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THE EFFECT OF EXERCISES USING TABLET TECHNOLOGY IN LEARNING FREESTYLE SWIMMING SKILLS FOR FEMALE STUDENTS

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Abstract

The purpose of this paper is to prepare exercises using tablet technology in learning freestyle swimming skills for female students, and to identify the effect of exercises using tablet technology in learning freestyle swimming skills for female students. The problem of the research lies in learning and paying attention to all new modern technologies that serve the educational process and to find the best ways that can be followed in Students' excitement towards learning. Therefore, the two researchers decided to use a new technique for physical education lessons in general, as the two researchers noticed the need to make the swimming lesson more interesting and exciting. This is due to the difficulty of the students dealing with the water environment, and in addition to the method used; it may be devoid of excitement and suspense in learning freestyle swimming skills. The two researchers explained that using tablet technology helps students easily deal with the water environment, in addition to making learning faster and better. All of these and other reasons prompted the researchers to use exercises using tablet technology through which it is possible to find solutions to this problem, facilitate the learning process and save time. And the effort, and the experimental approach was adopted by designing the experimental and control groups on a sample of female students amounting to (20) students, and they were chosen intentionally with a percentage of (38.461%) from their original community represented by the uneducated first-year students in the College of Physical Education and Sports Sciences for girls for the academic year (2023-2024), continuing full-time. Regular and in-person swimming lessons. The sample was divided into two experimental and control groups, each group consisting of (10) female students. The educational curriculum was applied to the female students of the experimental group for period of (6) consecutive weeks, with two educational units per week. After completion, the results were processed with the SPSS system to form the conclusions. The recommendations are that it is possible to use exercises using tablet technology in practical lessons to learn freestyle swimming skills for first-stage female students, and that using tablet technology in a swimming lesson helps in learning freestyle swimming skills for female students, as they outperformed students who learned without it, and it is necessary to increase interest in teaching female students in accordance with Tablet technology provides them with excitement and excitement in learning and avoids forced learning, which greatly facilitates the learning process.

Keywords: Exercises , Tablet technology , Free swimming

Introduction:

The modern era is witnessing a massive scientific, cognitive and technological revolution aimed at improving learning, especially the sports field, through the use of modern technologies that serve the educational process, as it has helped to confront the challenges dictated by the modernity of this era. The technical revolution and the resulting modern inventions in the field of educational technologies have had a great impact. On the educational and educational process. The use of educational techniques in teaching works to stimulate students' motivation to learn, contributes to recalling previous experiences, encourages students to study, and also provides students with a solid foundation for understanding concepts and reduces the need for long, detailed explanations (7:66)Therefore, the criteria for choosing a technology depend on the extent to which the technology is appropriate for the age stage, that this technology achieves the required goals in addition to that it attracts students and increases their excitement, in addition to the extent to which the technology is appropriate for the educational content, and all of this has a positive impact on learning. Technological progress has contributed to the emergence of new forms of education systems that have gone beyond the learning model based on wired technologies, to learning based on wireless technologies using mobile devices, which are used through the so-called mobile learning system, such as: the use of mobile phones, laptop computers, and tablet computers (2:201). Among these technologies, tablet technology was used. "Tablets are one of the pillars that lead to scientific progress, which makes these devices the focus of attention from educators and those interested in the educational process, and embodies an important topic as they are more efficient in using their wireless capabilities in various activities within the framework of purposeful educational situations that are based on participation." And interaction, to create rich educational environments, leading to high-quality educational outcomes that keep pace with the developments of the times and meet the requirements of the current stage. (8:20-22). Kinetic learning has a complex concept that includes many meanings in its aspects, as much as the factors influencing it and the amount of science associated with it. Despite the differences in viewpoints among scientists and specialists about defining a clear and precise concept of kinetic learning in some of its aspects, it flows into one stream and gives a comprehensive and accurate meaning of kinetic learning. (5:56) The swimming lesson is one of the lessons that needs a lot of attention in terms of preparation and choosing the best appropriate methods, including the use of modern techniques that help attract the learner's attention, increase interaction between students, and give female students the opportunity to participate in the educational process, to contribute to saving time and effort for the school and female students, and this is what helps to Being in an environment rich in stimuli. Learning freestyle swimming skills becomes easy to learn after the main goal of presenting the parts of the skills through the tablet technology and then applying them in the aquatic environment and assistive tools because most of the female students do not know how to swim of all kinds, so this technique was relied upon in presenting the parts of the skills for the purpose of helping the female students to reduce time and speed in swimming. Learning, all of this contributes to providing a solution to build a basic base that helps serve the teaching process to achieve the goals in the shortest and most useful way.

