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## The effect of an educational curriculum according to the (Wheatey) model supported by pictures to develop the shooting skill by jumping high in handball among students of the faculty of physical education and sports sciences

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### Abstract

The purpose of this paper is to identifying the effect of the educational curriculum according to the (Wheatey) model in learning the shooting skill by jumping high on the research sample, identifying the preference of the control and experimental groups in learning the shooting skill by jumping high in the handball game, and preparing an educational curriculum according to the (Wheatey) model in learning the shooting skill by jumping high in handball. The researcher used the experimental approach by designing the two equal groups, the experimental and the control, and following the pre and post-tests for both groups. The researcher used chosen deliberately, and they are students from the third stage in the College of Physical Education and Sports Sciences, University of Wasit, whose number was (18) students. They were divided into two groups (the control group, which uses the same educational program used in the college) and (the experimental group, which uses the proposed curriculum by the researcher), as the number is distributed equally for each. One of the most important results reached by the researcher is that: There is a clear positive effect in the application of the curriculum proposed by the researcher on developing the shooting skill by jumping high among the students of the Faculty of Physical Education and Sports Sciences, and there are significant differences between the pre and post-tests of the control and experimental groups for the shooting skill by jumping high in handball. One of the most important recommendations recommended by the researchers is that : need to pay attention to the application and use of constructivist theory models in learning, including the Wheatey model in teaching and teaching skills and using the model used in the current study to teach and develop other skills and other sports.

**Keywords:** Wheatey model, shooting by jumping high

### Introduction

One of the most essential foundations that contribute to the progress of countries and societies and their development in various fields and fields is relying on scientific research in discovering modern methods and methods that help change reality, as well as identifying problems and obstacles that stand in the way of progress, and finding appropriate solutions to them. It seems clear what these countries have reached, especially in the sports field, as this aspect of life is an essential and comprehensive aspect that includes all segments of society, so it required everyone to work on developing it and finding the best methods and modern strategies to work with to improve its existing reality.

Learning methods and their modern strategies are among the most important of these methods used in the world, as many psychologists and teaching and teaching experts focused on finding new learning methods that work to deliver and teach mathematical skills with the least effort and time, and use these methods to suit their target groups and work to give space It is sufficient for teachers and trainers to use it to provide clear and distinct results in learning, mastering and fixing skills among the target audience. Al-Najdi points out that "it is necessary for the learner to possess scientific concepts that help him to understand and master the

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material, and that his ability is affected by the amount of his understanding and the need to link the new information with what he previously knew, which makes the new information meaningful, which facilitates the learning process" (Ahmed Al-Najdi: 2003) <sup>[1]</sup>.

The handball game is one of the popular team Olympic games that has a wide standing and a wide audience among the sports, as it is one of the games that are taught in the curricula of the faculties of physical education and sports sciences throughout the world and in Iraq in particular, so the subject of interest is finding modern ways and means to teach it. It has become one of the necessities and the importance that must be paid attention to by researchers and stakeholders. Hence the importance of the research, as it necessitated finding modern ways to learn the skills for this game, and as Zeitoun states, "The usual method does not give room for exploration and innovation on the part of the learner, and the learner must be more positive, and active participation in education leads to better retention of information and a good understanding." (Kamal Zeitoun: 2003) <sup>[5]</sup>, One of these modern methods is the (Wheatley) model, from which this idea and this model emerged from constructivist theory as one of the modern teaching strategies.

### Research problem

Teaching and teaching sports skills requires teachers and trainers to work with them to find modern methods and use them with the various segments and groups who work with them, and not to be satisfied with routine methods of training or education, because the whole world has gone through great developments and interests have become more and more and distractions are more, so the responsibility has become greater and the effort is doubled to the teacher or coach. Through the work of the researcher as a teacher in the College of Physical Education and Sports Sciences, he noticed that there is a weakness in learning and mastering the skill of shooting by jumping high in the handball game by students of the College of Physical Education and Sports Sciences in the first stage, and the researcher attributes this to the fact that the educational curricula used do not use modern methods and methods new in education, which necessitated the use of these modern methods and methods in this work, so the researcher decided to delve into this problem and summarize it by asking whether the use of modern strategies works to find positive differences in learning and mastering skills in the handball game.

### Research objective

- Preparing an educational curriculum according to the (Wheatley) model in learning the shooting skill by jumping high in handball.
- To identify the impact of the educational curriculum according to the (Wheatley) model in learning the shooting skill by jumping high on the research sample.
- Identifying the preference of the control and experimental groups in learning the shooting skill by jumping high in the handball game.

### Research hypotheses

- There are statistically significant differences in the post-

tests of the control and experimental groups for the shooting skill by jumping high in handball, in favor of the experimental group.

### Research fields

- Human field: Students of the Faculty of Physical Education and Sports Sciences / Wasit University.
- Time field: (1/12/2022) to (5/2/2023)
- Spatial field: Games hall in the College of Physical Education and Sports Sciences / University of Wasit.

