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THE EFFECT OF USING THE INTERNATIONAL ATHLETICS FEDERATION PROGRAM FOR CHILDREN TO DEVELOP SOME PHYSICAL ABILITIES AND TEACH RUNNING, JUMPING AND THROWING SKILLS TO PRIMARY SCHOOL STUDENTS IN PALESTINE AND JORDAN - "A COMPARATIVE STUDY"

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Abstract

It aims to identify the effect of using the International Athletics Federation program for children to develop some physical abilities and teach running, jumping and throwing skills to primary school students in Palestine and Jordan. The sample was chosen deliberately from primary school students in Palestine and Jordan, (N=96) players, (48) students from Palestine and (48) students from Jordan during the academic year (2020-2021). The students from Palestine were considered as the experimental group those from Jordan as an experimental group. The researchers used the experimental method by designing two experimental groups with measurements (pre- and post-test) for each group to suit the nature of the research. The training program took 8 weeks, with 3 training units per week.

The results of the study showed differences in the mean scores and an improvement between the pre and post measurements in the physical tests, in the pre and post measurements of the experimental group; In favor of the post measurement, the improvement rates ranged between (6.23 - 18.22%), and the average overall improvement rate for the overall variables was (10.10%), and this indicates the observed improvement in level of physical performance. This confirms that the training program contributed to improving these physical variables among the sample members.

The researchers attribute these improvements to the training program and its contents of exercises related to study skills, which were affected by the stimuli within the program, resulting in continuous improvement in the physical performance of the tests.

Keywords: Athletics for children - physical abilities.

Introduction and problem of the research

Athletics is the bride of the Olympic Games, due to the diversity of its competitions, which include running, relays, jumping, and throwing, as well as the fact that they are races that reflect and

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illustrate an individual's ability to physical performance, as well as the extent to which children have long been interested in competing with one another. Because of the different competitions it involves, athletics provides an opportunity to provide an acceptable program for this form of noble competition when compared to others. Sports enthusiasts must create programs that encourage children to participate in sports. It is also one of the most popular competitive sports, with a unique position among others because it necessitates a high level of particular physical qualities and is the foundation for success in many other sports (Sharsher, 2013).

(Charles *et al.*, 2016) indicated that the International Association of Athletics Federations had created a global athletics policy for young children aged 7 to 15 years old, and this policy contains two main objectives:

- Making athletics the most individual competition practiced in schools all over the world.
- Giving children the opportunity in federations and other places to prepare for their future in athletics in appropriate and effective ways.

The IAAF competitions for children are also known for bringing excitement to the sport of athletics, as the innovative new competitions encourage and enable children to discover the fundamental activities of running, endurance running, jumping, throwing, and pushing anywhere (stadiums, playgrounds, gymnasiums), as the athletics competitions for children in the form of games provide children with the best training opportunities in athletics in terms of health, physical and educational, which works towards self-realization (Mohammed, 2014).

(Andersen, 2005) indicated that positive attitudes towards physical activity play an important role in activating the individual towards the practice of physical activities,

It motivates him to continue practicing it, and he also emphasized that the individual's trends have a strong and effective influence in directing his behavior, as the trends give the individual's awareness and activities meaning and purpose and help him to practice physical activities with desire and effectiveness.

The attitudes of children towards sports and physical activity are also important topics in both their scientific and practical lives, and a student is the focus of the educational process, and to study his attitudes towards participating in sports is not an easy thing, since the student may be influenced by his teacher or coach, which may affect his desire and direction for a particular sporting activity without the other. Trend analysis also contributes to the understanding of children's behavior and its effect in society, since they are acquired through socialization and learning, where sports programs, including athletics, are among the most prominent features and manifestations of daily life and have become an urgent necessity for individuals of both sexes and of all ages (Abu Taame, 2010).

Since ancient times, children's interest in the sports field was also based on competing with each other and putting themselves in comparison with others, and then athletics, with its various competitions, provides an excellent forum for this kind of noble competition, and thus athletics is an appropriate opportunity for this exchange, therefore, those interested in sports must devise competitions suitable for children, as children's competitions are a miniature version of adults' competitions, and thus it becomes clear that the challenge facing the International Association of

Athletics Federations is to formulate a new concept of athletics that is unique to meeting the developmental needs of children (Charles, 2002).

The working group for the IAAF's competitions for children took the initiative and developed the concept of the children's competition, which clearly highlights a departure from the pattern of athletics practiced by adults. This principle is known as the IAAF competitions for children. In 2005 the IAAF created a global policy for athletics, especially For young people from the age of 7 to 15 years, and this policy contains two goals, which are to make athletics the most individual competition practiced in schools in the world, and to provide an opportunity for children in federations and other places to prepare for their future in athletics in appropriate and effective ways, as this concept depends on the forms of competitions Appropriate for all age groups and institutions that apply this program. (Guzzli, Locatelli et al., 2002)

Among the organizational objectives of the concept of the International Federation of Athletics for Children are the following:

- Activation of a large number of children at the same time.
- Experimenting with various basic forms of athletics movements.
- Diversity of skill requirements according to the age groups and the necessary compatibility abilities.
- Introducing an adventurous spirit to the program and demonstrating the suitability of athletics for children.
- Need for a few assistants and referees.
- The installation of competitions and methods of recording results in easy ways based on the degree of the teams' ranking.
- Presentation of athletics as a mixed team competition (male and female).

Thus, it became clear, after conducting many researches and studies on the current situation that the challenge facing the International Association of Athletics Federations is to formulate a new concept of athletics that is unique to meet the developmental needs of children.

Through the researchers' experience in the field of teaching and training and their observation of multiple methods of education, they found that there are some methods that did not achieve the desired benefit in accelerating learning when used alone, so the use of new methods is an ideal solution to move away from traditional methods, and the reason for choosing the International Games Federation program Athletics for children, whose performance approaches the basic skills of athletics in terms of running, jumping and throwing, in addition to adding the character of fun and pleasure, and avoiding being restricted to a certain performance level, which works to reach a better level of education for some of the skills prescribed for children.

