more during a particular situation in the game requires the implementation of a series of skills implemented sequentially, and therefore the implementation of a higher degree of mastery, as well as training in

complex skills leads to the ability of the player to creativity.

CONCLUSIONS:

From the results of the research the researcher concluded the following conclusions:
Harmonic abilities exercises have a positive effect in developing balance. -
- Harmonic abilities exercises have a positive effect for developing compound skill of rolling speed and accurate scoring.
- The use of high intensity and repetitive interval training methods is compatible with harmonic capacity exercises.

ENDORSEMENT:

Based on the results of the research and its conclusions and because of the harmonic capacity exercises used on the variables of the subject, the researcher recommends the following:
- The use of harmonic abilities exercises in the preparation of training curricula, especially young age groups (cubs, young people, youth) as the stage of acquiring the skill and stability of them, as well as because the harmonic abilities are suitable for young ages and allow them to acquire harmonic abilities.
- The use of harmonic abilities exercises to develop motor abilities such as agility, flexibility, accuracy, skill and other motor abilities.
- The use of training on football skills in the development of the performance of players from the young ages of buds and budding and at the beginning of planning for training on skill preparation and after the mastery of basic skills.

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ANNEX :

Annex (1)
Model for Harmonic Capacities:
Exercise 1: Exercise the ability to balance and motor rhythm and composite skills.
Exercise objective: To develop balance and speed performance of complex skills.

Tools used: football (2), cones (10), hemisphere balance (4)
Exercise: put two balance cards and put cones so that the distance between them (1 m) and also footballs, and opposite as shown in Figure (2), and begin the exercise at the signal as the players try to hold the balance ball, the player down and rolling between the cones and then scoring on goal , As shown in Figure 3.

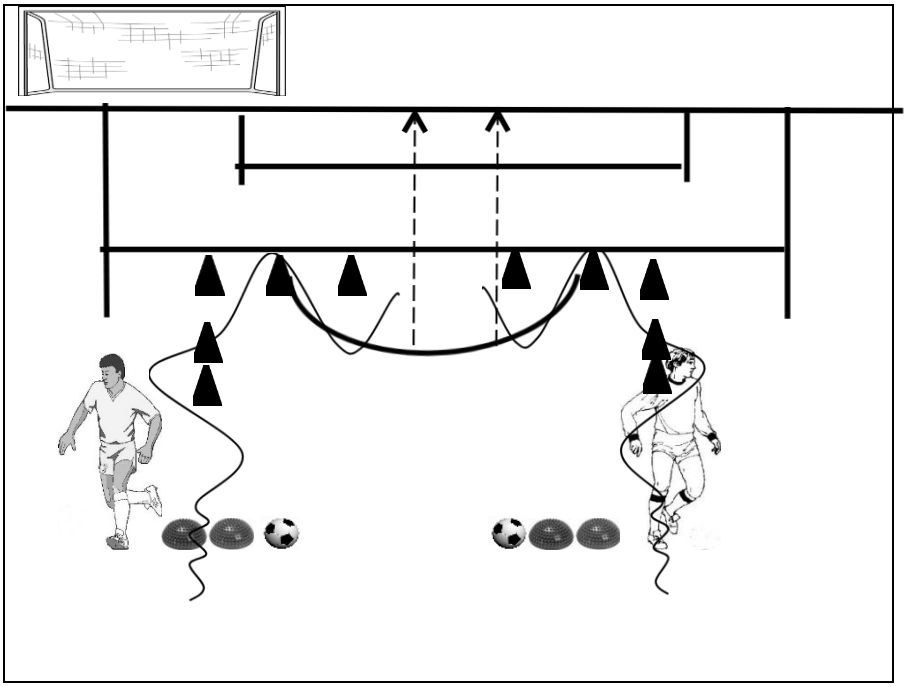

Figure 3 illustrates the ability to balance and compound skills

Exercise 2: Exercise the ability to rhythm and balance and assess the situation.
The goal of the exercise: to develop balance and speed performance of complex skills of rolling and scoring.
Tools: Contraindications (8), balance balance (2), football (2), soccer goal (1), sponge balls (8).
Exercise: The exercise begins when the two players at the same time quickly jump over the barriers at the time that the coach throwing a sponge ball on them trying to avoid during the performance and then move to the mastaba and walk them in balance while the coach also throw the sponge ball towards them trying to avoid, and then they roll The ball quickly to a distance (6 m) and then scoring on the corner of the goal, as shown in Figure (4).

