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THE IMPACT OF EDUCATION USING THE REALISTIC TEACHING MODEL ON LEARNING ARTISTIC PERFORMANCE IN HAMMER THROWING FOR STUDENTS

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ABSTRACT

The importance of this study lies in the researchers' attempt to contribute new insights to the scientific literature by introducing and utilizing the Realistic Teaching Model in educating students in the artistic performance of hammer throwing. The goal is to prepare competent learners who possess a wealth of ideas, experience, and knowledge to leverage in the future. Additionally, the study explores the proper way to learn the art of hammer throwing, as many traditional teaching methods do not give students a significant role in the learning process. In contrast, modern strategies, including the Realistic Teaching Model, have been effective in engaging learners and facilitating the acquisition of information.

The researchers chose to employ the Realistic Teaching Model due to the similarities between the motor performance of different field events, which can lead to confusion among students when it comes to their motor skills. Therefore, the researchers decided to use the Realistic Teaching Model to achieve their research objectives, which included developing an educational curriculum using this model for teaching students the artistic performance of hammer throwing and identifying the differences between pre-test and post-test results for the research community and sample in learning the artistic performance of hammer throwing among students.

The research hypotheses postulated that the educational curriculum used in the Realistic Teaching Model has a positive impact on students' learning of the artistic performance of hammer throwing. There may also be statistically significant differences between the pre-test and post-test results in favor of the experimental group in learning the artistic performance of hammer throwing among students. The researchers conducted pre-tests for both the experimental and control groups, providing a general overview of hammer throwing and its correct execution. Subsequently, they implemented the educational curriculum based on the Realistic Teaching Model for the experimental group and conducted post-tests to obtain the results, using performance assessment tests evaluated by the subject teachers according to an assessment form developed by the researchers.

The researchers' key findings include the positive impact of the educational curriculum based on the Realistic Teaching Model on students' learning of the artistic performance of hammer throwing. The Realistic Teaching Model also facilitated a faster response to the learning process in acquiring the artistic performance of hammer throwing among students, as it required more effort and time from the students in the experimental group compared to the control group.

Based on their findings, the researchers recommend the adoption of the Realistic Teaching Model as an effective approach in the educational process, not only for the field of hammer throwing but also for other practical subjects and skills in various athletic activities and events.

Keywords: Hammer, performance, Model, Engage, Artistic

1- Research Definition:

1-1 Research Introduction and Importance:

The teacher is considered the central figure in advancing and developing the educational process. To achieve the desired objectives in various types and fields of education, especially in the educational field, it is essential for the teacher to continuously explore and study modern sources and apply them during the lesson to keep pace with society. This facilitates the development of the teaching process, making it more efficient for students, with less effort, time, and cost.

With scientific advancements in various disciplines, particularly in sports, the educational process for teachers is not coincidental but rather relies on several teaching models, methods, techniques, and teaching strategies that are based on sound and well-thought-out scientific foundations. Through this process, teachers can develop their ideas, abilities, and the resources available to them to achieve their desired goals.

In the field of physical education, and particularly in the context of teaching activities such as hammer throwing, it is crucial for the teacher to have a solid understanding of the fundamental concepts and optimal motor performance. Moreover, the teacher must recognize the educational value of the subject to achieve positive outcomes for the students.

To address these challenges, the Realistic Teaching Model was chosen, which stimulates the learning of the artistic performance of hammer throwing. This model is based on constructivist theory and guides the student, allowing a real connection between teaching and learning. It provides students with opportunities to develop concepts and gain a good understanding, enabling them to improve their physical abilities. Learning the correct and good performance in hammer throwing relies on the individual learner.

The importance of this research lies in contributing something new to the scientific field in general and the sports field in particular. It involves the application of the Realistic Teaching Model to facilitate students' achievement of good and correct performance in learning the artistic performance of hammer throwing. This study, as far as the researchers are aware, is the first to apply Realistic Teaching Model in the context of physical education.

