International Journal of Social Science and Education Research

ISSN Print: 2664-9845
ISSN Online: 2664-9853
Impact Factor: RJIF 8.15
IJSSER 2024; 6(2): 339-344
www.socialsciencejournals.net
Received: 03-09-2024
Accepted: 10-10-2024

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The effect of planning approach exercises to develop the explosive ability and technical performance to shot put for students

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DOI: https://doi.org/10.33545/26649845.2024.v6.i2e.160

Abstract
The purpose of this paper is to preparing tactical approaches exercises in developing explosive ability and learning the technical performance of the shot put effectiveness for students, and knowing the effect of tactical approaches exercises in developing explosive ability and learning the technical performance of the shot put- effectiveness for students. The researcher used the experimental method to suit the nature of the problem. The research community included first-stage students in the College of Physical Education and Sports Sciences at Wasit University for the academic year 2023-2024 AD, numbering (74) students. The research sample was selected (40) students. The sample was divided into two equal groups (control and experimental). In order to determine the homogeneity between the sample members, the researcher used the coefficient of variation in the variables of age, height and shot put, and it was within the normal limits of the coefficient of variation. One of the most important results reached by the researcher is that: The tactical approaches exercises have a positive effect on the development of explosive ability and technical performance in the shot put for students, the approach followed by the trainer contributed to the development of explosive ability and technical performance in the shot put for students. One of the most important recommendations recommended by the researchers is that: Pay attention to using tactical approaches exercises in the development of explosive ability and technical performance in the shot put for students as well as in order to invest time and effort in the educational process, and conduct research and studies using tactical approaches exercises for individual and group games and compare them with track and field students.

Keywords: Research, development, studies

Introduction
The progress and prosperity of life and the development of science have begun to be reflected in various areas of life, including the sports field as a result of following modern methods and good planning through scientific research that attempts to move away from the familiar and find new horizons without limits in sports sciences. Among these sciences are the science of training and motor learning, which have witnessed a wide change and their theories have taken a new curve to keep pace with modern trends. The game of football has kept pace with this development and progress, as it has witnessed many changes in learning and training methods in various aspects, including in particular changes in the team is playing methods in terms of applying defensive and offensive plans in order to surprise the competitor. The field and track events are among the events that have a distinguished position among other types of sports because they include various events. The shot put event is one of the old events that entered the Olympic Games for the first time in 1896 AD for men and for the first time for women in 1948 AD. The level of performance and achievement in this event has developed significantly in recent years. Many factors have contributed to this development, including the use of learning and training methods and means. Through scientific and technical development in the field of physical education teaching methods, the teacher began to search for technical means to achieve the best results in learning, which provide the correct model and divide the movement into stages to facilitate the learning process and advance towards the better. Perhaps at the forefront of the learning methods that must be paid attention to are the planning approaches, as they work to guide the individual and enable him to evaluate performance and improve it towards the better.

The learning process does not only aim to learn activities in an intellectual manner in a nearly fixed environment, but rather to learn by linking skill learning with tactical learning to accomplish the activity and how to invest it in similar locations such as the case of competition. Therefore, this method was adopted because it helps in developing the player's performance level, which is the final stop for learning how to play and comprehend the game. From this logic, many renewed methods emerged, including the method of tactical approaches exercises or tactical educational directives that create a situation similar to competition. Thus, learners reach the teaching of activities, develop them and comprehend them for the purpose of a coherent link between learning activities through applied exercises for focused tactical approaches and tactical performance tactics, the goal of which is to develop players' performance and interaction between communication for tactical perception and good implementation of activities. The importance of the research lies in developing an educational curriculum that gradually teaches the effectiveness of the shot put through tactical approaches, and focuses on the teacher's correction of errors during the lecture (lesson).

Research problem

Through the researcher's experience as a teacher of track and field, she noticed that there is a weakness in the technical performance of the shot put- effectiveness among first-year college students, which created an incentive to study how to develop or improve technical performance in a better way, knowing that these students will be teachers in the future and work to teach their students the sports activities that they have learned well. In this study, the researcher tries to establish some learning variables by developing an educational curriculum using the method of tactical approaches to develop explosive ability, in order to identify the extent of progress that occurs in the technical performance of the shot put- effectiveness after preparing and applying an educational curriculum based on sound scientific foundations in the researcher's opinion and in a way that ensures the advancement of the educational process for this activity.

