



The Impact Of The Athletics Competitions Program For Children In Improving Some Motor Skills (Coordination, Flexibility, Agility) Among Trainees Of The Age Stage (9-10) Years.

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Received: 20 / 12 / 2023

Accepted: 09 / 04 / 2024

Published: 30 / 04 / 2024

Abstract:

This study aimed to assess the impact of an athletics competition program designed for children aged 9 to 10 years. Employing an experimental approach, the research was conducted among a cohort of children enrolled in the Bir El Ater Sports Club in Tebessa. Participants for this study were intentionally selected, resulting in a sample size of 26 individuals, encompassing both males and females. Kinetic tests served as the primary evaluation tool, and statistical analysis was performed using the SPSS software package commonly employed in social sciences and humanities research (SPSS version 25). Significant statistical variances were identified in both fitness and flexibility tests. However, concerning compatibility, the differences recorded were nearly negligible.

Keywords: *Teaching athletics; competitions program for children; motor abilities; age group (9-10) years.*

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I. INTRODUCTION

Athletics is one of the ancient sports activities characterized by physical activity. It emerged with human natural life out of necessity in those ancient eras. Humans were always prepared to struggle with their companions and with predatory animals for survival. They lived by hunting animals, inhabiting prairies and caves, climbing mountains, descending valleys, and using stones as weapons. All of this required humans to be physically strong, swift in running to catch their prey, capable of throwing to capture it, and capable of jumping to overcome the channels and barriers in their way (Kamal, 2005).

The International Association of Athletics Federations (IAAF) recognized the need to introduce a specialized program for children, focusing on motor skills to develop their physical, cognitive, emotional, and sensory aspects. This initiative aims to provide a healthy foundation ensuring a balanced and harmonious interaction with the external environment, fostering commendable behaviors for effective integration. (Al-Samak, 2005)

The educational environment is depicted as lacking essential components for a child's optimal growth and holistic development, particularly in physical fitness. The emphasis placed on physical performance and motor skills among students, especially in the age range of 9 to 10, underscores its significant impact on their overall development.

At this critical age bracket, despite their limited yet evolving capabilities, children engage in simple, spontaneous, and unplanned movements, exploring their surroundings. This phase is identified as pivotal, responsible for shaping and acquiring a wide array of motor skills and movements.

Physical education stands out as one of the most effective educational methods aimed at teaching and training individuals across various educational stages, particularly in preschool and primary education. It focuses on imparting movement-related knowledge to children, allowing them to progress beyond the confines of competition.

Based on this premise, the International Association of Athletics Federations (IAAF) introduced the Young Athletics program in 2003. This program offers children the opportunity to train in athletics in a manner that promotes health and self-realization, rather than purely competitive endeavors

Consequently, our research directs attention toward studying how these spontaneous movements can serve as an initial step in establishing motor coordination, systematic perception, and enhancing certain physical and motor abilities. This, in turn, enables refining this raw or stored material, sparking our curiosity to understand the impact of the Young Athletics program on enhancing specific motor abilities among trainees aged 9 to 10.

II. The problem of the study

At the onset of the 21st century, it becomes imperative to review our sporting trajectory in general and track and field athletics in particular. An examination of our Arab achievements compared to global achievements reveals a significant gap spanning almost a century. This substantial discrepancy necessitates a theoretical and practical effort to catch up with the world in this sporting discipline, one that deals with centimeters, seconds, and their fractions. Hence, it is essential to capitalize on both practical and scientific experiences.

Physical activities rank among the most crucial habits that individuals should cultivate from childhood through adulthood. Consequently, the International Association of Athletics Federations (IAAF) has shown profound interest in children, aiming to develop sports practices that align with their needs and motivations for a better future, particularly focusing on the late childhood stage aged 9 to 10.

Competitions are considered effective means to teach and train all children continuously by providing information using a scoring board containing races (sprints, jumps, throws), preparing them for official competitions. These endeavors involve building and developing training, facilities, instructors, and referees.

The IAAF's global project includes various competitions such as shuttle relays, straight and curved relays, crossbar jumping, standing long jump, square-hopping, forward squat throws, over-bar throws (javelin throws), and children's javelin throws.(7.5)

It becomes evident that track and field athletics for children aid in learning how to control body movements, aligning with stages of motor development and physical growth. Additionally, they contribute to stimulating motor pattern growth, overall physical fitness, good health, and proper posture.

