



Special exercises according to the coordinated capabilities to improve the speed of performance of two attacker skills (passing and rolling) in football for preparatory school students aged 15-16 years

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Abstract

The purpose of this paper is to making special exercises according to harmonic abilities to develop the speed of performance of two aggressive skills (passing and rolling) in football for preparatory school students aged 15-16 years, in addition to knowing the effect of special exercises according to harmonic abilities in developing the speed of performance of two offensive skills (passing and rolling) in football for students. The experimental approach was designed by designing two equal groups with a pre-and post-test, and they represented the research public with preparatory school students aged 15-16 years, who numbered (80) student and the research sample was randomly selected from the research community and their number was (20) they were divided into two groups in a random manner with an equal number (10) students for each group. The researcher concluded from the results that the special exercises according to the harmonic abilities have a positive effect in improving the speed of performance of the skill (passing and rolling), and also recommends the necessity of adopting exercises according to the harmonic abilities in the physical education lesson because of their importance and role in improving the level and speed of the students' skillful performance.

Keywords

*Special exercises ;
improve the speed ;
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rolling.*

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1. Introduction

The development that took place in the sporting level in general and football in particular in all countries was not spontaneous or the result of chance, but rather is the result of good and thoughtful scientific planning and attention to the smallest details that contribute to finding appropriate solutions and reaching moral results, that occurs as a result of repetition in the performance of skill. It is required to be implemented, so the more the learner repeats the skill required to be implemented correctly, the level of performance develops to mastery (the mechanism of performance), and this requires many repetitions in different and diverse ways of performance, in which the factor of suspense, excitement and challenge enters the learner, so there must be a diversification in the performance of skills as well. About the quality of exercises targeting the skill required to be implemented directly and in different performance conditions to contribute to excitation and increase his motivation towards performing well, as the special training methods enable him to master the characteristics affecting performance and work to increase his desire to reach the ideal performance of the skill required to be implemented as well as shortening time and moving away from boredom and monotony during the performance of the skill, the availability of the factor of speed and accuracy in performance allows to increase the number of repetitions and competition between players. Filling and creating a spirit of challenge to reach the advantage, which is reflected in the improvement of skill performance, hence the importance of research in designing special exercises according to the harmonic abilities using tools and aids to develop the speed of performance of two offensive skills in football, which may have a positive effect in improving

and developing the speed of skillful performance for students.

Research problem

Through the researcher's observation and field experience as a physical education teacher and professional coach in football, he noticed that there is a clear weakness among students in the performance of offensive skills in football in an ideal manner and the required speed. Therefore, the researcher decided to design special exercises according to the harmonic abilities to develop the speed of performance of two offensive skills (rolling and passing) football in the research sample.

Research objective

Preparing special exercises according to the harmonic abilities to develop the speed of performance of two offensive skills (rolling and passing) in football for preparatory school students aged (15-16) years.

Knowing the effect of special exercises according to harmonic abilities in developing the speed of performance of two offensive skills (rolling and passing) in football among preparatory school students aged (15-16) years.

Research hypotheses

There are statistically significant differences between the results of the pre and post-tests for the control and experimental groups in the variables studied.

There are statistically significant differences between the results of the control and experimental groups in the post-tests in the variables studied.

Research fields

Human field: Preparatory school students aged (15-16) for the academic year (2019-2020).

Time field: (9/10/2019) to (25/1/2020)

Spatial field: school yard

2. Methods

“It is a method followed by the researcher to determine the various conditions and variables that pertain to a phenomenon, and to control and judge it”⁽¹⁾. The researcher has to choose the method that fits with the objectives of the research and contributes to solving his problem, so the researcher will adopt the experimental method in the manner of two equal groups (control and experimental) with pre and post-tests because it is the method that fits with the research problem and its objectives.

Community and sample research:

The researcher determined the research community in a deliberate way, and they are preparatory school students, whose ages ranged between (15-16 years), and the research sample was determined by random method, the research community consists of (80) students, and the number of students of the research sample was (20) students , this

number will constitute 25% of the original population, and then the sample was divided into two equal groups of equal numbers (control and experimental) randomly by means of a lottery.