Research objective

- Preparing tactical approaches exercises in developing explosive ability and learning the technical performance of the shot put- effectiveness for students.
- Knowing the effect of tactical approaches exercises in developing explosive ability and learning the technical performance of the shot put effectiveness for students.

Research hypotheses

The tactical approaches exercises have a positive effect on developing explosive ability and learning the technical performance of the shot put activity for students.

Research fields

- Human field: First-stage students in the College of Physical Education and Sports Sciences at Wasit University for the academic year 2023-2024 AD.
- Time field: (14/10/2023) to (26/2/2024)
- Spatial field: Outdoor courts for track and field games.

Research methodology and field procedures

Research Methodology

The researcher used the experimental method to suit the nature of the problem.

Community and sample research

The research community included first-stage students in the College of Physical Education and Sports Sciences at Wasit University for the academic year 2023-2024 AD, numbering (74) students. The research sample was selected (40) students. The sample was divided into two equal groups (control and experimental). In order to determine the homogeneity between the sample members, the researcher used the coefficient of variation in the variables of age, height and shot put, and it was within the normal limits of the coefficient of variation, as "the closer its value is to (1%), the higher the homogeneity, and if it exceeds (30%), it means that the sample is heterogeneous" (Wadih Yassin Muhammad, Hassan Muhammad Abd. 1999) [1]. Table (1) illustrates this.

Table 1: Shows the arithmetic mean, standard deviation and coefficient of variation for the variables of age, height and shot put in the research sample

Variables	Arithmetic mean	Standard deviation	coefficient of variation
Age in years	19.5	0.608	3.090 %
Height in centimeters	177.4	25.17	14.17 %
Shot put in kilograms	68.1	11.80	17.29 %

The test used in the research

Shot put test (Mahmoud Ramadan. 2022)

The purpose of the test: to evaluate the technical performance by the shot put.

Tools

- Throwing circle: It is a circle with a diameter of (2.135 meters) covered with cement. In the middle of the circle there is a line dividing it into two parts. In the front of the circle there is the throwing part and it is fixed to the ground and is called the stopping board.
- Shot put: Spherical in shape made of metal with a shot put of (6.260 kg) which is the special shot put for the youth category, number (15) shot puts.
- Performance specifications: The tester enters the throwing circle from the back and takes the appropriate position for him. The shot put must be placed near the palate, then make the balance movement and curl the body, then the slide movement and the shot put with one hand from the shoulder, then make the switching or covering movement to maintain balance, then exit from the back of the throwing circle.
- Conditions: The law of the shot put- effectiveness is applied, and in the event that the tester commits a violation, the attempt is considered a failure and he is allowed only three attempts according to the game law.
- Registration method: The score is calculated by showing the video test on (CD) to experts with

experience and specialization to evaluate the students' performance out of (10) points (i.e. the evaluation is for performance only without taking into account the shot put distance).
- Preparing a form to evaluate the technical performance level: A form to evaluate the stages of the shot put-effectiveness was prepared according to the experts' opinion, indicating the amount of the score for each stage of the technical performance of the event.

To ensure the equivalence of the two research groups, the researcher used the (T-test) test for the truth of the differences between the arithmetic means of independent samples of unequal number, to test the shot put- and explosive ability, and the results were as shown in Table (2), which confirms the equivalence of the two groups.

Table 2: Shows the arithmetic mean and standard deviation of the pre-test for shot put-, as well as the sample number, the calculated and tabulated (T) value, and the statistical significance.

Variables	Control group		Experimental group		T value calculated	Level Sig	Type Sig
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Shot put	5.83	0.77	5.57	0.63	0.72	0.295	Non Sig
Explosive ability of Legs	1.89	0.13	1.83	0.16	0.38	0.302	Non Sig
Explosive ability of Arms	11.48	2.51	11.35	2.60	0.52	0.412	Non Sig

From the table above, we notice that the significance level value (sig) is greater than (0.05), which indicates the equivalence of the two research groups in terms of variables.

Devices, tools and methods used in the research:

Devices
- Digital camera, Sony type, (8) mm, speed up to (30) images / second, Japanese made, X990.
- Electronic calculator, P4, Chinese made
- Data show device Infocus – MODEL LP530- MADE in U.S.A
- Shot put measuring device

Tools
- Shot puts weighing (6.260) kg, number (15) shot puts
- Metal tape for measuring length
- CD, number (3).
- Medium-sized plastic balls (shot put size) Number (15) balls stuffed with gypsum to increase their shot put, as their shot put is (3) kg.