Because of the importance of trends in the sports field, many scholars have discussed them, where the study of trends in the field of sports and physical activities plays an important role in helping the educator anticipate the quality of the student's behavior towards practicing sports activities and work to enhance his desirable positive attitudes towards it and modify or change undesirable negative trends to reach With sports activities for advanced and prestigious spatial ranks. (Allawi, 2004)

From here, the researchers see the importance of focusing on the children's category in the practice of athletics, and trying to identify the effect of athletics for children on learning some of the athletics skills prescribed within the educational curriculum, as well as the effect of teaching athletics to children on increasing the attractiveness of children towards practicing different athletics skills. Given that children's athletics is characterized by the use of many simple and easily obtainable tools, it can also be designed and manufactured alternatives easily and without cost, as this appears through the use of all available and available within educational schools of tools and things that can help in Implementing the sports program, and taking into account the participation of all children during the lesson, which contributes to motivating them and motivating them to continue practicing sports activity and attracting students, which enriches the competitions with an atmosphere of suspense and excitement.

Objectives of the research

The research aims to know the effect of using the International Athletics Federation program for children in developing some physical abilities and teach running, jumping and throwing skills to primary school students in Palestine and Jordan, through the following sub-objectives:

1. Recognizing the effect of children's athletics competitions in developing some physical abilities and teaching running, throwing and jumping skills to primary school students of the experimental group in Palestine at the level of physical performance in the pre and post measurements.
2. Recognizing the effect of children's athletics competitions in developing some physical abilities and teaching running, throwing and jumping skills for the primary stage students of the experimental group in Jordan at the level of physical performance in the pre and post measurements.
3. Identifying the effect of children's athletics competitions in developing some physical abilities and teaching running, throwing and jumping skills for primary school students to reveal the existence of differences between the average scores of the players of the first experimental group in Palestine and the average scores of the players of the second experimental group in Jordan in the level of physical performance in the post measurement.

Research Hypotheses

1. "There is no statistically significant difference at the level ($\alpha \leq 0.05$) between the mean scores of the experimental group in Palestine in the level of physical performance in the pre and post measurements."
2. "There is no statistically significant difference at the level ($\alpha \leq 0.05$) between the mean scores of the experimental group in Jordan in the level of physical performance in the pre and post measurements."
3. "There is no statistically significant difference at the level ($\alpha \leq 0.05$) between the average scores of the players of the first experimental group in Palestine and the mean scores of the players of the second experimental group in Jordan (which uses the International Association of Athletics Federation for Children program) in the level of physical performance in the post measurement."

Scientific Terms and Definitions

Athletics for children:

Sport competitions provide excitement to the practice of athletics, and the new and innovative competitions allow children to discover the basic activities: running, endurance running, jumping, throwing, pushing anywhere: stadiums, playgrounds, gymnasiums, etc. (Khalifa, 2020).

Physical requirements

The term refers to the vital functional characteristics that occur when the body develops sufficient means that are healthy and used to perform skill movements as part of its stored movement (Hussain, 1998).

Previous Studies

1. Siam (2021) aimed to identify the impact of some activities of the International Federation of Athletics for Children on improving some physical abilities and the digital level of the 50m competition for primary school students. The study adopted the experimental method; the study community represented the fifth and sixth primary grade students from the Tawakkol Girls' Model Institute in Al-Gharbia Al-Azhariah region, and the sample of the study was a deliberate sample of the research community, consisting of 20 of the study population. The results indicated that the effectiveness of some activities of the IAAF program for children significantly increased in improving some physical abilities and the level of the 50-meter sprint and the effectiveness of the activities of the IAAF program for children on improving some physical abilities and the digital level of the sprint competition for juniors.

2. Khalifa (2020) conducted a study which aimed to identify the effect of using the International Federation of Athletics Education for Children program on improving the level of physical attributes and learning some athletics skills for first-year preparatory students in Egyptian schools. The study adopted the experimental approach by following the experimental design of two groups, and the study population represented first-year preparatory students at the Amr Ibn Al-Aas School for Faisal, and the study sample was represented by the intentional method from the class, which numbered 40 students, and the study reached many results that the use of the athletics program for children, which It was characterized by the nature of fun and pleasure, which had a positive and significant impact on the effectiveness of the student's performance in the selected athletics competitions under study and improved the level of their physical qualities in its three stages.

3. Abu Zaid (2019), performed a study that aimed to identify the impact of the use of athletics for children on the generalization of some athletics competitions for the primary stage of Al-Azhar, and the study followed the experimental method. The study population represented the students of the Kafr El-Sabaa Primary Institute in the Martyrs Center, Menoufia Governorate. The study sample consisted of 10 male students, aged between 10-12 years, and the study reached many results, the most important of which is that the proposed program had a positive impact on the education of some athletics competitions for Al-Azhar primary school children.

4. Al-Zoubi (2017) aimed to identify the attitudes of the students of the Faculty of Physical Education at Yarmouk University towards practicing athletics activities, in addition to identifying the differences in students' attitudes according to gender, school year and place of residence, the researcher used the descriptive approach which suited the nature of the study. To achieve this, the study was conducted on a sample of 107 students, who were chosen randomly. One of the most important findings of the study was that the students' attitudes towards practicing athletics activities in all fields of study and in the tool as a whole were high.

5. Abu Al-Tayyeb (2016) conducted a study that aimed to identify the impact of an educational program (Athletics Olympiad for Juniors) on the level of some skills in athletics for students of the lower basic stage, the researcher adopted the experimental method. The study population consisted of students of the stage in the Directorate of Education in the province of Tubas, and the sample of the study represented 32 students of the basic stage in the Directorate of Education in the province of Tubas chosen intentionally. The study tool was statistical treatments, and the study reached many results, the most important of which is the presence of statistically significant differences between the experimental and control group members in the development of athletics skills in the post test and in favor of the experimental group.

