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The effect of the concept maps strategy according to the self-review method in learning free swimming for students

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Abstract
The research included four chapters, and the first chapter included the research problem that the wide vocabulary of the swimming curriculum, the short period of time, the number of units allocated, the lack of swimming practice, and the difficulty of skills in this game showed the current problem, the researchers resorted to solve this problem through the use of an educational strategy and an educational method Modern in order to facilitate the learning process faster for this stage. Therefore, the researchers decided to test this strategy and this new method of learning, which had not previously been examined in its impact on learning and transferring the effect of learning to some skills in free swimming. As for the objectives of the research, it included two objectives, namely to identify the effect of the concept maps strategy according to the self-review method in learning free swimming for students, and the second goal is to identify the effect of the self-review method in teaching free swimming to students. As for the hypotheses of the research, they included the presence of statistically significant differences between the experimental group and the control group in the post tests in favor of the experimental group, and the second objective is the presence of statistically significant differences between the pre and post test for the experimental and control groups in favor of the experimental group. The second chapter included the identification of the research community and its sample, where the research community was chosen deliberately, represented by the students of the first stage in the University College of Al-Nisour, Department of Education for the academic year (2020/2021), and their number was (41) students and they were chosen in the intentional way, and (16) students were selected. By lottery, the experimental group and the control group represented the number of students of the experimental group (8) students, the control group (8) students and (5) students represented the exploratory group. The research sample represented a percentage of (39,024) from the original community. As for the third chapter, it included presentation, analysis and discussion of the results reached by the researchers through the results obtained by the researchers, which are explained through the tables that show the results. As for the fourth chapter, it included the conclusions and recommendations reached by the researchers through the results they obtained. The researchers concluded that there are Significant difference between the remote test between the experimental and control groups. The second conclusion is the superiority of the experimental group educated with the concept maps strategy in a self-review method in learning free swimming for students. As for the recommendations, it is the presence of a significant difference between the remote test between the experimental and control groups, the superiority of the experimental group. The learned strategy of concept maps in a self-reviewing style in learning free swimming for students.

Keywords: Concept maps, self-review

1. Introduction

1.1 Introduction and importance of research

The field of physical education and sports sciences has witnessed a great development and this was clearly demonstrated through the levels reached by countries in this field. This development was the result of the interest of many specialists in conducting research and studies in order to identify the best means and ways to develop this field and advance it to higher and better levels. Education also has a great impact on the process of acquiring and developing skills for beginners at different ages and events, and this depends on the development of teaching strategies and methods used in the educational process. It is built on sound scientific foundations in order to reach the desired goal. Undoubtedly, the adopted methods are of great importance in developing the level of skill performance in all sports and sports events in general and free swimming in particular. The educational process is a creative and innovative process. The researchers decided to use the concept map strategy according to the self-review method, which is one of the modern concepts in the teaching

process and the self-review method, which is also considered one of the modern concepts that help in the education process and improve it more easily, especially with the sport of swimming, which is one of the Sports that are difficult in the learning process and require a long time and need to be disassembled The teacher has a high mental level and speed in motor performance, so the teacher must choose the method that suits the learners and their ability to absorb the educational material, due to the difference in the educational material and the skill with the presence of a frightening surroundings, which is water for those who cannot swim, whether this material is easy or difficult. The person in charge of the educational process chooses the method that matches the ease and difficulty of the skill in order to be able to communicate this skill to the learners in a way that enables them to perform correctly.

1.2 search problem

The wide vocabulary of the swimming curriculum, the short period of time, the number of units allocated, the lack of swimming practice, and the difficulty of skills in this game showed the current problem.

The researchers resorted to solving this problem by using an educational strategy and a modern teaching method to facilitate the learning process faster for this stage.

Therefore, the researchers decided to test this strategy and this new method of learning, which had not previously been examined in its impact on learning and transferring the effect of learning to some skills in free swimming.

1.3 Research Objectives

1. Recognizing the effect of the concept maps strategy according to the self-review method in learning free swimming for students.
2. Recognizing the effect of the self-review method in teaching freestyle swimming to students.
3. Preparing educational units with concept maps strategy according to the self-review method.

1.4 research assignments

1. There are significant statistically significant differences between the experimental group and the control group in the post tests in favor of the experimental group.
2. There are significant statistically significant differences between the pre and post test for the experimental and control groups and in favor of the experimental group.