Methods
- Arab and foreign sources.
- Personal interviews.
- Performance level evaluation form.
- Testing and measurement.

Determining the validity of explosive ability tests by the shot put for students

In order to determine the validity of explosive ability tests by the shot put for students, the researcher reviewed the sources and references. The tests were determined and placed in a questionnaire form and presented to experts and specialists. After collecting the data, the validity was determined by (chi-2) and Table (3) shows that.

Table 3: Shows the validity of explosive ability tests

No.	Tests	Valid	Invalid	(chi-2)	Type Sig
1	Sargent's Test	7	0	7	Sig
2	Long Jump Test	3	4	0.14	non Sig
1	Medicine Ball Test Far Distance	7	0	7	Sig
2	-up	4	3	0.14	non Sig
The tabular value of Chi-square at a degree of freedom (1) and a significance level of (0.05) was (3.84).					

Exploratory experiment

The researcher conducted the exploratory experiment on (20/10/2023) for tests on a sample of (20) students in the university's track and field games stadium. After (5) days, the same experiment was repeated on the same individuals on (25/10/2023). The objectives of this experiment were:-
- Knowing the difficulties and problems facing the researcher.
- Knowing the validity of the devices and tools used.
- Verifying the suitability of the tests used for the research sample.
- Knowing the time taken for the tests.

Scientific foundations of tests

Validity

The purpose of the test "refers to the extent to which the test measures and what it was designed to measure, and without achieving validity for the test, it does not determine the confidence of the inferences and implications that arise from the test results (Abdullah Falah Al-Munizel and Adnan Yousef Al-Noum. 1999) [3]. The researcher found the validity coefficient of the tests by using experts and specialists (Abdullah Abdul Rahman Al-Kindi and Muhammad Abdul Daim. 1999) [1].

Stability test

Stability of test means "that the consistency of the results and the test is considered stable if we obtain the same results from it when it is reapplied to the same individuals and under the same conditions (Marwan Abdul Majeed Ibrahim. 2000). The researcher used the test and retest method to find the stability coefficient because it is one of the most appropriate methods used in the stability of the test, and the first test was conducted and the same test was repeated after (5) days on the same sample and then the researcher used the simple correlation coefficient (Pearson) to determine the stability of the tests and after the examination in Table (3) it clarifies that.

Objectivity

The objectivity of the test means "freedom from bias or prejudice and not introducing the personal factors of the tester such as his opinions, personal whims, personal inclinations, and even his bias or prejudice. It means that we describe the individual, as he actually exists, not as we want him to be (Marwan Abdul Majeed. 1999). Since the tests used in the research depend on clear measurement tools such as time and the grades that the student obtains, in addition to using the grades of evaluators, Table (4) clarifies this.

Table 4: Shows the stability and objectivity coefficient of the tests.

No.	Skills	Stability coefficient	Objectivity coefficient
1	Shot put	0,90	0,95
2	Explosive ability of Legs	0,85	0,86
3	Explosive ability of Arms	0,89	0,94

Pre-tests

The pre-tests for the research sample were conducted on (29/10/2023) for all tests and on the university field. The researcher established the conditions and method of conducting the tests and the assistant work team in order to achieve the same conditions when conducting the post-test.

Main experiment

After the researcher prepared the educational exercises with the strategic approaches, they were presented to the specialists in the field of motor learning to express their opinions and suggestions and the extent of their suitability for the sample, taking into account the directives and the vocabulary was developed in light of them. The main experiment for the research sample took (4) weeks, starting from 2/11/2023 until 3/1/2024, with two educational units per week. The number of educational units is (8) educational units, each unit is (90) minutes long. The researcher applied the strategic approaches exercises in the main part of the educational unit, which lasts (70 minutes). The implementation of the exercises was based on the gradual progression of learning and bringing students to mastery of performance through the strategic approaches exercises approaching the state of competition, which provides the learner with various repetitive exercises that bring learners to the stage of mastery, because this educational method has a positive effect in bringing learners to the stage of mastery, as the exercise unit works to bring the student to the degree of correct performance in Performance, due to their abundance, repetition and diversity, therefore these skills take up a large portion of the educational unit's time, which leads to developing the level of performance and makes them more efficient in implementing the required duties.