6. Willweber Tomas (2016) conducted a study entitled "The Impact of the "International Federation of Athletics for Children" on the variables of general physical fitness elements for boys in primary schools, the study aimed to identify the effect of the use of athletics competitions on the physical variables of children, the researcher used the experimental method using two groups. The experimental group consisted of (16) children aged 8-9 years, and the control group consisted of 18 children of the same age, and the most important results were the presence of statistically significant differences between the experimental and control group in favor of the experimental group in the variables under research.

7. Ahmed (2016) aimed to identify the effect of using athletics competitions for children (7-5 years) on the development of some cognitive abilities (sense - kinetics), and the study followed the experimental method by designing a pre- and post-measurements on one experimental group of children, (N=48) boys and girls aged (5-7) years, the study population consisted of first-year preparatory students at Amr Ibn Al-Aas Private School in Faisal, and (N=150) students, and the sample of the study consisted of 40 students chosen intentionally from the school, and the study results found that the proposed program has led to an improvement in the level of cognitive abilities under discussion, where the rate of improvement of rebound running reached 8.47%, and the rate of response speed reached 16.67%, and the rate of improvement of the wide jump from stability reached 11.68%, and the rate of improvement of standing was The preferred foot was 10.68%, and the rate of improvement in throwing and stopping the ball was 84%.

8. Handouq (2015) aimed to identify the effect of the children's athletics program on some physical and skill variables and its relationship to aggressive behavior among primary school students. The study adopted the experimental approach by designing two groups, (experimental and control groups), and using the pre-post measurement on both groups for its relevance to the nature of the study. The study population consisted of the fifth grade students at Mubarak bin Mohammed School - Abu Dhabi - United Arab Emirates, and their number reached (104 students), the sample of the study consisted of 80 students chosen randomly from the population. The study reached many results, the most important of which is the positive contribution of the educational program using athletics for children to the physical and skill variables under study, in addition to decreasing the aggressive behavior of the experimental group students.

9. Muhammad (2014) aimed to suggest a training program for children's athletics to develop some physical abilities and digital achievement in counting, jumping and throwing competitions. The study was conducted on the beginners of the wrestling and athletics club in Oran (12-13 years), the sample of the research consisted of (24) female athletes divided into two groups (12) runners for the control sample, and (12) for the experimental sample, the study concluded that by organizing competitions and training juniors in athletics for children, young talents are discovered and digital achievement developed.

10. Mansouriya (2012) conducted a study which aimed to identify the effect of using a proposed educational program with some small games in developing basic motor skills for primary school students. The researcher used the experimental method as it suits the nature of the research, the research sample consisted of (36) first and second year students elementary at Maskan School from the population of (160) students in Mostaganem Governorate, Algeria. The researcher adopted the test and measurement as a means of collecting data, and a proposed educational program was developed with some small games (running, jumping, throwing the farthest distance, throwing at a fixed target, enduring, fixed balance). The results showed that the proposed educational program based on small games worked on developing the basic motor skills of the experimental group members of the primary school students.

11. Petros *et.al* (2012) conducted a study entitled "The effect of children's athletics on the motivation and physical fitness of children (11-12) years old". The purpose of the study was to identify the effect of children's athletics on the motivation, physical fitness and performance level in Track and field competitions for children (11-12) years old. 215 primary school students participated in the study. The researcher used the experimental method by designing two groups, an experimental and control groups. The experiment was conducted in a primary school environment for a period of twelve weeks, and the most important results were the presence of statistically significant differences between the experimental and control group to the favor of the experimental group in the variables under study.

Research Methodology

The researchers used the experimental method by following the pre and post measurements for two experimental groups between Palestine and Jordan, using the pre and post measurements for

its suitability to the nature of this study. The sample members were divided into an experimental group in Palestine, and an experimental group in Jordan, and a comparison was made between them.

Community and sample of the research

The researchers chose the sample of the research (N=96) from the complete population of the study (N=625) students, from the students of the lower basic stage, fifth and sixth grades at Jabalia Elementary Boys School for Refugees and Yaqout Al-Hamawi Basic School for Boys in Jabal Al-Abyad in Zarqa by the deliberate method. The sample was divided into (48) students in Palestine and (48) students in Jordan - Zarqa during the academic year (2020-2021). (48) Students from Palestine as an experimental group and 48 students from Jordan as an experimental group.

The homogeneity of the sample and the equivalence of the research groups

To ensure that the sample members fall under the moderation curve, the researcher conducted homogeneity among the study sample in some selected variables, such as growth rate variables, physical variables, and skill variables). This was done by finding the arithmetic mean, median, standard deviation, and extracting the skew coefficient. Table (1) explains this:

Table (1) Homogeneity of the total study sample in each of the variables of growth rates, physical variables and skill variables (n = 20)

#	Variables	Unit	Mean	Median	SD	skew modulus
First: Parametric variables: (growth rates)						
1	Age	year	10.61	10.53	0.49	0.23
2	Height	cm	136.50	134.2	7.19	0.31
3	Weight	kg	34.30	33.18	5.22	0.24
Second: physical and skill variables						
1	Speed - Shuttle Relay	second	10.86	10.90	0.51	0.29
2	Throwing a 2-kg medical ball	meter	3.99	4.01	0.35	-.094-
3	Compatibility - numbered squares	number	5.58	6.00	0.72	-.490-
4	Flexibility - Touch Down	Cm	8.35	8.00	1.12	-.272-
5	Muscular endurance - wide jump from stability	Cm	1.27	1.27	0.05	-.286-
6	Fitness - Formula 1 - 40m	second	10.64	11.18	1.98	-.004-

It is clear from Table (1) that the statistical description and the skewness coefficient of the study sample, in the variables under study range between (-0.490 - 0.20), this indicates the homogeneity of the sample in those variables, which were limited to (-3, +3).