Sample equivalence:

The researcher divided the research sample into two groups (experimental and control) by adopting the random method (lottery). The two groups In order to maintain scientific objectivity, the equivalence process was conducted between the two research groups to control the variables, and table (1) shows the equivalence of the sample in the results of the tribal tests for the two groups (experimental and control). Before making the equivalence, the researcher gave the research sample as a whole an introductory unit on how to conduct the tests.

Table (1) shows equivalence of the sample in the results of the pre-tests for the two groups (experimental and control)

Tests	Measuring unit	Experimental		Control		T value	level Sig	type Sig
		Mean	standard deviation	Mean	standard deviation			
Passing	Count	4.900	1.19722	5.1000	.99443	-.406	0.000	Non sig
Rolling	Time (sec)	16.4040	.48958	16.5550	.46280	-.709	0.000	Non sig

Degree of freedom = 18 and level of significance (0.05) Tabular T-Test = 2.101

Field research procedures:

Means, devices and tools used

Methods of collecting information

- Scientific sources and references (Arabic and foreign).
- Testing and measurement.
- Observation
- The International Information Network (Internet).

Tools and devices used in the research

- School yard.
- Footballs.
- Columns (10).
- Cones (10)

- Two (2) ground ladders with a length of (4.20) meters and a width of (50) cm.
- Number of stopwatches (2).
- Whistle (1).
- Laptop (Dell).
- Camera

Identify offensive football skills:

The researcher reviewed many scientific sources and references related to football, and the basic offensive skills that are most used in schools, and school tournaments as well, which are commensurate with the ages preparatory school students for the purpose of selecting some of them, were determined, and

then the skill (passing and rolling) was identified.

Identify tests:

Passing test in the direction of the bench for a period of (15) seconds the average time has been modified ⁽²⁾:

- Purpose of the test: to measure the kinetic speed (performance speed).
- Tools used: (Whistle stopwatch, bench, footballs, tape measure).
- Performance method: Upon hearing the whistle, the player kicks the ball from a distance of (3 m) towards a platform with a width of (3 m) and continues handling after the ball is bounced for a period of (15 seconds) as show in figure (1).
- Registration:
 - Two attempts are given to each laboratory and the best of them are recorded.
 - The number of maneuvers he performs during (15 seconds) is counted for the player.



Fig. (1) Movement speed test for passing towards the bench for a period of (15 seconds).

Rolling test between (8) average poles the number of poles has been modified ⁽²⁾:

- **Rolling the ball between (8) poles**

- Purpose of the test: To measure the rolling speed and the ability to roll speed by changing direction.
- Tools used: (footballs - stopwatch - (8) poles of suitable height in order to determine the test area), as shown in the figure (2), so that the distance between one pole and another is (1.5 m).
- Performance description: The player with the ball stands behind the starting line and when the start signal is given, he runs the ball between the poles, and he can use the right or left foot or both.
- Number of attempts: Two attempts are given to the player and the best of them is calculated. Another attempt can be given if an unintended mistake occurred on the part of the player, such as passing two people together or dropping one of the bars.
- Registration: The round-trip time is calculated and the time is recorded to the nearest 1/100th of a second.



Fig. (2) Rolling the ball test between (8) poles

- Exploration experience:

The researcher conducted an exploratory experiment on Wednesday (10/9/2019) on a randomly selected sample from the research community consisting of (10) students from (Al-Qirtas Literary High School), in order to identify:

- The validity of the devices and tools used in the research.
- The ability of the sample to perform the tests set.
- The suitability of the tests to the research sample and their degree of difficulty
- The number of appropriate attempts that are consistent with the objective of each test.
- The length of time that each test takes and the length of time that the tests take
- Identifying the obstacles that may appear to avoid their occurrence in the main experiment.
- Organizing the direction of students' progress to take exams
- The test score recording mechanism.

Main experience:

- Pre-tests:

The pre-tests for my test (passing and rolling) were conducted for the research sample on 13/10/2019 at (10) in the morning and in the schoolyard.

- Exercises according to the harmonic paragraphs:

The researcher prepared exercises according to the general and specific harmonic abilities to develop the studied variables on the research sample, and the means and auxiliary tools for the application of pre and post-tests and qualitative exercises for the studied variables on the research sample were also prepared, for the period from (9/10/2019 to 15/1/2020).

