

The effect of compound exercises in developing some of the kinetic and mental abilities of junior football players

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Abstract. The research's importance is the preparation of compound exercises in developing some of the kinetic and mental abilities of junior football players and the research's problem arise throughout the experience of the researchers in the fields of sport and training after noticing a weakness in the integration of the elements on which the sport game is based on training exercises prepared by most of the trainers in the development of junior people. This led to a clear weakness in the kinetic and mental aspects at the advanced levels as a result of this defect in preparing age categories. Hence the problem of the research on the integration of mixing these components to develop the levels of the players and increase the physical and skill capabilities, especially for the junior players, who are half of the present and all the future.

The research aims to prepare compound exercises to develop some of the kinetic and mental abilities of junior football players, and to identify the effect of these exercises on developing the motor and mental abilities of young football players.

The researchers hypothesized that compound exercises had an impact on developing some of the motor and mental abilities of young football players. The research community was determined from the junior players of Al-Talea'a Sports football Forum, which numbered (20) players, who were divided into two groups, control and experimental groups. The experimental method was implied due to its suitability to the nature of the problem. Homogeneity and equivalence of the sample were made in terms of (height – age - weight - disciplinary age) and some (kinetic and mental capabilities). The researchers relied on the opinions of experts and specialists throughout questionnaire forms distributed to them for the purpose of determining the most important kinetic and mental abilities should be considered. The ability and the test that take place were adopted at a rate of (75%) or above, which were nominated for (compatibility, agility, sharpness of attention). Tests and exercises were applied, and the results were extracted using the statistical software (SPSS). One of the results that the research came out with is that compound exercises have a positive impact on improving the (motor and mental) abilities of junior players. Among the recommendations that find is the need to generalize the planning of exercises prepared on scientific and codified bases in the training of junior players.

Keywords: Kinetic abilities, mental abilities.

1. Introduction to the research and its importance

Scientific progress has achieved a remarkable development in all aspects of life. The sports field is one of those fields that has developed rapidly because of the studies and researches which were carried out by many researchers, scholars and specialists in this field. As studies in the sports field were not limited to one science without another, among these sciences and games the football game is one of the most practiced and popular sports in most countries of the world. It has witnessed a great and remarkable development in the world because of its fast executing skills accompanied by kinetic and mental abilities.

The compound exercises designed to develop the kinetic and mental aspects of the football players being important nowadays. It is similar to the player's duty in the conditions of competition. It combine more than one skill or ability in every training session. Beside its diversity, it helps to increase the desire elements and suspense in the case of exercising. Hence, the importance of research in the development of compound exercises to improve the kinetic and mental abilities of junior football players in order to raise the level of the players' performance for the purpose of serving the sport of football. Therefore, throughout the researchers' experience, they identified the problem of the research is they noticed that there is lack of integration the elements on which the football game is based on training exercises prepared by most of the trainers in developing junior people, which led to a clear weakness in the motor and mental aspects at the advanced levels as a result of this defect in the preparation of age groups. Hence, the problem of the research is the integration of mixing these components to develop the levels of the players and raise the motor and mental capabilities, especially for the junior players, who are half of the present and all the future.

Thus, the researchers identified the objectives of the research as preparing compound exercises to develop some of the kinetic and mental capabilities of junior football players, to identify the effect of compound exercises in developing the kinetic and mental abilities of junior football players, to identify the preference of differences between the experimental and control groups in the development of some kinetic and mental abilities for football junior players. Moreover, knowing the effect of these training on the most important physical abilities of football players.

2. The Research methodology and field procedures

2.1. The Research methodology:

The curriculum is one of the important factors that researchers follow to solve the research problem, and it is chosen according to the nature of the problem that need to be studied. The nature of the problem of this research necessitated the researchers to use the experimental method. They designed two equal groups (experimental and control) with two tests, pre and post.

2.2. Research community and its sample:

The research community was identified by the players of Al-Tale'a Sports Forum for the sport season 2021-2022, and the sample was chosen deliberately, numbering (20) players. They were divided into two groups, control and experimental, by lottery and randomly, so

that the control group consisted of (10) players and the experimental group consisted of (10) players.

2.3. Devices, tools and means used in the research:

- Arabic and foreign sources and references.
- Personal Interviews.
- Survey forms for the opinions of experts and specialists.
- Tests and Measurement.
- Assistant team.
- Football stadium
- Exploratory experience.
- Equipment and tools that are used for the training field.
- (12) balls.
- (24) figures.
- (10) barriers.
- (4) small moving goals.
- (4) stopwatches.
- (4) terraces.
- (1) Linen measuring tape.
- (1) Medical scale.
- (1) Swedish seat.
- Iron saw with 20 kg weight plate.
- Whistles
- Linen ropes

2.4. The field Procedures:

2.4.1. Determining the tests specified for the variables:

2.4.1.1. Kinetic tests

Test1: Agility test

Test name: Zigzag running between obstacles (Qais Naji, Bastawisi, 1984, 223).