Adjusting study variables

The researchers restricted and controlled the study variables that might play a role in the results of the study and affect its objectivity, as shown in Table (2):

First: Adjusting the growth rate variables (chronological age, height and weight):

Table (2) Means, standard deviations, t-value and significance level to identify the differences between the two experimental groups in the growth rate variables (n = 48)

Variables	Group	N	M	SD	t- value	Sig.
Age	Palestine	24	10.31	0.21	0.731	Not sig.
	Jordan	24	10.30	0.20		
Height	Palestine	24	136	7.15	0.654	Not sig.
	Jordan	24	137	7.12		
Weight	Palestine	24	34	5.59	0.630	Not sig.
	Jordan	24	34.6	5.40		

The tabular value of "t" at the degree of freedom (n-2 = 46) and at the level of significance 0.05 = 2.02 and at the level of 0.01 = 2.70

It is clear from Table (2) that the t-test is not statistically significant at the level of significance (0.05) for all tests, and this means that there are no statistically significant differences between the two experimental groups in all growth rate variables, and this indicates the equivalence of the two groups included in all growth rate variables.

Second: Adjusting the physical variables

To ensure that the two groups of the experimental study were equalized, the researchers found the differences between the two groups in the tribal measurement of some physical variables, as shown in Table (3).

Table (3) Means, standard deviations, t-value and significance level to identify the differences between the two experimental groups in the physical variables (n = 48)

Variables	Group	N	M	SD	t- value	Sig.
Speed - Shuttle Relay	Palestine	24	10.84	0.55	.302	Not sig.
	Jordan	24	10.88	0.48		
Throwing a 2- kg medical ball	Palestine	24	4.00	0.33	0.215	Not sig.
	Jordan	24	3.97	0.36		
Compatibility - numbered squares	Palestine	24	5.42	0.72	1.621	Not sig.
	Jordan	24	5.75	0.71		
Flexibility - Touch Down	Palestine	24	8.42	1.25	0.383	Not sig.
	Jordan	24	8.29	1.00		
Muscular endurance - wide jump from stability	Palestine	24	1.28	0.03	1.181	Not sig.
	Jordan	24	1.26	0.06		
	Palestine	24	10.19	2.72	1.596	Not sig.

Fitness - Formula 1 – 40 m	Jordan	24	11.09	0.43		
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The tabular value of "t" at the degree of freedom ($n-2 = 46$) and at the level of significance $0.05 = 2.02$ and at the level of $0.01 = 2.70$

Table (3) shows that the t-test is not statistically significant at the level of significance (0.05) for all tests, which means that there are no statistically significant differences between the two experimental groups in all physical and skill variables, and this indicates the equivalence of The two groups in all physical and skill variables.

Table (4) Physical and skill abilities under study and tests used in measurement (n = 7)

No.	Physical and skill abilities	Test used	Unit of measurement	percentage
1	speed	Shuttle relay	Second	%85.71
2	muscular strength of the arms	Throwing a 2-kg medical ball	Meter	%100
3	Compatibility	numbered squares	Number	%100
4	Flexibility	touch down	Cm	%85.71
5	Muscular strength of the legs	Long jump from stability	Cm	%100
6	agility	Formula 1-40m	Second	%100

Validity of the instrument (tests)

Validity of Arbitrators

To ensure the validity of the tests, the researchers relied on the arbitrators' validity, as they relied mainly on the extent to which the test could represent the situations and aspects that it measures in an honest and homogeneous manner to achieve the goal for which it was set. The researchers set and define the objectives of the tests clearly and in detail, so the researchers presented the proposed tests to be used in the study experience to a group of arbitrators and specialists, in the fields of curricula, teaching methods, testing and measurement, athletics and sports training, and their number reached (7) arbitrators and asked them to express their opinions and their suggestions, and they were unanimously agreed that these tests reflect the motor and skill reality to be measured Annex (2), and a number of sources were also relied upon that proved that these tests measure this trait.

The researchers applied physical tests to an exploratory sample ($n = 6$) from the study population, and they were not from the original sample. The tests were re-applied to the same group with an interval of (15) days between the two applications, and the validity was found by calculating the square root of the reliability coefficient resulting from applying the test, and re-applying it, and table (5) shows the scientific coefficients for the validity of the tests.

Table (5) Reliability and validity of the coefficients for the skill tests

Variables	Reliability	Coefficient of reliability	Validity
Shuttle Relay	.894*	0.894	0.946
Throwing a 2- kg medical ball	-.902-*	0.904	0.951
Compatibility - numbered squares	.981**	0.981	0.990
Touch down	.985**	0.985	0.992
Long jump from stability	.985**	0.985	0.992
Formula 1-40 m	.986**	0.986	0.993

Tabular value of t (degrees of freedom $n-2 = 4$) at the level of 0.05 = 0.811, and at the level of 0.01 = 0.917

Table (5) shows that the reliability coefficients between the scores of the first and second applications of the skill tests ranged between (0.894-0.986), which are significant and high values that indicate that the tests are characterized by a good degree of stability.

The validity coefficients of the skill tests ranged between (0.946- 0.993), which are high values that indicate that the scale is characterized by a good degree of self-validity, which was achieved by finding the square root of the reliability coefficient.