The main objectives of the track and field competitions module include achieving specific digital levels for each race according to the set standards and evaluating a temporal level through a performance chart assessed by the practical examination committee.

Therefore, it was essential to direct the educational and training process towards preparing students comprehensively in all aspects—physical, motor, psychological, and physiological. contends that successful motor skill performance is heavily reliant on physical fitness aspects.

Scientists have varied in defining the components of physical and motor abilities, mentioning components like periodic respiratory endurance, muscular strength, muscular endurance, and muscular flexibility for physical abilities, while motor abilities include coordination, balance, speed, agility, and motor strength (Osman, 1981).

Despite the differing definitions of physical and motor abilities, they are interconnected, and improvements in one aspect of these abilities reflect their impact on others.

Based on the aforementioned, the idea emerged to assess the impact of the Kids Athletics program on enhancing certain motor abilities through practical field application on learners aged 9 to 10. This study aims to explore the actual relationship between Kids Athletics and the development of some physical fitness elements

Consequently, a primary research question arises: To what extent does the use of the Kids Athletics program influence the development of some physical fitness elements among primary education learners engaged in the Bier El Aater Tébessa club?

III. The sub-questions:

- Are there statistically significant differences in the coordination ability among individuals in the experimental group after implementing the Kids Athletics program for the post-test?
- Are there statistically significant differences in the flexibility capability among individuals in the experimental group after implementing the Kids Athletics program for the post-test?
- Are there statistically significant differences in the agility among individuals in the experimental group after implementing the Kids Athletics program for the post-test?

IV. The study hypotheses:

- There are statistically significant differences in the coordination ability among individuals in the experimental group after implementing the Kids Athletics program for the post-test
- There are statistically significant differences in the flexibility capability for the post-test among individuals in the experimental group after implementing the Kids Athletics

program.

- There are statistically significant differences in the agility for the post-test among individuals in the experimental group after implementing the Kids Athletics program.

V. The study's significance:

The topic of track and field holds significant importance and is among the subjects that have garnered considerable attention in the sports field due to its role in aiding children's motor skill development. Track and field athletics are considered one of the most important advancements that Algeria seeks to embrace, aiming to apply them across various sports domains. Consequently, the outcomes of this study will contribute to understanding the impact of the Kids Athletics program on enhancing certain motor abilities. This will draw the attention of institutional leaders to the necessity of implementing the Kids Athletics program.

VI. The study's significance:

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VII. Study Terminology:

1. Idiomatically

"The International Association of Athletics Federations for Kids introduced a new system called 'Kids Athletics' aimed at motivating them to engage in sports and familiarize themselves with various activities in an easy and enjoyable manner. This is achieved through organizing competitions encompassing all youth-related events (running, throwing, jumping) using a set of games)Guzoli2002 ‘

Procedural definition

"It is a bundle of sports activities or educational games divided into three fundamental events specifically designed for children up to the age of 14 (throwing, running, jumping), primarily focused on and fundamentally centered around competitions".

2. Motor skills:

The term "motor ability" is one of the broadest terms in its inclusion of primary components. Many scientists perceive motor ability as broader than physical fitness and motor fitness.

Mathews defined it as: "An individual's capacity to engage in a variety of athletic competitions."

Eckert defined it as: "An individual's capacity to perform specific motor patterns, provided these patterns are commonly used in common athletic activities". (Hassan, 2012)

3. Compatibility

Coordination is among the components of physical fitness, encompassing various elements. When acquired by an athlete, it determines their motor experience, which is the result of blending and combining different components of physical fitness.)Sari ُ Norma ُ Fitness& Health(2001 ُ

It's the ability to utilize sensory and movement centers in different body parts to execute multiple motor tasks smoothly and accurately. (Mufti, Physical Fitness: The Path to Health and Athleticism, 2004)

Coordination is defined as an individual's capacity to control different and interconnected body parts in performing a meaningful motor task. It involves establishing a harmonious motor relationship built on proper synchronization between specific body parts.)Ashraf(2016 ‘

Furthermore, coordination between multiple limbs refers to the ability to coordinate or synchronize movements of several limbs when they work together simultaneously.) Essam A. ‘ (1999

There are two types of coordination: general and specific. General coordination involves performing fundamental motor skills like walking, running, jumping, pushing, climbing, etc. Specific coordination, however, aligns with the type and nature of the specific motor activity, such as the skill of spiking a volleyball.