Post-tests:

The special exercises prepared by the researcher were applied to the experimental group, and then the post-tests were conducted on (5/1/2020), taking into account the preservation of the same conditions and the place of the tribal tests to avoid the variables of circumstances on the post-tests of the research sample.

Statistical methods:

The search data was processed through (SPSS).

3. Presenting results and discuss

groups	Tests	Measuring unit	Pre-test		Post-test		Difference between arithmetic mean	Difference between standard deviations	T value	Sig type
			Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation				
Experimental	Passing	Count	4.900	1.19722	8.500	.84984	-3.60000	.96609	-	sig
	Rolling	Time (sec)	16.4040	.48958	15.4410	.39778	.96300	.41772	11.784	sig
Control	Passing	Count	5.1000	.99443	6.2000	.91894	-1.10000	.87560	-3.973	sig
	Rolling	Time (sec)	16.5550	.46280	16.6870	.54097	-.13200	.35162	-1.187	Non sig

The tabular T-Test value = 2.26 under the significance level of 0.05 and with a degree of freedom of 9

Tests	Measuring unit	Experimental		Control		T calculated	T tabulated	type Sig
		Mean	standard deviation	Mean	standard deviation			
Passing	Count	8.5000	.84984	6.2000	.91894	5.811	2.101	Sig
Rolling	Time (sec)	15.4410	.39778	16.6870	.54097	-5.868		Sig

Tabular T-Test = 2.101 degree of freedom = 18, significance level 0.05

Presenting, analyzing and discussing the results of the pre and post skill tests for the experimental and control groups:

Table (2) Arithmetic means, standard deviations, mean difference, standard deviation of differences, and the calculated t-value for the results of the pre and post skill tests for the experimental and control group.

The results in Table (2) showed that the handling test for the experimental and control group in the pre and post-tests, and after using the T-Test law for symmetrical non-independent samples, that the calculated (T) value is greater than the tabulated (T) value of (2.26) under the level of significance (0.05). And the degree of freedom (9), which indicates the existence of a statistically significant difference between the results of the pre and post-tests in favor of the post-test, as well as it appears from Table No. (2) that the results of the rolling test for the experimental group in the pre and post-tests, and after using the T-Test law For the non-independent symmetric samples, the calculated T value (7.290) appeared, which is greater than the tabular T value of (2.26) under the significance level (0.05) and the degree of freedom (9), which indicates the existence of a significant statistically significant difference between the results of the two tests. The pre and

post-test is in favor of the post-test because the test is measured by time and the less time the better. As for the control group in the rolling test, no significant differences appeared, because the calculated (T) value is smaller than the tabular (T) value, As it turns out from Table (2) that there is a significant development between the results of the pre and post-tests for the experimental group to test the handling skill and rolling skill, and the researcher attributes this development as a result of applying the exercises prepared by him, which were chosen and prepared in a manner commensurate with the age stage and included exercises according to abilities Compatibility is general without the use of the ball and exercises according to the harmonic capabilities, especially using the ball, and it was placed in training units, and the difficulty was gradual, based on scientific sources and principles of sports training science, as well as the commitment of the research sample to attendance and regularity in performing the exercises, which had a great impact on this development, as (Hanafi Mahmoud) states that the player's continuation in the training process plays an important role in reaching a high level of accuracy and integration of the technical performance of the skill ⁽³⁾.

As for the results of the control group, the researcher attributes the progress of the

control group in the results of the post-tests of the handling skill, which were few compared to the experimental group, to the followers of this educational program that does not focus on developing the speed of skill performance, but rather on teaching basic skills according to the traditional method of teaching, without linking learning skill in conditions similar to the form of performance during playing matches, and this is what is missing from the physical education lesson, as well as the lack of focus on exercises for harmonious abilities during the lesson, as the overall focus is on the performance of basic skills without focusing on developing physical attributes and motor abilities, which have a great impact in teaching and develop the speed of performance of basic football skills.

Presentation, analysis and discussion of the results of the post-test for the experimental and control groups:

Table (3) Arithmetic means, standard deviations, and the tabulated and calculated t-value in the dimensional skill tests of the two groups (experimental and control).