Statistical Treatments

To verify the validity of the hypotheses, the researchers found the following statistical calculations:

- Means, median, and standard deviation.
- skew modulus.
- Flattening.
- Pearson correlation coefficient to ensure reliability.
- Square root to check validity.
- Shapiro-Wilk test to see if the data follow a normal distribution or not?
- Mann-Whitney Test to reveal the significance of differences between the means of two independent samples.
- Wilcoxon Signed Ranks Test for the differences between the mean scores of two related samples.
- T-test to reveal the significance of the differences between the means of two independent samples.
- T-test for the differences between the mean scores of two related samples.
- ETA box: to check the extent of the program's effectiveness in improving the selected skill variables (under study).
- The Black Gain Equation (1.2) to verify the effectiveness of the program in improving the selected skill variables (under study).

- Mc Gujian's equation (≥ 0.60) to verify the effectiveness of the program in improving the selected skill variables (under study).

Shapiro-Wilk test for normal distribution

To achieve the objectives of the study, the study tools were applied to the members of the groups, and the obtained data were found using the SPSS statistical package for social sciences, and the Shapiro-Wilk, which is a necessary test that is used in the event that the sample size is less than (50), and used usually find out whether the data follow a normal distribution or not. Because most parametric tests require that the data distribution be normal, and if the distribution is not normal, the non-parametric tests (Mann and Tenny for two independent samples) and (Wilkeson for two related samples) can be used for the samples. whose number is less than (30), and Table (6) shows the test results, as the significance level value for each test is greater than 0.05 (<0.05), and this indicates that the data follow a normal distribution, and normal tests can be used such as (T-test). Table (6) explains this.

Table (6) Shapiro-Wilk normal distribution test

No	Variable	Z- value	Sig.
1	Speed- Shuttle Relay	0.640	0.803
2	Throwing a 2- kg medical ball	0.581	0.890
3	Compatibility - numbered squares	0.745	0.641
4	Touch down	0.670	0.771
5	Wide jump from stability	0.759	0.607
6	Agility- Formula 1-40 m	0.449	0.982

By checking the significance level in the samples, it is found that it is statistically significant, as it is greater than (0.05), and therefore we accept the null hypothesis with the presence of a moderation distribution in the tests, and we reject the alternative hypothesis in the absence of a moderation distribution, and therefore normal tests can be used.

Results and interpretation of the study questions

First: The results of the First Question, which states: Is there a statistically significant difference at the level ($\alpha \leq 0.05$) between the mean scores of the experimental group players in Palestine (which uses the International Athletics Federation program for children) in the level of physical performance in the pre and post measurements?

To answer this question, the researcher verified the first hypothesis

Hypothesis (1): "There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the mean scores of the experimental group in Palestine (who use the International Athletics Federation program for children) in the level of physical performance in the pre and post measurements". This hypothesis was tested by comparing the mean physical performance

scores of the 48 players in the sample (n = 48) in the pre and post measurements, using the t-test for the difference between two related samples' mean scores. Table (7) explains this

Table (7) T-test and significance level to identify the differences between the mean scores of the experimental group in Palestine in the level of physical and skill performance in the pre and post measurements (n = 48)

Variables	Sample	N	M	SD	T-Value	Improvement	Sig.
Speed- Shuttle Relay	Pre	24	0.55	10.84	7.18	12.77	Sig at 0.01
	Post	24	0.63	9.61			
Throwing a 2- kg medical ball	pre	24	0.33	4.00	2.78	6.23	Sig at 0.01
	post	24	0.33	4.26			
Compatibility - numbered squares	pre	24	0.72	5.42	2.33	12.75	Sig at 0.01
	post	24	1.50	6.21			
Touch down	pre	24	1.25	8.42	3.39	18.22	Sig at 0.05
	post	24	2.40	10.29			
Wide jump from stability	pre	24	0.03	1.28	14.16	9.03	Sig at 0.01
	Post	24	0.03	1.41			
Agility- Formula 1-40 m	pre	24	2.72	10.19	2.20	13.78	Sig at 0.01
	post	24	0.39	8.96			

It is clear from table (7) that there are differences in the mean scores and an improvement between the pre and post measurements in the physical tests in the pre and post measurements of the experimental group; In favor of the post measurement, the improvement rates ranged between (-6.23 18.22%), and the average overall improvement rate for the combined variables (10.40%), as the standard deviation decreased, this indicates that there is an observed improvement in the level of physical performance. This confirms that the training program contributed to improving these physical variables among the sample members.

This explains the superiority of the players of the experimental group who were trained in the International Federation of Athletics Federation program for children in the development of physical variables among Palestinian children and that these differences are not by chance.

The exploratory survey:

The researchers conducted an exploratory study on some fifth and sixth grade students at Jabalia Elementary Boys School in North Gaza Governorate in Palestine, and Yaqout Al-Hamawi Basic School for Boys, Al-Jabal Al-Abyad in Zarqa Governorate, Jordan, with a total of 24 students from outside the research sample, in the period from 4/11/2021AD until 6/11/2021 AD at exactly ten o'clock in the morning in order to identify the obstacles that researchers may face when carrying out the basic experiment and to know the students' ability to use the tools used in the research, where the

exercises of athletic models for children were applied, which will be used to train fifth and sixth grade students in Palestine and Jordan on some athletics skills. The researchers presented some models of athletics for children, brochures and pictures of the implementation of some programs of the International Association of Athletics Federations and presented visual images of how to perform the skills.

Pre tests for the research sample

The researchers conducted the pre-tests between Tuesday, 9/11/2021 AD, and Thursday, 11/11/2021 AD, at exactly one o'clock in the morning in the playgrounds of Jabalia Elementary Boys School and Yaqout Al-Hamami Basic School for Boys, Al-Jabal Al-Abyad in Zarqa With 3 assistants with each researcher, the researchers fixed the conditions for the tests in place, time and application procedures, both in Palestine and Jordan.

Basic experience:

The application of the training program began between Tuesday 6/11/2021AD and Monday 8/1/2022AD

Post-tests of the research sample:

The researchers conducted the post tests for the research sample after they finished implementing the program on Tuesday between 16/11/2021AD and Monday 8/1/2022AD at exactly eleven o'clock in the morning in the presence of the assistants.