The importance of this research lies in preparing exercises using tablet technology to learn freestyle swimming skills for female students in the first stage. The problem of the research lies in the fact that the two researchers were informed of previous studies and experiences. A major problem emerged for the female students in practicing this activity compared to the rest of the lessons, as it is a required lesson and within the academic curriculum. In order to find a solution to this problem by preparing exercises using tablet technology to learn freestyle swimming skills, the two researchers assumed that there are no statistically significant differences in the freestyle skill tests, and there are no statistically significant differences in the posttests of the freestyle skill tests.

Method and procedures:

Studying the nature of the problem is what directs the researcher to use the appropriate approach to solve the problem. Therefore, the researcher adopted the experimental method in the style of equal experimental and control groups. “The researcher has the right to choose research designs, observation methods, measurement methods, and types of analysis (1:362)

The experimental design was chosen with equal experimental and control groups with close control of the pre- and post-tests. The boundaries of the population were represented by a sample of female students of the first stage of the College of Physical Education and Sports Sciences for Girls / University of Baghdad for the academic year (2023/2024), continuing the regular attendance period for swimming lessons, numbering (52) students who are naturally distributed into two divisions, (A) and (B), The research sample was chosen randomly to number (20), representing (38.461%) from their community of origin, and then two corresponding groups were chosen from them, each of these groups numbering (10) female students.

Table (1) shows the equality of the two research groups (experimental and control) in the research variables

No.	Tests	Experimental		Control		T value Calculated	Level sig	Type sig
		Mean	Standard deviation	Mean	Standard deviation			
1	10 sec apnea test	2.9	1.595	2.7	1.159	0.320	0.752	Non sig
2	Horizontal float test on the abdomen for 10 seconds	1.9	0.875	1.6	0.843	0.780	0.445	Non sig
3	Flow test	2.4	0.699	2.5	0.707	0.317	0.754	Non sig
4	performance of free swimming	1.6	0.516	1.5	0.527	0.428	0.673	Non sig

Table (1) above shows that the error level values for the research variables are greater than the significance level (0.05), which indicates that there are no significant differences in the research tests between the experimental and control groups, which indicates the equality of the two research groups, and starting with a single starting line for the two groups.

Then, one of them was chosen by a simple random method to be the experimental group from Division (A) and the other from Division (B) as its control, as these procedures were to avoid bias in this distribution and selection, and from the remaining number of the two divisions (10) female students were chosen for the exploratory experiment sample, and they are They represent 61.538% of their community of origin.

Measurement and procedures:

The two researchers adopted the free-swimming tests, Appendix (1). The students were tested before and after, and presented to two arbitrators (3), and the performance results of each student from the free-swimming tests were extracted. The two researchers prepared exercises using the tablet technology and employed its vocabulary in order to achieve the desired positive effect, specifically in the main section. Of these educational units, two units per week for (6) consecutive weeks, with a total of (12) educational units, in order to reach the desired goal. When applying educational units using tablet technology, the following is done:

- The tablet is distributed to the students, where the skill is displayed through the tablet, according to the required skill.
- The preparatory section: It is similar for both the experimental and control groups. Its duration is (20) minutes. Swimming clothes are worn, attendance is taken, and a public and private bath is performed.
- The main section (60) minutes. The exercises are explained in the educational (theoretical) part of the main section, as the experiment continued with pre- and post-tests and applications of the educational units using the researched tablet technology for the period extending from (18/11/2023) until (13/1/ 2023) in the indoor swimming pool at the University of Baghdad/College of Physical Education and Sports Sciences. After completing the experiment and applying the post-tests, the two researchers verified the results using the Social Statistical System (SPSS) version (V26), as each of the following values was automatically calculated: percentage, the arithmetic mean, standard deviation, t-test for uncorrelated samples, and t-test for correlated samples.