1.5 research journals

1. The human domain: first-year students/ Al-Nisour University College/Department of Physical Education and Sports Sciences/.
2. Time domain: for the period from 12/18/2020 - 2/5/2021
3. Spatial area: Yarmouk / Wissam Al Majd Club closed swimming pool.

Define terms

Concept mapping strategy: It is defined as a planning tool to represent a set of meanings of related concepts within a network of relationships so that the concepts are arranged hierarchically from the most general to the least general [1].

Self-review: It is a work method that gives the student the opportunity to apply the skill and practice it individually and perform a self-evaluation according to the standard card and then make judgments [2].

2. Research methodology and field procedures

2.1 Research Methodology

Any problem in scientific research needs to find an appropriate solution to it by choosing the appropriate method with the nature of the problem, so the experimental method was chosen for its relevance to the research problem and its objectives.

2.2 Research community and sample:

The research community was chosen deliberately, represented by the students of the first stage at Al-Nisour University College, Department of Education for the academic year (2020/2021), and their number was (41) students and they were chosen in a deliberate way, and (16) students were chosen by lottery, like the experimental group and the control group. The students of the experimental group (8) students and the control group (8) students and (5) students represented the exploratory experiment group. The research sample represented a percentage (39,024) of the original community.

2.3 Homogeneity and equivalence of research groups

The researchers did not conduct the homogeneity of the members of the research sample, since the sample is all from one academic division and one school stage, and that most of the accepted students are subject to a standardized test battery. The researchers also excluded the failing students because they have previous experiences and all of them are from the morning study.

The researchers also conducted an equivalence test after giving two educational units for the purpose of identifying the skill before conducting the test for the purpose of equivalence of the experimental and control groups to start to make sure that the two groups are homogeneous and equivalent and that there are no differences between the two groups and start from one starting line as shown in Table (1).

2.4 Tools and devices used in the research:

Research tools: sources and references, personal interviews, forms, observation, test and measurement.

Tools and devices used: stopwatch. Measuring tape, scientific calculator, video camera, CD-ROM, computer, pens and paper. Fencing hall, hp laser printer whistle.

2.5 Defining skills

Free swimming skills were determined by researchers by relying on references and sources, which identified the skills of free swimming (body position, legs strikes, arms strikes, breathing, compatibility).

[1] Tigris Al-Qarout: (The effect of using conceptual maps on immediate and delayed achievement in life science for tenth grade students in government schools affiliated to the Jin Education Directorate), Master's thesis, An-Najah National University, Palestine, 1988, p. 30.

[2] Muhammad Khamis and Nayef Saadeh: Physical Education and its Teaching, United Arab Marketing Company, Cairo, 2009, p. 160.

Table 1: It shows the mean, standard deviation, and the calculated T value for the two research groups

Variables	measurement	experimental group		control group		value (t) calculated	Sig	indication
		s	p	s	p			
Regular breathing test for 10/sec	second	**7,633**	**1,326**	**7,421**	**2,036**	**0.976**	**0.089**	insignificant_
float	second	**12,564**	**4,194**	**13,032**	**3,694**	**0.857**	**0,185**	insignificant_
glide	meter	**2,245**	**0.673**	**1,987**	**0,621**	**0.875**	**0,341**	insignifican_

The researchers also adopted the evaluation of the skill performance of free swimming through the objective evaluation through observation by experts with experience and competence. It is accurate by the assessor, and the experts used the assessment of skill performance in the light of the skills assessment form.

2.5.1 Free swimming skill tests
1. Regular breathing test for 10/sec.
2. Horizontal front buoyancy test.
3. Fluid test (front slip).
4. Free swimming test for a distance of 25 meters.

2.5.2 Performance Evaluation Form
The researchers used a free swimming performance evaluation form prepared by (Firas Ajeel Yawer: 2016) [3].
Through this form, free swimming was evaluated from (100) degrees divided according to the level and difficulty of the skill (body position: 16 degrees) legs strokes: 16 degrees) (arms strokes: 24 degrees) (breathing: 24 degrees) (compatibility: 20 degrees) where the total becomes The evaluation degree is from (100) degrees, and the evaluation is done through observation through the visualization of the testers one by one.

2.6 Field experiment procedures
The experiment procedures included the following:

2.6.1 Experimental Experiment
The researchers conducted the exploratory experiment on February 18, 2020 at exactly ten o'clock in the morning on a sample of (5) students from the research community from outside the research sample who were chosen by random method.