### Definition of terms

The Wheatley Model: It is one of the modern learning and teaching strategies that aims to learn concepts and applications, increase interest in educational tasks and develop the desire for teamwork within the classroom. This model consists of three basic procedures (educational tasks, collaborative groups, and participation).

### Research methodology and field procedures

#### Research Methodology

Choosing the appropriate approach to research the problem is one of the most important steps that the researcher must follow in the success of his research and come up with results and conclusions capable of solving the problem. As the approach is "the method followed by the researcher to determine the steps of his research through which a solution to the problem can be reached" (Jawdat Izzat Atwi. 2011) <sup>[3]</sup>, Therefore, the researcher used the experimental approach by designing the two equal groups, the experimental and the control, and following the pre and post-tests for both groups.

#### Community and sample research

The research community is defined as "all the individuals, events, and things that are the subject of the research problem" (Daoud, and Abdel-Rahman. 1999) <sup>[2]</sup>, and according to that, the researcher chose the research community deliberately, and they are the students of the College of Physical Education and Sports Sciences / University of Wasit. As for the research sample, its selection depends on the nature of the phenomenon to be studied, the available material and technical capabilities, and the time required for the study. Therefore, they were also chosen deliberately, and they are students from the third stage in the College of Physical Education and Sports Sciences, University of Wasit, whose number was (18) students. They were divided into two groups (the control group, which uses the same educational program used in the college) and (the experimental group, which uses the proposed curriculum by the researcher), as the number is distributed equally for each.

#### Sample homogeneity

In order to take sober scientific steps in the research procedures and come up with sound results, and to prevent any kind of influences that may affect those results in terms of individual differences in the sample individuals represented by (Length, age and mass), the researcher conducted the process of homogenization of the research sample to control these variables from through the torsion coefficient, which is shown in Table (1).

**Table 1:** Homogeneity of the research sample

Variables	Mean	Median	Std. Deviations	Skewness	Coefficient of difference	Distribution
Mass	65.12	63.4	8,70	0.22	13.167	Normal
Length	177.46	176	5.49	0.36	3.012	Normal
Age	22.42	21.68	1.66	0.23	7.28	Normal

**Devices, tools and means of collecting information****Equipment and tools**

- A tape measure for length.
- A device for measuring mass.
- A laptop computer.
- Wooden glove device number (2).
- A drawing scale with a length of (1 meter).
- Indicators number (5).
- Terraces with a height of (50 cm).

**Means of collecting information**

- Observation and experimentation.
- Arabic and foreign sources and references.
- Tests and measurements.

**Field research procedures****Pre-tests**

On 12/3/2022, the researcher conducted the pre-tests on the control and experimental groups if he used a type of standardized test, which is the process of approaching the ball and shooting towards the goal by jumping from several directions around the goal. (3) opportunities were given to each student and through these opportunities, Evaluation and grading.

**High jump shooting test****Purpose of the test: the accuracy of shooting from a high jump.****Tools**

- Handball number (6).
- Wooden jumping device number (2) placed in different directions on the (6 meter) line
- A cloth curtain that covers the goal and has several openings distributed in different corners of the goal

**Performance method**

The student stands behind the starting line and directly in front of the jumping apparatus, begins to take 3 steps, then shoots from the high jump to the squares in the curtain covering the goal, then repeats the performance three times.

**Registration**

- A point is counted when the ball enters the box designated for shooting.
- A shot outside the square is counted as zero.
- No point is counted when the student takes more than three steps.

**Application of the proposed curriculum**

On 12/2/2022, the researcher began applying his proposed educational program to the research sample, the experimental

group, using the Wheatey model supported by pictures, to learn the skill of shooting by jumping high in handball for students of the College of Physical Education and Sports Sciences. In addition to the routine and usual exercises in learning this skill, the program was distributed into several foundations, which are mainly the vocabulary of this model used, and these distributions or parts are:

**1. Learning tasks:** The researcher put the content of learning this skill in several illustrative pictures that he prepared and designed specifically for this purpose, as they were shown to the students of the experimental group, and he explained through these pictures the correct steps to implement the shooting skill from jumping, and explained each step in precise details to the students, as the students were divided into (3 ) Groups for each group 3 students randomly, provided that each group has a leader, the role is exchanged according to the requirements of this form.

**2. Collaborating groups:** After the experimental group was divided into three groups, and the electrification and how to perform it were explained, these groups began to work on discovering the problems that existed during implementation and working on planning to solve and overcome them, as well as applying different performances to implement this skill in consultation with them and expressing the appropriate decision.

**3. Sharing:** After completing the tasks within the groups, the discussion and application begins in the playground, as the students present the solutions that were agreed upon between them, and they are in fact the result of the discussions that deepen their understanding and growth and ration the effort to reach the best possible performance.

**Post-tests**

On 1/29/2023, the post-tests were conducted on the control and experimental groups to find the effect of the proposed curriculum on the students to whom it was applied and the differences in developing the shooting skill from jumping high between the control and experimental groups, as the researcher was keen to create the matching conditions in which the pre-tests were conducted In terms of time, place and tools used.