Presentation and discussion of the results:

Interpretation and discussion of the results of the first question and its hypothesis:

In light of the previous results, it is clear that the program of the International Federation of Athletics for Children, which the researcher applied at the experimental group in Palestine, has had a positive impact on improving physical and skill variables. The researcher attributes these differences to the training program and its contents of exercises related to study skills, which were affected by the stimuli within the program, which led to a continuous improvement in the physical performance of the tests.

Question Number (2)

Second: The results of the second question, which states: Is there a statistically significant difference at significance the level ($\alpha \leq 0.05$) between the mean scores of the experimental group players in Jordan (which uses the International Athletics Federation program for children) in the level of physical performance in the pre and post measurements? To answer this question, the researcher verified the second hypothesis as follows:

There is no statistically significant difference ($\alpha \leq 0.05$) between the mean physical performance scores in the experimental group in Jordan (which used the International Children's Athletics Federation program) between pre and post measurements.

To verify the validity of this hypothesis, a comparison was made between the mean scores of the players in the sample ($n=48$) on the level of physical performance in the pre and post

measurements, using the t-test for the differences between the mean scores of two samples. As shown in Table (8)

Table (8): means, SD, t-value and significance level (n = 48)

Variables	Sample	N	M	SD	T-Value	Improvement	Sig.
Speed- Shuttle Relay	Pre	24	10.88	0.48	6.37	12.77	Sig at 0.01
	Post	24	9.85	0.63			
Throwing a 2- kg medical ball	pre	24	3.97	0.36	3.10	6.23	Sig at 0.01
	post	24	4.29	0.34			
Compatibility - numbered squares	pre	24	5.75	0.71	3.72	12.75	Sig at 0.01
	post	24	6.50	0.69			
Touch down	pre	24	8.29	1.00	7.66	18.22	Sig at 0.05
	post	24	10.92	1.35			
Wide jump from stability	pre	24	1.26	0.06	7.09	9.03	Sig at 0.01
	Post	24	1.37	0.04			
Agility- Formula 1-40 m	pre	24	11.09	0.43	2.31	13.78	Sig at 0.01
	post	24	10.80	0.46			

The tabular value of "t" at the degree of freedom (n-2 = 46) and at the level of significance 0.05 = 2.02 and at the level of 0.01 = 2.70

Table (8) shows that there are differences in the mean scores and an improvement between the pre and post measurements in the physical tests, in the pre and post measurements of the experimental group; In favor of the post measurement, the improvement rates ranged between (-2.73–24.05%), and the average overall improvement rate for the combined variables (10.65%), and the standard deviation decreased, and this indicates the observed improvement in the level of physical performance. This confirms that the training program contributed to improving these physical variables among the sample members.

This means that the players of the experimental group who were trained in the International Federation of Athletics Federations program for children excel in developing the physical variables of Jordanian children, and that these differences are not by chance.

Interpretation and discussion of the results of the second question and its hypothesis:

In light of this result, it is clear that the program of the International Federation of Athletics for Children that the researcher applied to the experimental group in Jordan has had a positive impact on improving physical and skill variables.

The researcher attributes these differences; To the training program and its contents related to study skills, which were affected by the stimuli within the program; Resulting in continuous improvement in the physical performance of the tests.

Third: The results of the third question, which states: Is there a statistically significant difference at the level ($\alpha \leq 0.05$) between the average scores of the players of the first experimental group in Palestine (which uses the International Athletics Federation program for children) and the average scores of the players of the second experimental group in Jordan (which uses the IAAF program for children) in the level of physical performance in the post-measurement? To answer this question, the researcher verified the third hypothesis as follows:

There are no statistically significant differences at the level ($\alpha \leq 0.05$) between the average scores of the players of the first experimental group in Palestine (which uses the International Association of Athletics Federations program for children) and the average scores of the players of the second experimental group in Jordan (which uses the International Association of Athletics Federations program for children) at the level of physical performance in the post-measurement, and to verify the validity of this hypothesis, a comparison was made between the mean scores of the players in the sample ($n = 48$) on the level of physical and skill performance in the post-measurement, using the t-test of the differences between the mean scores of two independent samples. As shown in Table (9):

Table (9) T-test to identify the differences between the average scores of the first experimental group players in Palestine and the second in Jordan in the level of physical performance in the dimensional measurement (n = 48)

Variables	Sample	N	M	SD	T-Value	Sig.
Speed- Shuttle Relay	Pre	24	9.61	0.63	1.34	No sig.
	Post	24	9.85	0.63		
Throwing a 2- kg medical ball	pre	24	4.26	0.33	0.27	No sig.
	post	24	4.29	0.34		
Compatibility - numbered squares	pre	24	6.21	1.50	0.86	No sig.
	post	24	6.50	0.69		
Touch down	pre	24	10.29	2.40	1.11	No sig.
	post	24	10.92	1.35		
Wide jump from stability	pre	24	1.41	0.03	3.72	Sig at 0.01
	Post	24	1.37	0.04		
Agility- Formula 1-40 m	pre	24	8.96	0.39	14.96	Sig at 0.01
	post	24	10.80	0.46		

The tabular value of "t" at the degree of freedom ($n-2 = 46$) and at the level of significance $0.05 = 2.02$ and at the level of $0.01 = 2.70$

It is clear from the previous table, that there are no differences between the mean scores of the players of the first experimental group in Palestine (which uses the International Association of Athletics Federations program for children) and the average scores of the players of the second experimental group in Jordan (which uses the International Association of Athletics Federations program for children) in the level of physical performance in post measurement.

There are also differences between the average scores of the players of the first experimental group in Palestine and the average scores of the players of the second experimental group in Jordan (who use the IAAF program for children) in the muscular ability - the wide jump of stability in post measurement. This is for the benefit of the first experimental group in Palestine.