2.6.2 Equivalency tests
The researchers conducted the equivalence tests for the research sample on Monday, February 24, 2020 at exactly ten o'clock in the Yarmouk indoor swimming pool. The pre-tests are similar to the conditions of the post-tests.

2.6.2 Tutorial
The researcher prepared the educational curriculum among the vocabulary of the fencing subject curriculum. The two researchers prepared the curriculum from (6) educational units that were applied to the totals of the experimental and control sample over a period of (6) weeks, with an educational unit per week, at an average of (90) minutes per educational unit. The program was started on 12/21/2020 and the program ended on 1/2/2021. One educational unit consisted of three main sections, respectively (the preparatory section - the head - the final section) and the time of the preparatory section reached 15 minutes. As for the section The president's time reached (65) minutes, and this section included two parts: the educational part, whose time was (20) minutes, and the practical part, whose time reached (45) minutes. Calm down and breathe.

2.6.3 Post-tests
The researchers conducted post tests on the research sample on 4/2/2021, and the researchers tried as much as possible to unify the previous external conditions in which the tribal tests were conducted from spatio-temporal conditions and the method of conducting previous tests. Until all variables are controlled except for the experimental variable.

2.7 Statistical means
The researchers used the ready-made statistical package (SPSS) to analyze the data statistically:

3. Presentation, analysis and discussion of the results
Table (2) shows the arithmetic means, standard deviation, and the calculated T value for the technical performance of free swimming for the experimental and control groups for the post-test.

3.1 Presentation and analysis of the results
In this section, the researchers will present and analyze the results reached by the researchers by analyzing them statistically as shown in Table (2).
Table (2) shows the values of the arithmetic means, standard deviations, and (T) value calculated for the control and experimental groups. 915) and with a standard deviation of (2,373), and the calculated (T) value was (4,711), and the sig value was (0.001) which is less than (0.05), which indicates the existence of significant statistically significant differences between the two experimental control groups in favor of The experimental group, as for the two-legged stroke test, the arithmetic mean of the experimental group was (12,756) with a standard deviation (1,653), while the arithmetic mean values of the control group were (9,562) with a standard deviation (1,685), and the value of (T) calculated (5,116), and the value of (sig) was 0.000 (which is less than the level of significance (0.05), which indicates the existence of significant statistically significant differences between the experimental and control groups and in favor of the experimental group. The arithmetic mean of the experimental group (17,076) with a standard deviation of (2.609), while the arithmetic mean values of the control group were (14,789) and b Standard deviation (2.165), the calculated (T) value was (3.785), and the sig value was (0.003) which is less than the level of significance (0.05), which indicates the existence of significant statistically significant differences between the experimental and control groups in favor of the experimental group. As for the breathing test, the arithmetic mean of the experimental group was (15,231) with a standard deviation of (2.548), while the arithmetic mean values of the control

[3] Firas Ajeel Yawer: (PhD thesis), (The impact of the differentiated education strategy on cognitive achievement and acquiring the skill performance of free swimming for students), 2016.

group were (11,196) with a standard deviation of (2.250), and the calculated (T) value was (5, 144), and the value of sig was (0.000), which is less than the level of significance (0.05), which indicates the existence of significant statistically significant differences between the experimental and control groups, in favor of the experimental group. As for the kinetic compatibility test, the arithmetic mean of the experimental group reached (16,575) with a standard deviation (1.995), while the arithmetic mean values of the control group amounted to (14,125) with a standard deviation (1.732), and the calculated (T) value reached (3,988). The value of (sig0.001) is less than the level of significance (0.05), which indicates the existence of significant statistically significant differences between the experimental and control groups in the skill of compatibility, in favor of the experimental group.

Table 2: Shows the arithmetic means, standard deviation, and the calculated T value for the technical performance of free swimming for the experimental and control groups for the post-test

Skill	Measruing Unit	Experimental		control		Calculated t value	Sig	indication
		s	p	s	p			
Body Position	Degree	**11,777**	**1,742**	**8,915**	**2,373**	**4,711**	**0.001**	moral
Feet Kicks	Degree	**12,756**	**1,653**	**9,562**	**1,685**	**5,116**	**0.000**	moral
Arm Strokes	Degree	**17,076**	**2,609**	**14,789**	**2,165**	**3,785**	**0.003**	moral
Breathing	Degree	**15,231**	**2,548**	**11,196**	**2,250**	**5,144**	**0.000**	moral
Motor Compatibility	Degree	**16,575**	**1,995**	**14.125**	**1,732**	**3,988**	**0.001**	moral

3.2 Discussing the results

Table (2) shows the differences between the results of the post-test between the two experimental groups and the control group for learning the basic skills of free swimming. Accurate and sequential knowledge of the educational steps, and the use of the self-review method had a positive effect in teaching the compound attack to the experimental group, through the learner's assessment of himself and his knowledge of where he begins and where he ends.