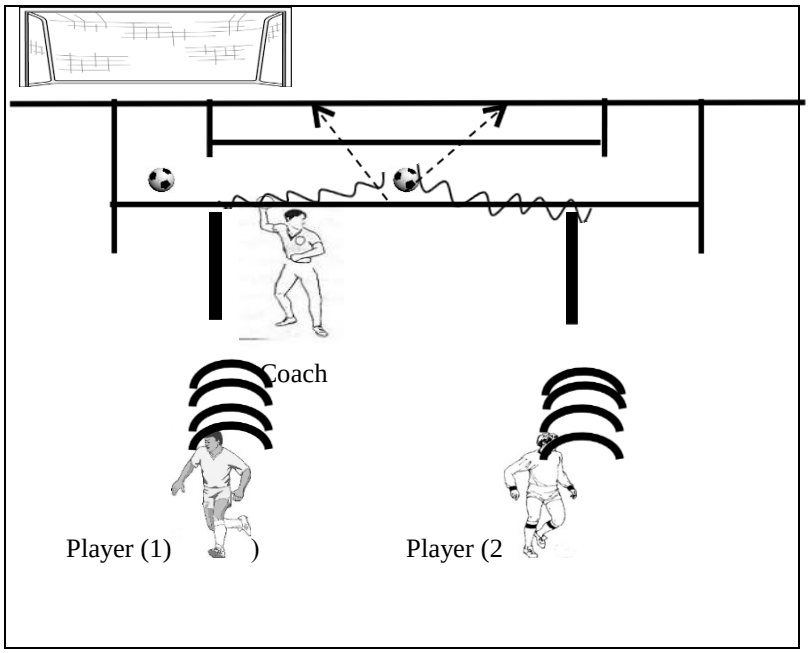

Figure (4) shows the ability to balance and assess the situation and skills combined

Exercise 3: Exercise the ability to link motor and balance and adapt to different situations and make the appropriate effort

The goal of the exercise: to develop balance and compatibility and the speed of performance of complex skills.

Tools used: football number (2), trip rings (12), balance balance (2), training ladder number (2), mobile signs number (2).

Exercise Exercise: The training sessions are placed opposite each side (6) rings and the distance between the rings is half a meter, and then placed the balance of the balance and then the training ladder. Then move on the training ladder laterally and then exchange the ball handling and damping and then rolling and handling of the person moving and trying to hit the ball accurately to the person, as shown in Figure (5)

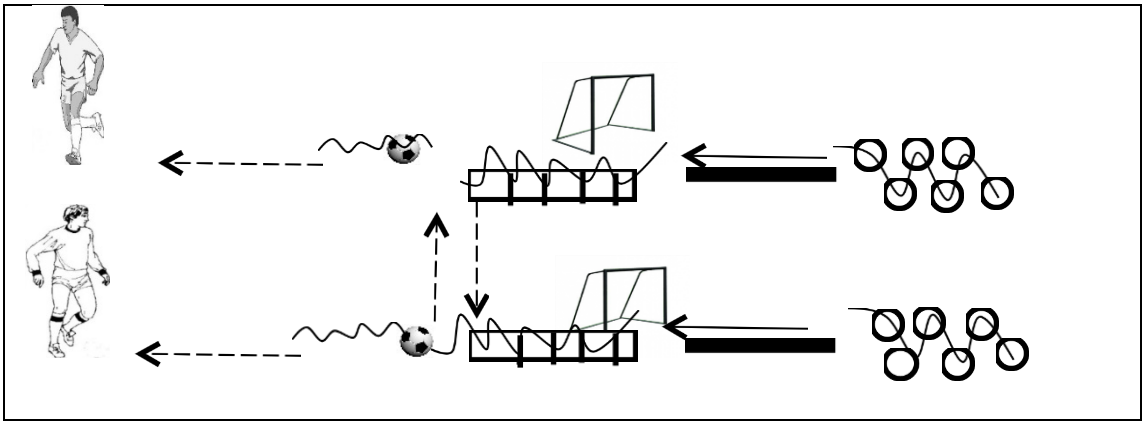

Figure (5) shows the ability exercise and motor linkage and balance and adapt to different situations and make the appropriate effort

Annex (2)

Harmonic and Intensity Exercise Distribution Model for the Second Week with High Intensity and Repetitive Interval Training

Repetition	between	Comforts	Comfort between totals	Number of groups	Duplicates	Number	Distress	the exercise	Training module
2160 second)36 (Minute	780 second	30 second	60 second	180 second	2	3	95%	Exercise balance, motor rhythm and complex skills	Fourth Sunday 7/4
	780 second	30 second	60 second	180 second	2	3	95%	Exercise the ability of motor rhythm and balance and assess the situation and complex skills	
	600 second	30 second	60 second	180 second	2	3	95%	Exercise the ability to connect motor and balance and adapt to different situations and make the appropriate effort	
1800 second)30 (Minute	64- second	20 second	40 second	120 second	2	4	85%	Exercise ability to adapt to different situations, balance and complex skills	Fifth Tuesday 9/4
	640 second	20 second	40 second	120 second	2	4	85%	Exercise the ability to respond quickly, balance and link skills	
	520 second	20 second	40 second	120 second	2	4	85%	Exercise the ability of motor rhythm and the ability to respond quickly and the ability to adapt and link skills	
2160 second)36 (Minute	780 second	30 second	60 second	180 second	2	3	95%	Harmonic exercise The ability to balance and connect basic skills	Sixth Thursday 11/4
	780 second	30 second	60 second	180 second	2	3	95%	Exercise the ability to rhythm kinetic linking and linking between basic skills	
	600 second	30 second	60 second	180 second	2	3	95%	Exercise the ability to assess the situation and the ability to adapt and link skills	