The purpose of the test: To measure agility.

Tools used: Four obstacles, stopwatches, measuring tape, tape and whistle.

Description of the test:

From standing at the starting line with a width of (1 meter), which is (3 meter) far away from the first obstacle. After the starting signal is heard, the player starts between the four obstacles.

Recording: The time is calculated for two continuous cycles as a guide to the agility indicator.

Test2: Compatibility test:

Test name: The Numbered Circular Test (Ali Salloum Jawad, 2004, 147).

The objective of the test: To measure the compatibility between the two legs and eyes.

Tools used: a stopwatch, a whistle, drawing (8) circles on the ground, the diameter of each circle is (60 cm)

Conducting the test: The player stops in the Circle No. (1). After hearing the signal, the player jumps with both feet to the Circle No. (2) and successively to Circle No. (8), and this should be done at a full speed.

Recording: The time taking for the player to jump throughout the eight circles is recored.

2.4.1.2. Mental tests

Test 3: Attention acuity test

Test name: The Borden Infomove test (Furat Jabbar, 2011, p. 302)

Objective of the test: To measure the intensity of attention.

Tools used: a paper form, pens, a stopwatch.

Performance method: After hearing the word “start” the player flips the form at the moment when the stopwatch is starting, and begins searching and cross-outing the number (97) from the lines, one by one, and from left to right. The test time is one minute.

Recording: the acute attention can be calculated by using the equation

$$\text{Acute Attention} = A \times \frac{(S - B) \times 100}{S} E,$$

where A is the number of digits looked from the beginning until the word “stop”.

S is the number of the digits that crossed out in the visible part

B is the number of the digits that missed from the crossing up + the number of the digits that were crossed out by mistake.

2.5. The exploratory experiment:

The exploratory experiment was conducted before starting the basic experiment in order to know the most important obstacles and negatives in order to be addressed. The purpose of the exploratory experiment is

1. Knowing the suitability of the tests to the research sample and measuring the time of its performance.
2. Ensuring the validity of the playing field and the tools used and their suitability for the tests.

3. Preparing the assistant work team, as well as identifying the difficulties they may face.

4. Knowing the suitability of the compound exercises for the members of the research sample and the possibility of their application.

5. Knowing the difficulties that may face the work and developing the most appropriate solutions to them.

2.6. The main experiment:

2.6.1. The pre-tests:

The researchers conducted the pre-test on the research sample after completing the scientific bases of the tests, conducting the exploratory experiment, and identifying the results extracted from the exploratory experiment. The pre-test were conducted on Friday April 23rd, 2021 at four o'clock in the afternoon.

2.6.2. Preparation and implementation of compound exercises:

The researchers used these exercises after consulting specialists and experts in developing the investigated variables, namely (agility, compatibility, attention intensity) in (24) training units and took into account the fluctuation in intensity. The time of the training unit was between (38 - 43) minutes for the main part, distributed over eight weeks with (3) training units per week, and the relative intensity of fluctuation was (73%_93%).

2.6.3. The Post-tests:

The researchers conducted post-tests on the research sample after completing the main experiment in order to determine level of kinetic and mental capabilities that the research sample reached. The post-test were conducted on Sunday June 27th, 2021 at Al-Tale'a Sports Forum Stadium.

2.6.4. Statistical means:

The researchers used the statistical software (SPSS) in analyzing the research results, including:

- Arithmetic mean.
- Mediator.
- Standard deviation.
- Coefficient of variation.
- T-test for connected samples.
- T-test for independent samples.
- Relative importance.
- Percentage.
- Pearson's correlation coefficient.

3. Discussing the results

3.1. Discussing and analyzing the results for the experimental group:

Throughout the presentation and analysis of the tables, the results showed that there are significant differences in the kinetic and mental abilities in the development of some

important kinetic abilities that the players need in football, including agility and compatibility because they are all or most of the other qualities. This is what was confirmed by (Qassem Lazam Sabr: 2004, pg. 46) who claims that “the movements made by a football player require sufficient strength that are accompanied by appropriate speed and good flexibility...etc. Thus, the performance is beautiful and harmonious, and consistency is the most accurate concept of the player’s agility” (Hanafi Mahmoud Mukhtar, 1994, pg. 60).

Hence the performance is important for the football player’s success in integrating several basic skills in one framework and changing his speed and direction. This is according to what was indicated that “The football player needs to use his entire body to perform the movement with perfection, with the ability to change his direction and speed in an easy and smooth way. Football player needs agility and coordination to try to successfully integrate several basic skills into one framework, change from one skill to another, or change his speed and direction”. The correlation of the mental aspect of abilities with the rest of the other abilities, including movement would be throughout the player’s need for intense attention to perform at a high level without delay or errors. Qasour Abdul Hamid in 2000 stressed that "The player's need for stability of focusing unit in large degrees would be during learning the kinetic skills and developing its performance in order to understand the parts of this skill" (Qasour Abdul Hamid, 2000, p.87).