Results and discussion:

Result:

Table (2) shows the results of the arithmetic means and standard deviations for the free-swimming tests between the pre- and post-tests for the experimental group.

Variables	Measuring unit	Pre -test		Post-test	
		Mean	Standard deviation	Mean	Standard deviation
10 sec apnea test	Second	2.9	1.595	9.6	0.516

Horizontal float test on the abdomen for 10 seconds	Second	1.9	0.875	9.1	0.737
Flow test	Meter	2.4	0.699	7	0.816
Evaluating the technical performance of free swimming	Meter	1.6	0.516	8.4	0.699

Table (3) shows the difference of the arithmetic means, its standard deviation, the calculated (t) value, and the significance of the differences for the free swimming tests between the pre- and post-tests for the experimental group.

Variables	Measuring unit	Arithmetic mean of difference	Standard deviation of differences	T value Calculated	Level sig	Type sig
10 sec apnea test	Second	6.7	1.567	13.520	0.000	Sig
Horizontal float test on the abdomen for 10 seconds	Second	7.2	1.229	18.521	0.000	Sig
Flow test	Meter	4.6	1.349	10.775	0.000	Sig
Evaluating the technical performance of free swimming	Meter	6.8	0.421	51.00	0.000	Sig

Degree of freedom (10-1=9).
Significant if the error level is smaller than the significance level (0.05).

Table (4) shows the results of the arithmetic means and standard deviations for the free swimming tests between the pre- and post-tests for the control group.

Variables	Measuring unit	Pre -test		Post-test	
		Mean	Standard deviation	Mean	Standard deviation
10 sec apnea test	Second	2.7	1.159	7.7	0.483
Horizontal float test on the abdomen for 10 seconds	Second	1.6	0.843	6.3	0.823
Flow test	Meter	2.5	0.707	5	0.666
Evaluating the technical performance of free swimming	Meter	1.5	0.527	5.9	0.875

Table (5) shows the difference of the arithmetic means, its standard deviation, the calculated (t) value, and the significance of the differences for the free swimming tests between the results of the pre- and post-tests for the control group.

Variables	Measuring unit	Arithmetic mean of difference	Standard deviation of differences	T value Calculated	Level sig	Type sig
10 sec apnea test	Second	5	1.247	12.677	0.000	Sig
Horizontal float test on the abdomen for 10 seconds	Second	4.7	1.059	14.030	0.000	Sig
Flow test	Meter	2.5	0.707	11.180	0.000	Sig
Evaluating the technical performance of free swimming	Meter	4.4	0.843	16.5	0.000	Sig

Degree of freedom (10-1=9).
Significant if the error level is smaller than the significance level (0.05).

Table (6) shows the arithmetic mean, the standard deviation, the calculated (t) value, the percentage of error, and the significance of the differences in the free swimming tests between the experimental and control groups in the post-test.

Variables	Experimental		Control		T value Calculated	Level sig	Type sig
	Mean	Standard deviation	Mean	Standard deviation			
10 sec apnea test	9.6	0.516	7.7	0.483	8.497	0.000	Sig
Horizontal float test on the abdomen for 10 seconds	9.1	0.737	6.3	0.823	8.009	0.000	Sig
Flow test	7	0.816	5	0.666	6	0.000	Sig
Evaluating the technical performance of free swimming	8.4	0.699	5.9	0.875	7.055	0.000	Sig

Degree of freedom (20-2=18).
Significant if the error level is smaller than the significance level (0.05).