There are also differences between the average scores of the players of the first experimental group in Palestine and the mean scores of the players of the second experimental group in Jordan (who both use the IAAF program for children) in agility - Formula 1-40m in the dimensional measurement for the favor of the second experimental group in Jordan (which uses the program of the International Federation of Athletics for Children), and this indicates the noticeable improvement in the level of physical performance of the two experimental samples in Palestine and Jordan. This confirms that the training program contributed to improving these physical and skill variables among the sample members.

The researchers attribute these differences to the training program and its contents of exercises related to study skills, which were affected by the stimuli within the program; Resulting in continuous improvement in the physical performance of the physical tests.

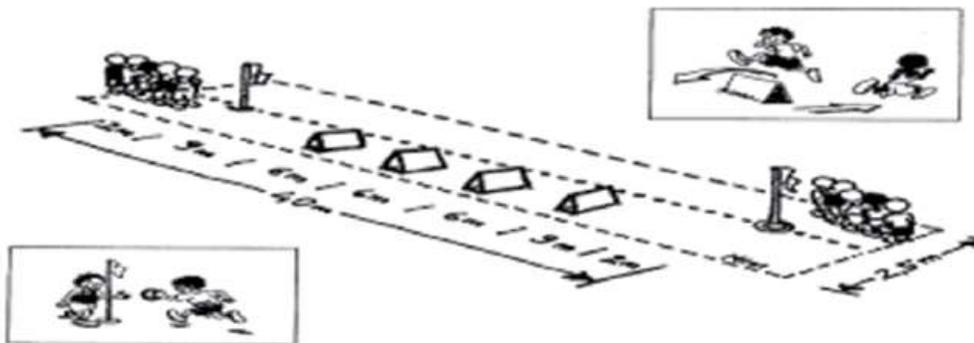
The researchers also attribute that the reason for the improvement in physical performance is due to the selection of exercises that characterized the program units.

The training had a positive effect in developing the motor capabilities of the muscles that work on contraction and relaxation of the muscles in light of rapid physical training in the shortest possible time. The greater the muscle's ability to stretch and fit, the greater the chance of a balanced and rapid muscle contraction.

The first test: the running and the barriers.

Objective: To improve the running stride over the distances between the hurdles.

How to conduct the test: The student takes the high start (from a standing position) behind the starting line and when he hears the whistle, he runs forward at full speed, a distance of 20 m, back and forth, jumping over barriers that are (4) cones, the distance between each cone is (5) m, and time is calculated for each student.





The second test: a 2-kg medical ball.

Brief description: Throwing the ball with both hands as far from a kneeling position.

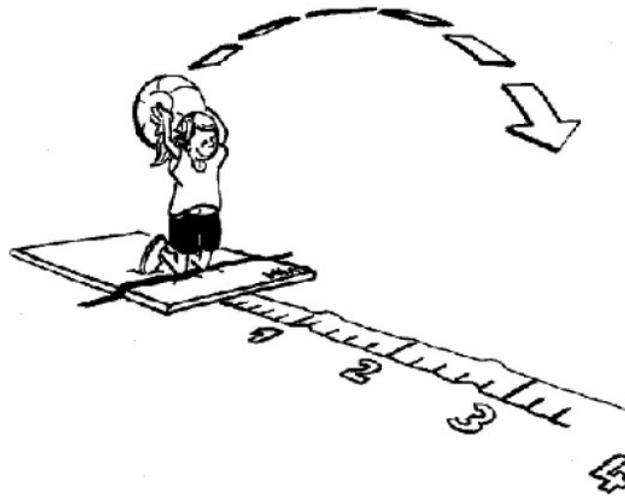
How to perform the test: The player gets down on his knees on a mattress or a soft surface, with an object protruding from him, such as a stack of mattresses or sleeping mattresses, then the player arches back to create tension in the trunk muscles and then raises the ball (2 kg) using the arms from above the head and then throws it forward as far as possible while in a kneeling position (as a soccer player does on a side throw), the player may fall forward after taking the throw.

Safety Instructions: The medicine ball should not be thrown in the opposite direction to deliver it to the players, and it is recommended to carry it to them or roll it to the next player.

Scoring method: The distance is measured perpendicular to the throwing line, and the recording is done for every 25 cm. The highest measurement is taken in the event of landing between two lines, and the better of two attempts is recorded and added to the team's final total.

Assistants: Two assistants are required for each team in order to organize this game efficiently, and they must perform the following tasks:

- Organizing and supervising the way the competition is performed.
- Measuring the throwing distance from the medical ball landing point and perpendicular to the throwing line.
- Returning the ball, whether by carrying it or rolling it, to the throwing line.
- Recording the results in the registration card.



The third test: the numbered circles - the numbered squares.

Brief description: bipedal jump with change of direction

Performance method: From a standing position in the middle square, the player jumps forward, then back, then to the sides, especially from a standing position in the middle square, the player jumps forward, then back to the middle square, then to the right square, then back to the middle square, then to the left, then back to the middle square, then jumping back and then back For the middle square to the end.

Scoring method: Each player in the team has 15 seconds and has to perform the largest number of jumps with the feet that can be performed during this time, and one point is scored for each time the player jumps around the squares (forward - middle - then to the sides - back), so a maximum of 8 points can be achieved in one session, the better attempt of the two is recorded.

Assistants: Only one assistant is required in order to organize this game efficiently and he must perform the following tasks:

- To give the command to start the game.
- To organize and supervise the manner of performance.
- To record the time and to count the number of jumps.
- To record the results in the registration card.



Fourth test: hitting the target.

Game description: Throwing the children's javelin with one hand to the farthest distance.

Objective: to improve the accuracy of throwing from stationary positions.