4. Flexibility

Flexibility is defined as the joint's or a set of joints' ability to perform a movement as quickly as possible. It stands as a crucial element in athletic training, facilitating the execution of movements at high speed. Enhancing flexibility is vital for an athlete's safety during required movements. Insufficient or reduced joint flexibility leads to:

- Inability to learn or master various movements
- Increased vulnerability to injuries.
- Inverse impact on the development of strength and coordination speed.
- Determining the type of motor performance. (Hussein, 2015)

Practically, flexibility is one of the fundamental components of physical fitness required in sports activities. It has become practiced for therapeutic purposes and as a relaxation method.

5. Agility

The concept of agility sparks frequent debates due to its composite nature, often associated with various interconnected attributes. "Johnsen" and "Nelson" suggest agility as a composite ability, encompassing, in the opinion of many researchers, components like muscle strength, reaction speed, velocity, muscular endurance, control precision, and coordination (Philippe, 2006).

Defined by "Hertz," according to "Hassan Allawi," agility aligns with the notion of "change in body positions in the air." He views agility as the "ability to master complex motor coordinations, rapidly learn and master motor skills, and swiftly adjust motor performance in line with changing circumstances".

As per "Kamal Abdel Hamid and Mohamed Sabry Hassanein," citing Clarek, agility is described as the "speed at which an individual changes body position or alters direction".

Practically, agility is considered one of the fundamental components of physical fitness. It involves efficiently changing body positions and shapes, necessitating a blend of isolated movement skills along with a mix of balance, coordination, speed, reaction, and load-bearing capabilities.

VIII. Previous and similar studies

- A 2018 study titled "The Impact of Motor Activities on the Development of Sensorimotor Cognitive Abilities in Pre-school Children aged (4-5) Years".
- Mohamed Ben Mohamed Awad's 2003 study "Factors Influencing the Indination of Children aged 9-12 towards Football Practice," submitted for a postgraduate diploma at the National School of Sports Science and Technology in Algeria

- Bada Suleiman's 2005 study "The Play Method and its Influence on the Indination of Children aged (9-12) towards Engaging in Track and Field Sports." The study aimed to understand the reasons behind the attraction experienced by track and field sports.
- Walid Wadallah and Amal Nouri Butros' 2007 study titled "The Impact of a Proposed Physical Education Program on Developing Educational Objectives for Children aged (5-6) in Kindergartens," published in the Journal of Educational Studies, 2011, 604.593.
- A 2004 study by Roni Klor-Glazer titled "Evaluation of Motor Skills in Children aged (6-12) Years".

1. Commenting on previous and similar studies

The previous studies span a time frame between 2002 and 2018, exhibiting temporal diversity. However, the spatial context of these studies varied significantly, each pursuing distinct objectives in constructing and implementing motor programs, and their impact on the development and enhancement of diverse motor skills in children. These studies predominantly employed an experimental methodology, aptly suited to their nature, with a primary focus on assessing the impact of track and field programs.

Variables such as motor skills (running, jumping, throwing), physical abilities (endurance, agility, speed), and the age range of the studied population (ranging from 9 to 12 years) exhibited diversity across these studies. The studies employed a battery of motor tests aimed at measuring motor and skill capacities, aligning with those chosen for our investigation.

Statistical tools applied in these studies belong to the statistical packages commonly used in the social sciences and humanities. Most of these studies yielded affirmative results post-program implementation, aligning with the outcomes of Mahmoud Abdel Moneim Ghoneim's 2019 study titled "The Impact of Track and Field Program on the Psychological Security and Adaptive Behavior of the Visually Impaired," which yielded positive results in adaptive behavior among children.

Additionally, the study by Walid Abdallah and Amal Nouri Butros (2007) corroborated positively with the theme of our study. Similarly, a foreign study conducted by Valero Alfonso et al. (2009) titled "Motivation towards Track and Field Practice in Primary Education: Conventional versus Proposed Methodologies" concluded that the practice of track and field among children is enjoyable, positively impacting preparation while reducing instances of inappropriate behavior and decreasing egoistic behavior among children.

IX. The field procedures for the study

1. Community and study sample

The study community encompasses all individuals involved in the study's problem. The research sample comprised 40 male and female students between the ages of 9 and 10. They were deliberately selected from the study community, with all sample members being 10 years old. Moreover, the selection aimed to ensure the participants' safety from various disabilities, whether physical or intellectual.