3.2. Discussing the results of the pre and post-test for the experimental and control groups:

3.2.1. Discussing the results of kinetic tests:

It appeared from the presentation and analysis of the results in the previous tables that there were significant differences between the pre and post-tests of the research sample in the kinetic abilities tests and in favor of the post-test. This shows the impact of the compound exercises that were introduced to the training units for the junior players of Al-Talea’a football Sports Forum to develop some of the important kinetic abilities that the football player needs, including the agility because it is a universal aspect for all or most of the other sport aspects. This was confirmed by (Qasim Lazam and Furat Jabbar 2004, pg. 46) who state that “The movements made by the football player require sufficient strength accompanied by appropriate speed and good flexibility... Thus, the performance is a beautiful and harmonious, and this consistency is the most accurate concept of player agility”. Thus, agility is important for the football player’s success in integrating several basic skills in one framework and changing his speed and direction, and this was indicated by (Hanafi Mahmoud, 1994, pg. 60) who claims that “The football player needs to use his entire body to perform the movement with utmost perfection with the ability to change its direction and speed in an easy way and streamlined, and he requires agility to try to successfully integrate several basic skills into one framework, changing from one skill to another, or changing his speed and direction”.

The effect of compound exercises in developing the trait of compatibility was clear through the significant differences that appeared in the post-tests. It is also one of the important kinetic characteristics of the football player and every athlete. This was highlighted by (Qasim Hassan Hussein, 1990, p.14) who states that “Any sport activity related to the

functional organs of the athlete, especially muscular compatibility, requires many adaptations, including neuromuscular adaptation and adaptation that occurs by doses of motivation, training and adaptation for each type of training, which increase the readiness of the body or organ systems to the type of training and adaptation that leads to an increase in the capabilities of compatibility for each movement or skill.

The researchers believe that the compound exercises contributed to increasing the players' ability to perform the correct skill as a result of the development of motor coordination. This agrees with what was indicated by (Ali Salloum, 2004, pg. 46) who claims that “The most common mistakes that beginners make is the inability to coordinate when performing movements, by involving muscles that are not required when performing movements, and this causes movement disturbances, so they come out in a confused manner”.

3.2.2. Discussing the results of mental tests

Throughout the presented results that show the development of the experimental group in the post-test of the control group in the variable of attentional acuity. The researcher believe that this improvement is due to the use of the exercises that designed to improve this skill. Therefore, there must be an attention to develop these capabilities and to confirm the increase in repetition during the exercises because repetition increases the experience factor and this is what was included in the training units used and how to deal with different situations in the match when there is tension, fatigue and loss of focus as a result of pressure on the players by the opposing team. Hence, curricula should be put to take care of these capabilities and give them the importance they need. Kamal Jamil Al-Raydi in 2001 mentions that “diversity in giving exercises in one sport avoids intellectual confusion and increases the desire for training, as it gains experience in the diversity of performance that leads to the acquisition of various characteristics and physical abilities as well” (Kamal Jamil Al-Raydi, 2001, p. 127).

The compound exercises used also adopted the correct scientific methods in their development related to mental abilities and acuity of attention, which had a significant impact on the development of the players' performance level by choosing to train on them taking into account the sample of the experiment. Moreover, training on different kinetic skills using various training methods works to raise the player's level of abilities. As can be seen that the exercises used in this research have developed the kinetic and mental capabilities that by integrating with the mental side, of them the player reaches the higher levels.

4. Conclusions and Recommendations

4.1. Conclusions

1) Compound exercises have a positive effect on the abilities (kinetic and mental) of the junior players of Al-Talea'a Football Sports Forum.

2) The development of the kinetic and mental abilities contributed to the development of the skillful performance of the junior players of the Al-Talea'a football Sports Forum.

4.2. Recommendations:

- 1- The necessity of generalizing planning exercises based on scientific and codified bases in the training of junior players.
- 2- The necessity of paying attention to the general and private preparation stage by emphasizing the importance of the kinetic and mental abilities when implementing the training units.
- 3- The necessity of using standardized tests (kinetic and mental) as an objective tool to determine the level and repeat the tests from time to time for the purpose of determining the levels of juniors players in football.
- 4- The need for training junior players by scientifically qualified trainers, as these age groups constitute the basic basis for reaching a higher level in the future.
- 5- Conducting similar studies to develop training exercises depending on scientific bases that help coaches in rehabilitating their players and raising their kinetic and mental levels, especially for the early stages.

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