The researchers attribute the reason for the superiority of the experimental group to the effectiveness of the concept mapping strategy according to the method of self-review, which helped to speed up the learning of learners and invest time and effort in a faster, more interesting and enjoyable way through the learners' knowledge of their levels and their assessment of their educational level and the identification by learners of where their educational level begins and when it ends.

The researchers also attribute the reason for this to the consistency of the nature of learning the skills under study with the specificity of what the fencing game needs in terms of accuracy in its performance and deliberation and deliberation in making decisions to confront the different situations that the individual resorts to when facing a situation or a problem that needs him to find an appropriate solution for it [4].

In addition to the above, the researchers find that there is another explanation for this result, which is the consistency of the concept map strategy with the working mechanism of the self-review method for what this method included through the assignment paper that contains everything related to learning the skill in a detailed and sequential manner and in interconnected steps, which helped the student to understand and realize To reach the optimal performance for each skill based on the principle of feedback "The development and development of feedback for learners requires the existence of a correct model learning and the selection of the correct scientific methods and methods to provide the correct information" [5].

(Abu Al-Naga, 2005) confirms that the self-review method contributes to the development of students' kinesthetic awareness, where the learner in this method observes his performance and then evaluates it on the basis of the standard paper, and this method also contributes to the development of cognitive mental processes such as the ability to compare and infer [6].

The researchers also agree with (Saad Ali Zayer) the concept of concept maps. These maps depend on the arrangement of concepts and the relationships among them in a clear framework and in a hierarchical manner from the most general to the least general so that they help students to understand these concepts and know the interrelationships among them. Concepts are two-dimensional diagrams in which the concepts of matter are arranged.

They are linked to each other with arrows written on which the type of relationship is written, as the learner sees these relationships and links the binary ideas and concepts according to their sequence by linking the parts of the skill [7].

The presence of the benchmark paper helps the learners to compare their performance with the paper and then move again. They either repeat the work to correct and maintain performance, or move to a new job. after finishing the work [8].

One of the advantages of the self-review method is that it allows the student to rely on himself in making decisions and making him able to take responsibility and save time and effort for the teacher while he is doing his work. According to how it fits and the teacher can not use it for all levels [9].

As (Ismail Abdel Zaid, Firas Ajeel) sees that the real learning is that every learner has his own meaning about things. necessary for the formation of meaning.

4. Conclusions and Recommendations

4.1 Conclusions

1. There is a significant difference between the post-test between the experimental and control groups.

[4] Imad Abdel Rahim Zaghloul: Principles of Educational Psychology, 2nd Edition, Dar Al-Kitab Al-Jami, United Arab Emirates, 2002, p. 302

[5] Qasim Lazam: Topics in Kinetic Learning, BM, Baghdad, 2005, p. 374.

[6] Abu Al-Naga Ahmed: Methods of Teaching Physical Education, Cairo, 2005, p. 86.

[7] Saad Ali Zayer and others: The Contemporary Educational Encyclopedia, Volume 1, Baghdad, Nour Al-Hassan Printing Office, 2014, p. 280.

[8] Muhammad Khamis and Nayef Saadeh: Physical Education and its Teaching, United Arab Marketing Company, Cairo, 2009, p. 160.

[9] Mahmoud Daoud Al-Rubaie: Contemporary Teaching Methods and Methods, 1st Edition, Modern Book World, Amman, 2006, p. 156.

2. The superiority of the experimental group educated with the concept maps strategy in the self-review method in learning free swimming for students.
3. The strategy of concept maps according to the method of self-review has a great impact on learning the basic skills of free swimming for students.

4.2 Recommendations

1. The necessity of using the concept maps strategy in teaching other types of swimming.
2. Using the method of self-review in teaching the basic skills of free swimming because it helps the learner to be self-reliant in performance.
3. Adopting a strategy of concept maps according to the method of self-review in teaching other skills and in other sports.
4. Using the self-review method and other methods on samples and other categories (males - females).

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