2. Research methodology

The researcher employed the experimental method using a single-group experimental design due to its suitability for the nature of the research. The choice of methodology was dictated by the nature of the phenomenon under investigation, as the methodology is the means by which one reaches the truth. (Ali, 1986)

3. Study fields

Human field

The human element involved in the study consisted of children or students, aged

between 9 and 10 years old, attending primary schools in the municipality of El Aater, Tébessa province, and affiliated with the El Aater Club.

Spatial domain

The field study was conducted at the sports complex in the municipality of Bir El Aater, Tébessa province.

Temporal domain

The field study took place during the academic year of (2022-2023). The survey study was conducted from September 8, 2022, to September 15, 2022. The initial assessment was carried out on the 17th of the same month. The experimentation phase commenced from November 22, 2022, until March 16, 2023. Subsequently, the post-measurement of the sample individuals was conducted on March 19, 2023.

4. Research tools

Motor tests

The researcher relied on motor tests as a research tool to gather information from the experimental sample in the study area.

Survey experiment

The experiment supported the researcher's observations on several aspects:

- The alignment of the tests with the sample's capabilities.
- The safety and adequacy of the devices and tools used
- Consideration of time during test execution.
- Preparation of the necessary equipment for conducting tests and implementing the training program, utilizing all required gear.
- The use of the numbered circles test (coordination).

The purpose: to measure the coordination of the hands and eyes through the test.

Method of performance:

This instruction describes a test where the participant stands at circle number (1) in the lab. Upon hearing a signal, they jump with both feet successively to circle number (2) and then proceed sequentially to circle number (8) as quickly as possible.

Tools required:

- Stopwatch or timer
- Eight circles on the ground, each with a diameter of 60 cm
- Whistle

Selection instructions

The test must be explained beforehand, with a demonstration model. The participant is allowed only one attempt, and they should complete the sequence of eight circles.

Flexibility test:

The purpose of the test is to measure) Zaid(2005 «

the flexibility of the spine on the horizontal axis through forward trunk flexion from a standing position. The tools required include a backless seat with a height of 50 cm and a non-flexible ruler divided from zero to one hundred centimeters, positioned vertically on the seat with the 50 cm mark aligned parallel to the surface of the ruler.

Test specifications:

The procedure involves the participant standing on the seat with their feet together and toes against the edge. While bending forward, the individual extends their hands towards the

farthest point possible, holding that position for two seconds once they reach their maximum stretch. This action measures the flexibility of the trunk in a forward and downward motion.

Instructions:

- Here are the instructions for the test
- The knees should remain straight throughout the performance
- The participant is allowed two attempts, and the better of the two results is recorded.
- The trunk should be bent slowly.
- The participant must hold the furthest point reached for a duration of two seconds
- Record the time taken by the participant to move through the eight circles.

Agility test

Curved Running in the Shape of (8): (Al-Khanshab, 1999) Test Objective: Measuring overall agility. Tools: Stopwatch, five cones, a rectangle drawn on the field (4.8 * 3) meters, with a cone placed at each corner and the fifth cone positioned at the rectangle's intersection. Performance Description: Upon hearing the start signal, the player runs in the shape of an (8), and the time is measured using manual timing.

5. The scientific foundations of scientific tests:

Measuring the reliability of the study instrument.

One of the crucial factors necessary for the validity of using any test is that the stability of the measurement tool implies "ensuring that the answer will be nearly the same if applied repeatedly on the same individuals and at different times" (Ad-Dahshah, 2006, page 78) .

The reliability of the test.:

The term "test stability" refers to the test providing consistent results when repeated on the same individuals under the same conditions (Al-Sumak et al., 1989, page 42). Employing the retest method is considered one of the primary methods for establishing stability.

In the application of motor tests to 12 randomly selected students from the study population, the same tests were re-administered under identical conditions after a week. Using the Pearson correlation coefficient to calculate the stability coefficient, the results shown in Table 1 indicate a high degree of test stability.

The validity of the study instrument:

Apparent validity :

The face validity of the study's performance was ensured by presenting the tests to the supervising professor for their evaluation. The professor provided feedback on the overall suitability of the tests, how well they covered each axis of the study's variables, and suggested necessary modifications, removals, or additions to enhance the test.

The validity of the tests:

For the purpose of verifying the tests' accuracy, we utilized the coefficient of internal consistency, which is measured by calculating the square root of the test's reliability coefficient

A track and field games competition program for children:

We directly relied on the practical guide of the children's athletics competition program issued in 2002. It was applied in the form of training units constructed based on the guidelines provided within the program's practical guide .