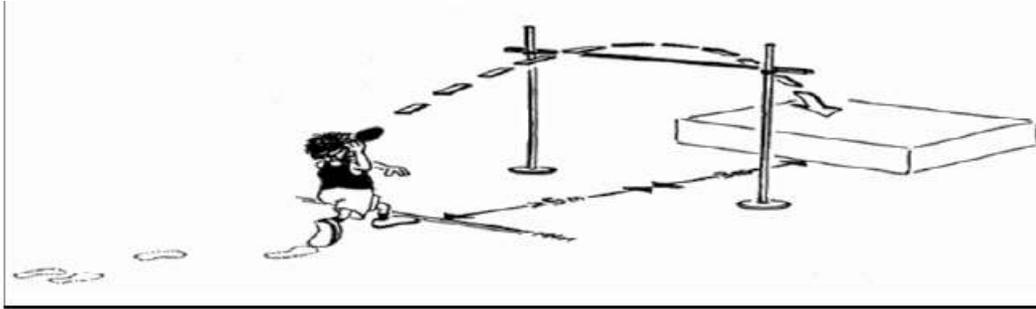
How to conduct the test: The student stands on the starting line and throws several bags of beans towards the hoops, the first hoop away from the starting line by a distance of (3) meters, and (4) other hoops are placed behind the first hoop. Points are scored from 1-5 and each student throws (5) bags and score his best attempt.

Safety note: Due to the importance of safety in the javelin throwing competition for children, only the assistant is allowed to be in the throwing area or the javelin landing area, and it is strictly forbidden to throw the javelin in the reverse direction, i.e. in the direction of the approach lane.

Scoring method: The distance is measured perpendicular to the throwing line, and the recording is done for every 20 cm. The highest measurement is taken in the event of landing between two lines. The better of two attempts is recorded and added to the team's final total.

Assistants: Two assistants are required for each team in order to organize this game efficiently and they must perform the following tasks:

- To organize and supervise the manner of performing the competition.
- To measure the distance of the throw from the point of landing of the javelin and in a manner perpendicular to the throwing line.



- To return the spear to the throwing line.
- To record the results in the registration card.



The fifth test: the pole vault.

Brief description: The pole vault.

Objective: To measure the strength of the muscles of the feet and to improve the coordination of the legs and arms.

How to conduct the test: The student stands on the starting line, stands on one leg, raises the arms high and lowers them, jumps forward for the farthest distance, lands on the same foot and measures the best distance, and it is repeated (3) times for each student separately.

Method of performance: From a distance of 5m, the player runs towards (frame-circle-rank) to plant the pole, and the player must rise with one foot (the right jumper holds the pole from above with the right hand), riding the pole carrying the player himself to the next point in the same direction for a specific goal (tires (mattresses), and the targets must be placed high so that the first target is placed one meter behind the mark.

Scoring method: Each player has two attempts. The player is given 2 points when he lands in the first goal, and is awarded 3 points when he lands in the second goal, and is awarded 4 points when he lands in the third goal, and is awarded 5 points when he lands in the fourth goal, and is awarded 6 points when he lands in the fifth goal, and they are counted. The attempt is valid for whoever touches the edge of the frame or the mattress when landing, and a point is deducted in the event of one leg landing outside the frame or the mattress with the other leg inside it. The judges shall advise and inform the players of these rules.

Assistants: The race requires only one assistant and must perform the following tasks:

- To control the height and distances of the fists on the pole.

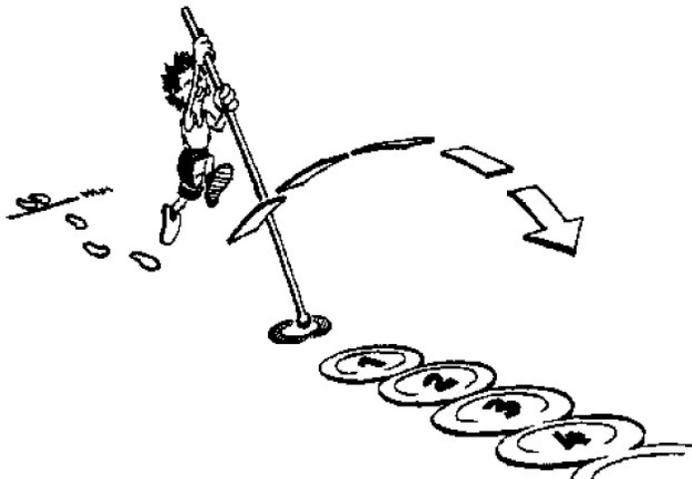
- To watch the correct upgrading.
- To record the results in the registration card.



Sixth test: Formula 1

Brief description: A complex relay of straight sprints, hurdles, and zigzags

Method of performance: The length of the race ranges between 60m or 80m, divided into one area for running without obstacles, running over obstacles, and zigzagging around obstacles or stands, where a plastic hoop is used as a relay stick. All participants must start the race with a front roll on a



sponge mattress. Formula racing is a team competition in which all team members must complete the entire distance, and 6 teams can compete at the same time for the same race.

Scoring method: The teams' ranking is evaluated according to the recorded time and the winning team with the fastest time becomes No. 1 and the teams are ranked according to the order of their recorded times.

Assistants: For all hurdles and hurdles areas, at least two assistants are required to place the tools in an appropriate manner. Regardless of the team's follow-up, it requires two additional assistants to act as referees for the changing area, and also needs one other person as permission to start.

In the end, it requires the availability of an appropriate number of timekeepers in proportion to the number of competing teams, and the timekeepers must record the teams' results in the competition results card.



Scientific coefficients for the tests in question:

The researcher also conducted the first exploratory study on the exploratory research sample to find the stability coefficient for the tests under discussion, and to calculate the validity of the tests using the distinctive sample of the Palestine and Jordan athletics teams, and in the same conditions as conducting the first exploratory study.

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