Post-tests

The researcher conducted the post-tests for the research sample on 4/1/2024. The researcher followed the same method in the pre-tests. The researcher was keen in the post-test to establish the same conditions that she used in the pre-test when conducting the post-tests in terms of time, place, tools used, method of implementation and means of the pre-test.

Statistical methods: The search data was processed through the Statistical Package for the Social Sciences (SPSS).

Results and discussion

Results

Presentation the results of the differences between the pre- and post-tests of the variables and the control group and analyzing them

Table 4: Shows the arithmetic mean and standard deviation of the tests and the calculated and tabular (T) value and statistical significance.

Variables	Pre-test		Post-test		T value calculated	Level Sig	Type Sig
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Shot put	5.83	0.77	7.49	0.82	2.31	0.000	Sig
Explosive ability of Legs	1.89	0.13	1.93	0.48	1.94	0.002	Sig
Explosive ability of Arms	11.48	2.51	12.64	1.89	1.88	0.004	Sig

Table (4) shows the values of the arithmetic means and standard deviations for the pre- and post-tests and for the control group, where the pre-test arithmetic mean (5.83) with a deviation of (0.77) and in the post-test the mean was (7.49) with a deviation of (0.82). By observing the arithmetic means, there are differences between the two tests. The researcher used (t-test) for the corresponding samples and it showed (2.31) at a significance level of less than (0.05), which indicates that there is a preference for the post-test. As for the test (explosive ability of the legs), the arithmetic mean was (1.89) with a deviation of (0.13), and in the post-test, the mean was (1.93) with a deviation of (0.48). By observing the arithmetic means, there are differences between the two tests. The researcher used (t-test) for the corresponding samples and drew (1.94) at a significance level of less than (0.05), which indicates that there is a preference for the post-test. As for the test (explosive ability of the arms), the arithmetic mean was (11.48) with a deviation of (2.51), and in the post-test, the mean was (12.64) with a deviation of (1.89). By observing the arithmetic means, there are differences between the two tests. The researcher used (t-test) for the corresponding samples and drew (1.88) at a significance level of less than (0.05), which indicates that there is a preference for the post-test.

Presentation and analyzing the results of the differences between the pre- and post-tests of the variables and the experimental group

Table 5: Shows the arithmetic mean and standard deviation of the tests and the calculated and tabular (T) value and statistical significance.

Variables	Pre-test		Post-test		T value calculated	Level Sig	Type Sig
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Shot put	5.57	0.63	9.36	1.03	5.84	0.000	Sig
Explosive ability of Legs	1.83	0.16	2.07	0.70	2.40	0.000	Sig
Explosive ability of Arms	11.35	2.60	13.85	1.97	2.19	0.000	Sig

Table (5) shows the values of the arithmetic means and standard deviations for the pre- and post-tests and for the experimental group, where the pre-test arithmetic mean (5.57) with a deviation of (0.63) and in the post-test the mean was (9.36) with a deviation of (1.03). By observing the arithmetic means, there are differences between the two tests. The researcher used (t-test) for the corresponding samples and it showed (5.84) at a significance level of less than (0.05), which indicates that there is a preference for the post-test. As for the test (explosive ability of the legs), the arithmetic mean was (1.83) with a deviation of (0.16), and in the post-test, the mean was (2.07) with a deviation of (0.70). By observing the arithmetic means, there are differences between the two tests. The researcher used (t-test) for the corresponding samples and it turned out (2.40) at a significance level less than (0.05), which indicates that there is a preference for the post-test. As for the test (explosive ability of the arms), the arithmetic mean was (11.35) with a deviation of (2.60), and in the post-test, the mean was (13.85) with a deviation of (1.97). By observing the arithmetic means, there are differences between the two tests. The researcher used (t-test) for the corresponding samples and it turned out (2.19) at a significance level less than (0.05), which indicates that there is a preference for the post-test.

Presenting and analyzing the results of the differences between the post-tests of the variables and the control and experimental groups

Table 6: Shows the arithmetic mean and standard deviation of the tests and the calculated and tabular (T) value and the statistical significance for the control and experimental groups.