The research problem is the identification of suitable strategies and methods for delivering information about field and track lessons by subject teachers and choosing the most suitable teaching methods that are compatible with students' cognitive abilities. Many first-year students entering the faculties of physical education and sports science lack prior knowledge and skills in such activities. Hence, the Realistic Teaching Model was used to help them learn the artistic performance of hammer throwing.

The research objectives include developing an educational curriculum using the Realistic Teaching Model for learning the artistic performance of hammer throwing and understanding

the differences in pre-test and post-test results in the research sample regarding the learning of the artistic performance of hammer throwing.

The research hypotheses suggest that the educational curriculum using the Realistic Teaching Model has a positive impact on students' learning of the artistic performance of hammer throwing, with statistically significant differences in favor of the post-test results in the learning of the artistic performance of hammer throwing.

The research was conducted with first-year students in the Faculty of Physical Education and Sports Science at the University of Kufa for the academic year 2021-2022. The research community consisted of 60 students, with the research taking place at the outdoor field of the Faculty of Physical Education and Sports Science at the University of Kufa. The study was conducted over a specific time period, from February 23, 2022, to March 20, 2022.

2- Methodology and Field Procedures:

2-1 Research Methodology:

The experimental methodology was chosen as it aligns with the nature of the research problem. The study was designed using the pre-test and post-test two equivalent groups design.

2-2 Research Population and Sample:

The research was conducted among first-year students at the Faculty of Physical Education and Sports Science at the University of Kufa for the academic year 2021-2022. The research population consisted of 60 students. The sample was selected using simple random sampling and the lottery method. The students were divided into two groups: the experimental group (Group B) and the control group (Group A), each consisting of 30 students.

2-3 Data Collection Methods, Tools, and Equipment:

2-3-1 Data Collection Methods:

1. Arabic and foreign sources and references.
2. Personal interviews.
3. Tests and measurements.
4. Performance assessment forms for students in hammer throwing (Annex 1).

2-3-2 Tools and Equipment Used:

1. A legal hammer throwing track.
2. Three standard hammers.
3. Fifteen educational auxiliary hammers.
4. Measuring tape.
5. Electronic calculator (National brand).

2-4 Used Tests:

The research used the "Technical Performance Test for Hammer Throwing" developed by Al-Fadhli (2014, p. 145).

Purpose of the Test:
To measure the speed and accuracy of the technical performance in hammer throwing.

Required Tools:
- Legal throwing course.
- Standard hammer.
- Measuring tape.
- Timing clock.

Procedures:
- The player stands inside the throwing course, holding the hammer with both hands.
- Swinging and rotating the hammer three to four times before performing the throw.
- Performing the throw in the correct manner throughout all stages.
- The player is not allowed to exit the course until the hammer has landed.
- Hammer grip: The hammer is held with the grip, with the left hand under the right hand, and the thumbs crossing to make it easier for the thrower to release the hammer correctly without hindrance from the right hand at the moment of release. The hammer should be held with the fingers wrapped around it.

The Ready Position: The player stands with their back facing the throwing direction, usually at the end of the course. The distance between the feet extends from 60-80 cm with a slight bend at the knee joint to provide stable support.
Swinging: To gain acceleration, the player starts with the initial swings two or three times. These initial swings provide the player with standard speed and enable them to rotate properly.
Rotation: There is a significant correlation between the hammer's initial swings and the rotation process. The player moves from the initial swinging movements to the first rotation cycle, where the player acquires considerable acceleration, allowing them to perform three or four cycles, depending on the player's ability and physical capabilities. The first cycle begins when the hammer is swung to the highest position to the right, and as the hammer reaches its lowest point, the player takes a strong stance on both feet. The movement of the shoulders and hips begins to rotate at this point, and the player lifts the toes of the left foot off the ground, starting the rotation on the heel. The same goes for the subsequent cycles.
The Throw: After both legs reach the throwing stance, they rotate slightly to the left, causing a kind of twist around each other with a slight arching of the back. During the throw, the legs should be fully extended, with increased curvature of the back and the head tilted back. After this, the player looks in the direction of the throw, and the arms rise in their final movement. This launches the hammer at an angle as close as possible to 45 degrees towards the sector of the throw.
Balance: The natural body balance movement comes into play, with the player either steadying themselves on both feet or rotating on the left foot's arch while moving the right foot, after it rotates on the pivot foot, to rest beside it, facing the throwing sector to monitor the hammer's flight.
Scoring: Each player was given three attempts, and the best attempt was considered for scoring.