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

**Results and Discussion****Presenting the results of the pre and post-tests in the shooting skill test from the high jump of the experimental group**

**Table 2:** Shows the arithmetic mean, standard deviation, sample size, and standard error for the pre and post-tests of the experimental group.

Skill	Tests	Sample	Arithmetic mean	Standard deviation	Standard error
Shooting high jump	Pre-test	9	36.580	1.421	0.359
	Post-test	9	19.600	2.542	0.598

**Table 3:** Shows the difference of the arithmetic mean, the difference of the standard deviations, the value of standard error of the mean difference, the calculated value of t, the percentage of error, and the significance of the pre and post-tests of the experimental group.

Skill	Arithmetic mean of difference	Standard deviation of differences	Standard error of the mean difference	T value	Error percentage
Shooting high jump	17.940	2.833	0.632	28.288	0.000

Through what is shown in Table (3), it was found that the value of the differences for the arithmetic means between the results of the pre and post-tests of the experimental group in the shooting skill of jumping high in handball amounted to (17.940) and with a standard deviation of (2.833), and the value of standard error of the mean difference was (0.632). As for the value of (T), it amounted to (28.288), and the error percentage (0.000), and since the error value is less than the

level of significance at (0.05), this indicates the presence of significant significance between the pre and post-tests of the experimental group and in favor of the post-test in the shooting skill by jumping high.

#### Presenting the results of the pre and post-tests in the shooting skill test from the high jump of the control group

**Table 4:** Shows the arithmetic mean, standard deviation, and standard error of the control group.

Skill	Tests	Sample	Arithmetic mean	Standard deviation	Standard error
Shooting high jump	Pre-test	9	38.500	1.444	0.338
	Post-test	9	20.730	3.48	0.769

**Table 5:** It shows the difference of the arithmetic mean, the difference of the standard deviations, the value of standard error of the mean difference, the calculated value of t, the percentage of error, and the significance of the pre and post-tests of the experimental group.

Skill	Arithmetic mean of difference	Standard deviation of differences	Standard error of the mean difference	T value	Error percentage
Shooting high jump	16.860	3.900	0.832	20.115	0.000

Through what is shown in Table (3), it was found that the value of the differences for the arithmetic means between the results of the pre and post-tests of the experimental group in the shooting skill of jumping high in handball amounted to (16.860), with a standard deviation of (3.900), and the value of standard error of the mean difference was (0.832). As for

the value of (T), it amounted to (20.115), and the error percentage (0.000), and since the error value is smaller than the level of significance at (0.05), this indicates the presence of significant significance between the pre and post-tests of the experimental group and in favor of the post-test in the shooting skill by jumping high.

**Table 6:** Shows the arithmetic mean, standard deviations, the calculated (T) value, and the error percentage between the experimental and control groups in the post-test of shooting skill from the high jump in handball.

Skill	Groups	Arithmetic mean	Standard deviation	T value	Error percentage
Shooting high jump	Experimental group	19.600	2.542	-2.103	0.042
	Control group	20.730	3.48		

Through what is shown in Table (6), the value of the arithmetic mean in the post-test of the experimental group in the shooting skill of jumping high in handball was (19.600) with a standard deviation of (2.542), while the control group had a value of the arithmetic mean for it (20.730), with a deviation Its standard value is (3.48), and the calculated (T) value was (-2.103), and the error rate was (0.042), and since the error value is smaller than the level of significance at (0.05), this indicates the presence of significant differences in the post-test between the two control groups and experimental and in favor of the experimental group in the skill of shooting by jumping high.

#### Discuss the results

The clear differences revealed through the results obtained by the researcher after conducting statistical operations on the data obtained from the performance of the tests, he attributes them to the effectiveness of the proposed curriculum, which was applied to the experimental group and had a clear impact on the development of the performance of the shooting skill by jumping high in the handball game. This is referred to by Allawi as he mentions "The last stage of learning the skill comes through teaching and training to perform a motor skill with the economy of effort and coordination between the movements" (Allawi. 2000) [4], and by learning the learners according to the constructivist theory represented by the Wheatey model, which aims to be the learner who is responsible for his learning to a large extent as a result of his activity in building meaning for his experiences, and he will reach the maximum extent possible in his learning through his research and moving to Negotiations with others to find weaknesses by performing the skill, and he also learns from

others through the joint interaction between him and them, which is called cooperative learning within a learning climate that gathers their ideas and develops their thinking patterns.

#### Conclusions and Recommendations

##### Conclusions

- There is a clear positive effect in the application of the curriculum proposed by the researcher on developing the shooting skill by jumping high among the students of the Faculty of Physical Education and Sports Sciences.
- There are significant differences between the pre and post-tests of the control and experimental groups for the shooting skill by jumping high in handball.
- There are significant differences in the post-tests between the control and experimental groups, in favor of the experimental group.

##### Recommendations

Through the results and conclusions reached by the researcher in his current study, he recommends the following:

- The need to pay attention to the application and use of constructivist theory models in learning, including the Wheatey model in teaching and teaching skills.
- Using the model used in the current study to teach and develop other skills and other sports.
- Work on designing the Whitley model to suit the different academic levels.

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