Table (3) shows the results of the differences for the research variables (passing and rolling) for the experimental and control groups, if the results and after using the T-law for independent samples showed that there are significant differences between the control and experimental groups in the handling test, because the calculated (T) value is greater than (T) tabular under the level of significance (0.05) and degree of freedom (18), and by returning to the arithmetic means of the two groups, it is clear that the differences are in

favor of the experimental group in the handling test because its arithmetic mean (8.5000) is greater than the arithmetic mean of the control group of (6.2000), and it is also found that there are differences Significant in the rolling test between the two groups, the calculated (T) value is not greater than the tabular (T) value under the significance level (0.05) and the degree of freedom (18). The arithmetic mean of the control group is (16.6870) seconds because time is a measure of the rolling variable, the less time is, the better.

The researcher attributes this to the fact that the exercises used (general and specific harmonic exercises) had the effect of creating differences between the two groups, giving them in line with the players' potentials and gradually starting from the general harmonic abilities exercises and then the special ones similar to the form of motor performance of the skill and then linking the general exercises And the specific, and Essam Abdel-Khaleq points out that, when the harmonic abilities are scientifically and legally trained, and the exercises used are similar in the motor building of the skill to be taught and trained in a way that is compatible with the characteristics of the dynamic movement, the learning increased and the skill performance improved ⁽⁴⁾.

In addition to taking into account the components of the training load and giving rest between repetitions and exercises commensurate with the level of intensity of performance of the students, this helped to develop response speed and motor speed in performing offensive skills (passing and rolling), and the researcher took into account the principle of repetition and repetition and gradation in the exercises from easy to difficult based on that On the scientific sources, as (Muhammad Reda Ibrahim)

confirms that all components of the training load must increase in proportion to the overall improvement achieved by the athlete, that is, the higher the level of the athlete's improvement, the greater the need to increase the components of the training load ⁽⁵⁾.

The researcher believes that (general and specific harmonic exercises) helped to develop offensive skills (passing and rolling) in line with their kinetic trajectories and in a smooth, harmonious and balanced manner and with a kinetic rhythm and a situation commensurate with the implementation of skillful performance as well as economic effort, and this is confirmed by (Ahmed Khamis and Jamil Qassem). The combinatorial capabilities contribute to the quality of the rapid and purposeful performance of mathematical skills in changing conditions and situations, as well as saving the effort expended during implementation ⁽⁶⁾. The researcher also attributes the development that took place in the level of performance to the process of organizing and coordinating the exercises (general and private) according to the scientific foundations and in accordance with the potentials of the students and by using tools and aids, as it is not possible for the athlete to reach the level of performance and achievement only through the organization of the training program used ⁽⁷⁾. Also, the process of diversification and composition in the exercises set led to an increase in motivation towards performance and a spirit of suspense, excitement and challenge among students, and this was confirmed by (Ibrahim Jabbar Shannen) "of the conditions that must be met by the exercises that must be different for the purpose of comprehensive effect on the body and away from boredom and spread the spirit of the challenge"⁽⁸⁾. Also, Ahmed Fawzy, "The diversity in the tools and their exercises, all of this would excite the players and increase their motivation towards progress and elevation in the sporting level" ⁽⁹⁾.

4. Conclusions and Recommendations:

Conclusions:

- The exercises according to the harmonic capabilities prepared by the researchers have a positive effect in improving the level of performance of the skill (passing and rolling).
- The exercises according to the harmonic capabilities prepared by the researchers have a positive effect in improving the speed of performance of the skill (passing and rolling).
- The exercises according to the harmonic abilities have a positive effect on the students' motivation and desires to perform the skill (passing and rolling) and competition, as well as increasing their suspense and excitement.

Recommendations:

- Adopting the exercises according to the harmonic capabilities prepared by the researcher to develop the performance of the studied skills
- Adopting the exercises according to the harmonic capabilities prepared by the researcher to develop the speed of performance of the studied skills.
- The necessity of adopting harmonic abilities exercises in the physical education lesson because of their importance and role in improving the skill level of students' performance
- The necessity of paying attention to the harmonic abilities exercises and giving them at the beginning of the training unit or lesson because it depends on the safety and readiness of the central nervous system.
- The necessity of codifying the components of the training load and giving sufficient rest periods between repetitions and exercises

commensurate with the level of performance intensity and training volume.

- Conducting similar studies on other physical and skill variables and on a sample of different ages.

Conflict of interest

The authors declare that there is no conflict of interest

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