2-5 Experimental Survey:

An experimental survey is a way to explore the surrounding conditions of the phenomenon the researcher wishes to study. The researcher conducted an experimental survey with a sample of five students. The purpose of this survey was to:

1. Determine the time required to complete the test.
2. Identify any difficulties that the researcher might face in the process and find suitable solutions.
3. Ensure the validity of the equipment and tools used.
4. Confirm the adequacy of the assisting team.
5. Identify any potential errors before conducting the main experiment.

2-6 Main Experiment:

2-6-1 Pre-Tests:

The researcher conducted the pre-test on Sunday, February 27, 2022, at 10:00 AM on the field of the College of Physical Education and Sports Science at the University of Kufa.

2-6-2 Educational Methodology:

After completing the pre-tests, the implementation of the educational methodology began on Wednesday, March 2, 2022. The curriculum consisted of six instructional units that were executed over three weeks, with two instructional units per week. The duration of each instructional unit was 90 minutes.

The primary component of the program lasted for 60 minutes. The researchers presented the educational curriculum to a group of experts and specialists in the field of kinesthetic learning and the field. They took their opinions into account. The researchers followed a realistic teaching model based on constructive learning.

In the initial stages, they analyzed the students (the research sample) to determine the available possibilities and identify the principles and concepts that needed to be learned. This analysis was conducted before the lesson began. Then came the planning stage, in which the researchers used the principles and concepts identified during the analysis to explain the required activities and movements.

In this planning stage, a set of discussion questions and dialogue points were prepared to encourage critical thinking. These activities were meant to be applied in real-life situations and should support the learning process. They aimed to engage the students and link the knowledge to their lives and the lesson's subject matter.

The next stage was the application stage, where students executed and applied the learned activities through individual or group exercises. The teacher monitored the performance to provide immediate feedback, guidance, and direction. Additionally, they organized what was deduced from good performance through repetition and practice. Finally, the teacher summarized the activities the students had accomplished, linking them to the behavioral objectives to be achieved in the next lesson.

2-6-3 Post-Tests:

After completing the implementation of the educational curriculum on Sunday, March 20, 2022, the researchers conducted the post-tests on Wednesday, March 23, 2022, under the same conditions as the pre-tests.

2-6-4 Statistical Tools:

The researchers used the statistical software package SPSS.

3- Presentation, Analysis, and Discussion of Results:

3-1 Presentation and Analysis of Results of the Technical Performance Tests for the Experimental Group.

Table (1) Shows the mean, standard deviation, and computed and tabulated t-values in the pre-test and post-test for the technical performance of hammer throwing for the experimental group.

statistics / Tests	Pre		Post		Calculated T value	Tabulated T Value	SIG
	M	SD	M	SD			
The technical performance test for hammer throwing effectiveness	9.97	0.20	17.01	0.43	19.30	2.05	Sig

significance level of 0.05 and with 29 degrees of freedom.

3-2 Presenting the results of the technical performance test for the hammer throw activity for the control group and analyzing them.

Table (2)

It shows the mean, standard deviation, and calculated and tabular (t) values in the pre- and post-tests of the technical performance for the hammer throw activity for the control group.

statistics / Tests	Pre		Post		Calculated T value	Tabulated T Value	SIG
	M	SD	M	SD			
The technical performance test for hammer throwing effectiveness	8.85	0.31	15.19	0.74	5.25	2.05	Sig

3-3 Presenting the results of the differences in the post-tests of the technical performance for the hammer throw activity between the experimental and control groups and analyzing them.