Discussion:

It is clear from the tables above that there are significant differences in the results of the free swimming tests between the pre-test and the post-test for the experimental and control group. There are significant differences in the results of the free swimming tests between the experimental and control groups in the post-test and in favor of the post-test. The two researchers attribute the reason for this to the educational exercises. Accompanied by tablet technology, which was graded according to the educational stages in free swimming, as the exercises accompanied by tablet technology are the cornerstone upon which educational units are built to develop the basic skills of female learners, as (4:106) emphasized that these exercises must be similar to part or all of them. From the course of the game's movement, in which a muscle or muscle group works, or contains movements similar to or close to the game's movement, and serves to achieve the desired goals. Exercises accompanied by tablet technology must be characterized by not being difficult to understand and understand, and do not require a long explanation, and require the use of the necessary auxiliary tools. In addition to having an aspect of suspense and excitement, this is what the two researchers were keen on in preparing the exercises using the tablet technique, so that they were similar to the technical performance of freestyle swimming, and that the exercises were similar to each stage of learning freestyle swimming.

The two researchers took care to follow the correct scientific method in developing the exercises accompanied by the tablet technique and the way they are practiced, as it has a positive role in the students learning freestyle swimming, which makes it easier for them to acquire learning these skills because the tablet technique saved the students time and effort, as all the exercises accompanied by the tablet technique that they perform It is necessary for the learner to be goal-oriented and according to the correct kinetic paths and continuous correction as much as possible. Scientists and researchers have confirmed that the use of different learning methods and strategies in the educational process makes the learner a positive participant to a large extent, while the teacher remains the main pillar of the educational process, as he cannot be dispensed with in any way. (3:155), stated that educational methods are any " A tool or communication channel that transmits information between the sender and the receiver, as "those working in the fields of education realized the importance of change and development that brought about effective growth in the means to serve the goals of education and overcome educational problems, which are represented by the breadth of human knowledge, and that the educational means went through different stages, and each stage has its name, which It fit with that stage, as it was called "(audio-visual means) (and aids for learning) (and communication means) (and teaching and learning means) (and educational technology). (10:89)

emphasized that teachers should rely on technology and educational means and considered them "an integral part of an integrated system, which is the educational process. The interest began not only in educational materials or devices, but in the strategy established by the designer of this

system, in how to use it to achieve Objectives are commensurate with the available capabilities (human and material), the capabilities of the recipients, and their social characteristics (9:78).

These methods have contributed to providing assistance to many learners in learning different movements, as scientific research in this field has led to the creation of many, many proposed educational methods, such as tools and devices, whose great benefits have been proven in facilitating the success of kinetic learning processes, as well as the preparation of special educational programs or curricula using these methods. Tools and devices: All of these tools and devices do not eliminate the role of the teacher in the educational process, nor are they a substitute for it. Rather, they are a strategy or a method used by the teacher to develop and strengthen this role by working to develop the level of education and facilitating the path for the learner to achieve the goal he wants to achieve.

The process of delivering information to the learner through the teacher and the teacher has recently become dependent on the use of various educational means instead of the traditional method, which relied primarily on the process of oral explanation and the practical model from the teacher and the teacher, so the importance of using auxiliary tools must be shown (6:101). :

- It helps raise the skill level and technical performance.
- It helps the educator to teach the skill in the shortest possible time.
- An effective and good way of suspense.

Therefore, it has become necessary to use educational means, including educational videos, especially in the field of swimming, because it is one of the activities that is difficult to learn due to the water environment. Its proper use contributes greatly to teaching and developing the learners' ability to quickly learn and master skills, in addition to helping to shorten the learning time. And make the learning process more effective.

Conclusions and Recommendations:

Conclusions:

- Exercise using tablet technology has a positive effect on learning freestyle swimming skills.
- Exercises using tablet technology have a positive effect on learning freestyle swimming.
- Preference for exercises using tablet technology in learning freestyle swimming skills.