Variables	Control group		Experimental group		T value calculated	Level Sig	Type Sig
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Shot put	7.49	0.82	9.36	1.03	2.73	0.000	Sig
Explosive ability of Legs	1.93	0.48	2.07	0.70	2.12	0.000	Sig
Explosive ability of Arms	12.64	1.89	13.85	1.97	2.16	0.000	Sig

Table (6) shows that the arithmetic mean value for the (shot put) test and for the control group in the test reached (7.49) with a standard deviation of (0.82), while in the experimental group the arithmetic mean reached (9.36) with a standard deviation of (1.03), and after calculating the value of (t) calculated using the (t) law for independent samples, which was (2.73), which is significant compared to the value of (Sig) at a significance level of (0.05), which is (0.000), which is less than (0.05), and this means that there is a statistically significant difference between the two groups in favor of the experimental group. As for the test (explosive ability of the two men) and for the control group in the test, the mean was (1.93) with a standard deviation of (0.48), while in the experimental group the arithmetic mean was (2.07) with a standard deviation of (0.70), and after calculating the value of (t) calculated using the (t) law for independent samples, which was (2.12), which is significant compared to the value of (Sig) at a significance level of (0.05), which is (0.000), which is less than (0.05), and this means that there is a statistically significant difference between the two groups in favor of the experimental group. As for the test (explosive ability of the arms) and for the control group in the test, the mean was (12.64) with a standard deviation of (1.89), while in the experimental group, the arithmetic mean was (13.85) with a standard deviation of (1.97), and after calculating the value of (t) calculated using the (t) law for independent samples, which was (2.16), which is significant compared to the value of (Sig) at a significance level of (0.05) which is (0.000) which is less than (0.05), and this means that there is a statistically significant difference between the two groups in favor of the experimental group. 4-4 Discussion of the research results:

From the results that appeared, we note that both groups obtained significant differences between the results of the pre- and post-tests in favor of the post-tests for both groups. We can attribute this improvement that occurred for the two groups to the educational curriculum prepared by the researcher and what the educational units contain in terms of gradual movement and transition from easy to difficult. This is what "Qasim Lazam and others" emphasize: "The process of successful learning and training requires continuous practice. To achieve this process, the importance of gradualism appears as an effective and influential factor in it, as gradualism in the difficulty of movements and sports skills from easy to difficult and from simple to complex helps to understand, perceive and comprehend the movement or skill, and thus will gradually implement the required vocabulary in the performance according to the learner's limits in his capabilities and functional abilities, which will have a positive effect on the level of learning." (Qasim Lazam *et al*. 2005) [5] What was also confirmed by Practice and exerting effort through training and continuous repetition are necessary in the learning process...as well as training The researcher attributes the development to the extent of the effectiveness of using the tactical approaches exercises and mastery learning, and through continuous tactical exercises, it led to an increase in the students' ability to perform what is required of them. The tactical approaches exercises prepared by the researcher contributed to learning, and these exercises were performed in an organized manner and in educational units that had a successful impact in improving the players' performance. These exercises are characterized by diversity and approach in their performance to the nature of the competition, which increased the players' learning and some of them reached

the stage of mastery with skills. This is confir`med by (Linda 1997) "If you are struggling towards moving in your players' learning the basic skills and using them in play during competition by means of tactical approaches, you will increase your students' experience and excitement in lectures, and this idea develops the game scene as a whole for the learner on tactical tasks to approach mastery of the required performance (Linda L. Griffin and *et al*. 1997) [8].

Conclusions and Recommendations

Conclusions

- The tactical approaches exercises have a positive effect on the development of explosive ability and technical performance in the shot put for students.
- The approach followed by the trainer contributed to the development of explosive ability and technical performance in the shot put for students.
- The advantage of the group that used tactical approaches exercises in the development of explosive ability and technical performance in the shot put for students.
- The suspense and competition factor present in tactical approaches exercises played a role in performing the exercises and facilitated the development process.

Recommendations

- Pay attention to using tactical approaches exercises in the development of explosive ability and technical performance in the shot put for students as well as in order to invest time and effort in the educational process.
- Conduct research and studies using tactical approaches exercises for individual and group games and compare them with track and field students.
- Conducting research and studies using the exercises of the strategic approaches for other skills and samples and for different activities.
- The researcher recommends more repetitions of the strategic approaches exercises and increasing the number of educational units in order for some students to reach the stage of mastery.

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