Table (3)

It shows the mean, standard deviation, and calculated and tabular (t) values in the post-tests between the experimental and control groups for the technical performance of the hammer throw activity.

statistics / Tests	Pre(control)		Post(experimental)		Calculated T value	Tabulated T Value	SIG
	M	SD	M	SD			
The technical performance test for hammer throwing effectiveness	17.01	0.43	15.19	0.74	11.37	2.00	Sig

significance level of 0.05 and with 58 degrees of freedom.

3-5 Discussion of Results:

Based on the results presented earlier in Tables (1, 2) and the subsequent findings in Table (3), it becomes evident that there are statistically significant differences between the pre- and post-tests of the technical performance in the hammer throwing activity for both the experimental and control groups. These differences favor the experimental group, which adopted the realistic teaching model. The researchers attribute this to the effectiveness of the educational curriculum designed according to the realistic teaching model, which the experimental group was exposed to. This curriculum clearly defined the roles of both the teacher and the students in a direct and explicit manner. This approach enabled the teacher to effectively guide the students and ensure active participation among all students during the learning process.

As Al-Rabeai (2000) points out, guidance and direction are crucial factors in students' acquisition of skills and knowledge. Furthermore, the educational curriculum applied by experts in the field provided up-to-date and relevant information on proper hammer throwing performance. It was well-suited to the students' levels and the type of activity they were engaged in. Consequently, the curriculum was implemented directly and effectively in the lesson. The curriculum was designed in a way that allowed both teachers and students to integrate various educational activities that aligned with the objective.

As Al-Hileh (1999) emphasizes, when the curriculum is executed effectively, students' overall performance significantly improves. Moreover, they can acquire additional benefits, such as the development of new learning skills. This is dependent on a correct understanding of the adopted teaching style within the educational process. Therefore, the subject teacher and their competency are essential factors in effective teaching. Designing a lesson plan based on the

applied model assists the teacher in creating appropriate conditions for delivering an effective lesson (Qalada, 2017).

During the phase of analyzing the reality, the teacher had ample opportunities to plan and organize the teaching process effectively, in line with the students' capabilities and available resources. This, in turn, encouraged students to participate positively and effectively. They were motivated to engage in learning activities, comprehend the proper technical performance of hammer throwing, and gain the necessary experiences for success. As Sherif (2017) highlights, using the realistic learning model leads to an increased motivation among students and augments their desire to learn. The model encourages students to actively participate in various activities, linking them to real-world situations, thereby increasing their educational experiences (Tawij and Al-Zahrani, 2018). Thus, in the realistic teaching model, the student's role is active, and they engage in diverse activities to connect with the real world for more information and enhanced educational experiences. Engaging students in thinking and doing leads to interaction between students and teachers. This interaction fosters the motivation of students to engage in various activities and enhances their confidence in their abilities and skills (Al-Hileh, 2003).

The positive impact of teaching according to the realistic teaching model was evident in helping students acquire accurate information and knowledge. This knowledge is integral to the correct performance of hammer throwing activities, which are crucial for both developmental and educational exercises. Additionally, providing students with broader opportunities to apply educational exercises through individual or collaborative repetitions for self-assessment created an appropriate learning environment. This environment facilitated faster learning of the activity with less effort (Al-Hileh, 2003). Furthermore, the teaching approach based on the realistic teaching model allowed the teacher to connect the lesson content and the educational objective to the real world. This made learning significant for the students, as the model's design ensured that the learning process was well-organized by both the teacher and the students (Qalada, 2017).

4- Conclusions and Recommendations

4-1 Conclusions:

Based on the test results, their analysis, and the subsequent discussion, the researchers arrived at the following conclusions:

1. Using the educational curriculum based on the realistic teaching model has a positive impact on students' learning of the hammer throwing activity.
2. Education according to the realistic teaching model has expedited the learning of performance in hammer throwing for students while efficiently utilizing their efforts and time.