The devices and tools used.:

A metric tape measure, electronic stopwatch with decimeter precision, cones, discs, ropes, and various sports tools were utilized. The sports equipment bag for children's athletics

is available from the School Sports Association in Tébessa. Statistical analysis of the results relied on the SPSS statistical package applied in social and human sciences.

X. The statistical analysis used:

1. The software used in data processing:

The data collected in this study was analyzed using the statistical package SPSS26. Appropriate tools were employed for analysis, primarily based on the type of data to be analyzed and aligned with the study's objectives and hypotheses.

2. The statistical tools:

Repetitions and percentages.:

It was used to describe the characteristics of the study's sample and to determine the response towards the dimensions of the study tool, calculated according to the following formula:

$$\text{The percentage} = (\text{Frequency of the phrase} \times 100) / \text{Total count}$$

3. The arithmetic mean reference.

One of the most important statistical tools in measures of central tendency, it has been used in this study to assist in the accurate division and analysis of the studied phenomenon, expressed by the following relationship:

$$X = \frac{\sum_{i=1}^n Xi}{N}$$

Where:

X = Represents the reference mean

Xi = Represents the values of the questions

N = Represents the number of questions

Standard deviation

It is a statistical indicator that measures the extent of dispersion in variations, expressed by the following relationship:

$$S = \frac{\sqrt{\sum (Xi - X)^2}}{N}$$

Where:

S = Represents the standard deviation

Xi = Represents the values of the questions

X = Represents the reference mean

N = Represents the number of questions

T-test: Used to test the hypotheses of the study

XI. Presentation and analysis of the results.:

Table 01: Results of the t-test for flexibility in the pre-test and post-test

Test	Mean	Standard Deviation	t-Statistic	Degrees of Freedom	Probability	Significance
Pre-Test	0.93	1.99	3.546-	50	0.001	Significant
Post-Test	2.65	1.45				

Source: Compiled by the researcher based on SPSS26 analysis results.

Significant difference.

Based on Table 01, it's observed that:

The mean and standard deviation for the pre-test in flexibility were (0.93 ± 1.99) respectively, while for the post-test, the mean and standard deviation were (2.65 ± 1.45) . The t-statistic value was calculated as 3.546 with 50 degrees of freedom and a probability value of 0.001, indicating statistical significance. These results indicate a significant improvement in flexibility in favor of the post-test, likely attributed to the effects of the athletics program on enhancing flexibility through training sessions focused on joint flexibility and extension either angularly or linearly, measured in centimeters.

Moving to Table 02, the results are as follows:

Table 02: Results of the "T" Student test for the pre - and post-test in agility

Test	Mean	Standard Deviation	t-Statistic	Degrees of Freedom	Probability	Significance
Pre-Test	11.45	0.82	5.216	50	0.000	Significant
Post-Test	10.34	0.71				

Source: Compiled by the researcher based on SPSS26 analysis results.

The mean and standard deviation for the pre-test in agility were (11.45 ± 0.82) respectively, while for the post-test, the mean and standard deviation were (10.34 ± 0.71) . The t-statistic value was calculated as 5.216 with 50 degrees of freedom and a probability value of 0.000, indicating statistical significance. These findings suggest a significant improvement in agility in favor of the post-test, possibly due to the effects of the athletics program focusing on improving overall agility through training sessions emphasizing running, jumping, hanging, balancing, among other fundamental motor skills that contribute to enhancing general agility.

From Table 03, it's observed that:

Table 03: Results of the "T" Student test for pre - and post-test in compatibility

Test	Mean	Standard Deviation	t-Statistic	Degrees of Freedom	Probability	Significance
Pre-Test	10.91	1.66	1.765	50	0.084	no
Post-Test	10.16	1.42				

The mean and standard deviation for the pre-test in coordination were (10.91 ± 1.66) respectively, while for the post-test, the mean and standard deviation were (10.16 ± 1.42) . The t-statistic value was calculated as 1.765 with 50 degrees of freedom and a probability value of 0.084, indicating no statistical significance. These findings suggest no significant differences in coordination between the pre and post-tests. This could be attributed to the characteristics of the age group (9-10) years, where it's notably challenging to develop coordination at this stage. Children in this age bracket often find it difficult to enhance their coordination abilities due to various factors, including the complexity of motor coordination components such as estimating position, motor linking, appropriate effort exertion, balance, rhythmic response, quick response, and adaptation to changing situations.