Recommendations:

- Necessity of using tablet technology within the curriculum to learn freestyle swimming
- The possibility of conducting research using tablet technology in learning other types of swimming (butterfly, backstroke, breaststroke).
- The possibility of conducting research using tablet technology on other games.
- The possibility of using other techniques in learning types of swimming.

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Appendix (1)

Skill tests for freestyle swimming (11:74-77)

1- Test the skill of holding your breath

- Purpose of the test: to determine the learner's ability to hold his breath and float.
- Test conditions: (Standing inside the swimming pool) The learner takes a deep inhale, then holds the breath, pulls the knees towards the chest, closes the arms around the knees, brings the palate towards the chest, and floats in a squatting position.
- Tools used: swimming pool, stopwatch, whistle, registration forms, pens.
- Recording the test: The test measurement begins when the learner hears the starting whistle and takes a squatting position. The time is calculated from the beginning until the learner's feet descend to the bottom of the pelvis, and the time is measured in seconds and its parts.

2- Horizontal buoyancy test on the abdomen

- Purpose of the test: To measure the learner's ability to float horizontally (controlling body adjustment)

- Test conditions: The learner starts from a standing position in the water, creating horizontal buoyancy so that his body is completely straight.
- Tools used: swimming pool, stopwatch, whistle, registration forms, pens.
- Recording the test: The test measurement begins from the time the learner becomes in the horizontal position until the body becomes inclined, according to the buoyancy time in minutes and its parts.

3- Front sliding test
- The purpose of the test: to measure the distance that the learner travels when performing this skill
- Test conditions: Begin (half-standing) in the water, resting the foot on the wall of the basin. When the start whistle is heard, push the wall with the foot, extend the body forward, and flow as far as possible with the movement of the legs.
- Tools used: swimming pool, stopwatch, whistle, registration forms, pens.
- Recording the test: The test measurement begins when the learner hears the starting whistle after the learner takes the front horizontal position and slides with the movement of the legs. The distance is calculated in meters and its parts.

4- Technical performance test for 15 m freestyle swimming
- Purpose of the test: To measure the level of the learner's technical performance in freestyle swimming and his ability to strike legs, arm movements, and breathing.
- Test conditions: The learner stands inside the swimming pool with his back facing the wall and holding one hand while his feet remain on the ground and away from the wall. At the signal, he begins swimming without stopping until the test distance is covered.
- Tools used: swimming pool, stopwatch, whistle, registration forms, pens.
- Test registration: Registration is done by experts (the assistant work team) and based on a form provided to them according to the details included in it, by giving two attempts and then choosing the best attempt.

Appendix (2)
Educational unit

First stage
Week: Seven
Educational unit: Seventh
Educational goal: Teaching arm strokes while breathing Time: 90 minutes

section	Time	Activities	Formation	Notes
Primer	20 minute 5minute 15minute	The students attend the place designated for learning swimming and take attendance and absence		The introductory section is applied to all female students of the first stage

		Walking - jogging - jogging with rotating arms - walking on harrows - exercises for the legs - exercises for the torso - exercises for the arm - exercises with a colleague to strengthen the arm - exercises with the wall to strengthen the arms - jogging, fast running, shower		(both experimental and control)(.
Main section Educational aspect The applied aspect	60minute 20minute 40minute	All arm stroke exercises are presented using tablet technology -Performing arm strike exercises in the air against the wall - holding a colleague and performing arm strike exercises from a stable position - Holding a colleague and performing the skill of arm strokes from the movement - Hold the edge of the pelvis and perform arm stroke exercises - -Apply breathing exercises while holding the edge of the pelvis - -Performing arm stroke exercises and linking them to breathing - -Performing exercises with certain repetitions.		The main section is applied differently for each of the experimental groups The control group does traditional lesson exercises
Concluding section	5minute	A small game that serves the skill (tug-of-war game) to develop the arms End the lesson with a sports deal		The concluding section is done for both groups