4-2 Recommendations:

The researchers put forward several recommendations as follows:

1. The potential use of the realistic teaching model as an essential teaching model for physical education and sports science students.
2. Organizing workshops and training courses to train educators in effective teaching and how to develop lesson plans based on the realistic teaching model.

REFERENCES

1. - International Association of Athletics Federations: International Track and Field Law, (Dr. Sarihi Abdul Kareem Al-Fadhli's translation), 2014, p. 451.
2. - Nuri Ibrahim Al-Shawk and Rafae Saleh Fathi: Research Guide for Writing Research in Physical Education, Baghdad, Dar Al-Nahda Printing Press, 2004, p. 88.
3. - Mahmoud Dawood Al-Rubai: Theories and Methods of Physical Education, Dar Al-Kitab for Printing and Publishing, Baghdad, 2000, p. 83.
4. - Fuad Suleiman Qalada: Educational Objectives and Curriculum Teaching, Alexandria, Dar Al-Matbu'at Al-Jadida, 2017, p. 53.
5. - Mohamed Mahmoud Al-Hileh: Educational Design, Theory and Practice, 1st ed., (Amman, Dar Al-Maysarah for Publishing, Distribution, and Printing, 1999), p. 64.
6. - Mira Ibrahim Sharif: The Impact of Using the Realistic Learning Model on Modifying Alternative Perceptions of Scientific Concepts among Fifth Grade Female Students and Their Attitudes toward Science, Master's Thesis, Islamic University of Gaza, Faculty of Education, State of Palestine, 2017, p. 119.
7. - Suleiman Tawij and Ali Khalef Al-Zahrani: An Introduction to Active Learning, 1st ed., (Al-Mansoura, Dar Al-Alwala for Publishing and Distribution, 2018, p. 14.
8. - Mohamed Mahmoud Al-Hileh: Teaching Methods and Strategies, 3rd ed., UAE, Dar Al-Kitab Al-Jami'i, 2003, p. 94.

Annexed (1) Educational Program for the Realistic Teaching Model (Unit 1)

Program Duration: 90 minutes
Educational Stage: First
Educational Objective: Teaching students how to grip the hammer and assume the ready stance.
Number of Students: 30
Educational Goal: Fostering a sense of disciplined work among students.
Equipment and Tools: Regulation course, instructional hammer, throwing area.

Unit Sections	Time	Tools and Exercises Used	Notes
Preparatory Section	20 min		The teacher focuses on administrative aspects (commitment, attendance, and sports attire).
Introduction	5 min	Preparing lesson tools and equipment with educational awareness and guidance.	
Warm-up and Physical Exercises	15 min	General body warm-up, focusing on the parts used in the main lesson section: running, walking, and trunk rotation.	
Main Section	**60 min**		
Educational Segment	15 min	- Explanation and presentation of the activity: How to grip the tool. - Teaching the proper grip and carry: Holding the hammer with the left	The teacher explains the position and the correct and legal performance of the activity. - Poses

		hand beneath the right hand, with the thumbs crossing to allow the athlete to release the hammer smoothly without hindrance from the right hand at the moment of release. Holding the hammer involves curling the fingers around it.	thought-provoking questions for discussion, dialogue, and sharing opinions about the two stages: gripping the tool and the ready stance.
Practical Application	45 min	- After completing the realistic analysis of the skill and approximating it to the students' minds, the teacher provides the planning phase followed by the application phase. - The teacher intensifies instructional exercises that the students perform individually or collectively, while the teacher plays a guiding and instructive role, providing immediate feedback.	The teacher's role is instructional, guiding, and supplying learners with immediate feedback.
Closing Section	5 min	Relaxing games, calming and relaxing body exercises, equipment retrieval and arrangement, then gathering for attendance and departure.	Students should feel the spirit of competition and cooperation.

Annexed (2): Technical Performance Evaluation Form (Hammer Throw Activity)

Student Name	Preliminary Section	Main Section	Final Section	Total Score (out of 100)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				