Several factors significantly influence coordination:

- Cognitive aspects involving mental processes
- Perceiving accuracy and organizational sense
- Controlling the body's motor system

All these elements contribute to the conclusion that motor coordination development in this age group is challenging and demands significant motor experience. Therefore, achieving the hypothesis related to motor coordination is not evident within this age range.

XII. Conclusions and recommendations:

1. The general conclusion:

- The outset of this study stemmed from examining the extent of children's influence, considering various internal and external factors, when engaging in or applying the Children's Athletics Program globally. Our study revealed that children in the age range of 9-12 years have a significant propensity to engage in this type of sport as it brings comfort, enjoyment, and well-being while carrying within it elements of fatigue and effort
- This was supported by ERWIN HAN's study, which indicated that this stage is characterized by a biological, physiological, and psychologically conducive makeup for the development of physical attributes, primarily through games in an entertaining form.
- The conclusion drawn was that children find comfort and well-being to learn, aligning with the adage "teach your children while they play" serving as the best evidence for this. Furthermore, this study allowed us to confirm our initial hypothesis:
- -Athletics have a positive role in physical attribute development
- -These findings, although a small sample, reflect the necessities within Algerian athletics, indicating that control over such a study is attainable given genuine intent supported by tangible actions, starting from official and unofficial sports bodies, beginning with federations and associations down to club branches
- This is aimed at representing our country authentically in all international forums, activating comprehensive sports training from all aspects, in line with the modern focus on youth sports, and highlighting that optimal investment in our youthful resources is pivotal in securing our civilization's future.

2. The recommendations

This research prompts several suggestions and recommendations that warrant our attention in the following aspects:

- Activating the role of sports governing bodies in general, particularly in youth sports
- Proposing the establishment of local, regional, and national training centers to nurture young talents, ensuring a balance between academics and sports activities.
- Providing facilities for sports education founded on scientific principles, catering to athletes from the beginning of their practice through specialization, and supporting talented individuals in all disciplines
- Placing emphasis on understanding the child's psychological and social issues within the educational environment to prevent psychological trauma
- Cultivating a positive image of athletics among children to instill a love for the sport and retain a larger number of participants.
- Organizing forums to discuss the restructuring of supervisory sports bodies overseeing athletics, involving ministries, federations, and club associations.

XIII. References:

- Abdel Khaleq Essam.(1999) .*Sports Training - Theories and Applications* .Alexandria ,Egypt: Dar Al-Ma'arif
- Ahmed Hamdan Sari و Abdul razzaq Selim Norma .(2001) .*Fitness & Health* :Dar Wael for Publishing and Printing.
- Al-Samak.(2005) .*National Committee for Curricula* .Algeria: Ministry of National Education.
- Abbas Abu Zeid Emad Al-Din.(2005) .*Planning and Scientific Foundations for Building and Preparing Teams in Team Sports* .Mansoura ,Egypt: Maktabat Al-Ma'arif.
- Charles Guzoli .(2002) .*Applied guide for athletics for children* .France: Cairo Development Center.
- Emad Aldin Abbas Abu Zaid .(2005) .*Planning and scientific foundations for building and preparing teams in team games* .Knowledge Foundation.
- Fareeda Osman.(1981) .*Physical Education for Kindergarten and Elementary Stages* . Kuwait , Kuwait: Dar Al-Qalam.
- Hassan, J. A. (2012). *Motor abilities and characteristics*. irak: University of Babylon.
- Hassoun Abbas Hussein.(2015) .*Lectures on the Subject of Training Science for Master's Students for the Academic Year* .Karbala ,Iraq: University of Karbala.
- Ibrahim Mufti .(2004) .*Fitness - the path to health and sports championship* .- Egypt: Helwan University.
- Jameel Rubdi Kamal .(2005) .*New Trends in Athletics* .Beirut ,Lebanon: National Library.
- Jawad Al-Tahir Ali .(1986) .*Literary Research Methodology* .(المجلد 9) Baghdad: Diwan Printing Press.
- L Philippe.(2006) .*Planification et entrainement pour atteindre la performance* .Paris ,France: Amphora.
- Mahmoud Ashraf.(2016) .*Fitness and recovery in the sports field* .Oman: Ocean For Publishing & Distribution.
- Ziyad bin Abdullah Al-Dahsha .(2006) .*Scientific Research Methodology in Education and Humanities* .Damascus ,Syria: Dar Al-Fikr.
- Zuhair Al-Khanshab .(1999) .*Football* . Mosul ,Iraq: Dar Al-Kutub for Printing and Publishing.