

THE EFFECT OF THE SWOM STRATEGY ON LEARNING SOME ARTISTIC GYMNASTICS SKILLS FOR STUDENTS

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Abstract

The aim of the study is to prepare an educational curriculum according to the Swom strategy in learning some technical gymnastics skills for students. The researchers used the experimental method for its suitability to the nature of the research problem. The research sampled students of the first stage distributed among study divisions in the College of Physical Education and Sports Sciences / University of Basra for the academic year (2021-2022) totaling (237) students. Also, the research sample was chosen randomly (lottery) where the number of sample members was (40) students. By preparing (16) educational units for the first and second groups (Supplement No. 4) and by (8) educational units for the first group, according to the steps of Swom (questioning, comparison and contrast, prediction, generation of possibilities, problem solving, decision making), and the most important conclusions he reached is that The strategy used (Swom) had a positive effect in learning the skill of back-rolling to stand on the hands. As for the recommendations, the adoption of educational units prepared by the researcher using the strategy (Swom) for their great role effective in developing the level of skillful performance of some basic skills in gymnastics.

Keywords: Swom strategy, learning, artistic gymnastics, students



1-Introduction

This work addresses the importance of the gymnastics lesson, which is one of the important lessons in the faculties of physical education because of its great impact on preparing the student mentally, physically and kinesthetically through learning many basic skills on various devices. Given that the sport of gymnastics entered is developing, the movements that are performed in them have become complicated, and it was necessary to develop the means of education and training on these movements.

The scientific material is presented in an atmosphere closer to reality, where the world has witnessed in the recent period important scientific developments that exceeded the previous developments throughout the ages that included all areas of life, and education was not isolated from these developments. Educators have strived to develop teaching methods and search for new strategies whose main focus is the learner and giving them the largest role. This is by designing situations based on the active participation of the learner, and positive interaction, so that they can develop thinking and skills.

2- Aims of the study

This study aims at

- 1- Preparing an educational curriculum according to the Swom strategy in learning some of the skills of artistic gymnastics for students.
- 2- Recognizing the impact of the curriculum according to the Swom strategy in teaching some artistic gymnastics skills to students.

The Research Hypotheses Were

- There are statistically significant differences in the results of the pre- and post-tests for the control and experimental groups in learning some basic skills in gymnastics and in favor of post-tests.
- There are statistically significant differences in the results of the post-tests for the control and experimental groups in favor of the experimental group.

Scope of the Study

1-The human field: a sample of first-year students in the College of Physical Education and Sports Science / University of Basra (morning study) for the academic year 2021/2022.

2- **The temporal domain:** the time period from 15/11/2021 to 3/15/2022.

3- **Spatial domain:** Gymnastics hall in the College of Physical Education and Sports Sciences / University of Basra.

3- Research Methodology and Field Procedures

3-1- Research Methodology

The researchers used the experimental method for its relevance to the nature of the research problem and the design style of the experimental and control groups, with pre and post tests for each of the two research groups.

3-3-The Research Community and its Sample

The researchers chose the research community in the intentional way, represented by the students of the first stage distributed among study divisions in the College of Physical Education and Sports Sciences / University of Basra for the academic year (2021-2022) with a total number of (237) students. The study sampled randomly (lottery) the subjects where the number of the sample members was (40) students only, and a percentage (16.87%) of the original community and the sample was distributed as follows:

Division (A) sampled (20) students, the first experimental group, which is taught according to the Swom strategy. Also, division (B) sampled (20) students, the control group. In addition, it studies two educational units during the week and according to the curriculum course in the college, as well as to provide the appropriate conditions for the implementation of the Swom strategy.

3-2-1-The Homogeneity of the Two Search Groups

The researchers used the coefficient of variation to find out the extent of the homogeneity of the sample in anthropometric measurements and age. It appeared that the value of the coefficient of variation ranges between (4,185) and (24,672), which indicates the homogeneity of the sample. The closer the coefficient of variation approaches (1%), the higher the homogeneity, and if it exceeds (30%). This indicates that the sample is not homogeneous, and as in the tables (1)

Table (1) Arithmetic mean, standard deviation, coefficient of variation, %.

It shows the homogeneity of the research sample

Variables	measuring unit	Arithmetic mean	standard deviation	coefficient of variation%
Length	cm	174,95	7,323	4,185
Bloc	kg	72,55	17,90	24,672
Age	year	19,75	1,178	5,964

3-2-2-The Equivalence of the Two Search Groups

In order for the researchers to be able to attribute the differences in the results of the dimensional tests to the effect of the experimental factor, the study adopted verifying the equivalence of the two research groups (the experimental group and the control group) by using the T-test for the interconnected samples, as in Table

(2):

Table(2) the equivalence of the two research groups

No	Variables	Measurement unit	The first group)Swom(The second group the officer		Value T	Sig value
			Arithmetic mean	standard deviation	Arithmetic	standard deviation		
1	Length		174,95	7,323	175,75	6,137	0,374	0,710
2	Bloc	Cm	72,55	17,90	72,40	19,44	0,025-	0,852
3	Age	Kg	19,75	1,178	19,85	1,260	0,265	0,700
4	Rolling	year	1.888	0.600	2.111	0.600	0.788	0.440

Table (2) showed that all (sig) values are greater than (0.05), which indicates that there are no statistical differences between the anthropometric and age variables for the two research groups. This is evidence of the equivalence of the sample members for both the experimental and control group.

3-3-Means of collecting information, tools and devices used in the research:

3-3-1-Means of collecting information:

- Arab and foreign sources and references.
- Observation and personal interviews (Appendix 1)



- Statistical means
- Skill tests
- Data registration and unloading form (appendix. 3).

3-3-2- Tools Used

Floor motion mat.

- Measuring tape length (50 m).
- Electronic balance number.(1)
- Simple gymnastics.

Whistle.

3-3-3-Devices Used

- A personal computer (laptop) type (DELL) of Japanese manufacture, number.
- Data show device. One electronic manual stopwatch.

3-4-Field Research Procedures

3-4-1- Skill Tests

Hand Roll Back Skill Test:

This test aims to measure the student's ability to perform the back-rolling skill to stand on the hands. The student takes the back-rolling position to stand on the hands, and then evaluates the skill with the agreement of the members of the jury, so that the final score for the skill is from (0-10) degrees.

3-4-1- Preparing Educational Units According to the Steps of the Research Strategy

Through the reviewing many scientific sources, references, and studies conducted on other sports activities depending on the strategy used in the research, and to achieve the objectives of the research and before starting the main experiment, the researchers prepared (16) educational units for the first and second groups. Appendix (4). It is by (8) educational units for the first group, according to Swom's steps (questioning, comparison and contrast, prediction, generation of possibilities, problem solving, decision making). The educational units as a whole consisted of (16) educational units, presented to a group of experts and specialists in teaching methods and gymnastics in order to benefit from their opinions and guidance on the appropriateness of using each of the Swom strategy within the



educational units, activities and exercises prepared by researchers, and the appropriateness of dividing the unit times. It is for first-year students in the College of Physical Education and Sports Sciences/ The University of Basra, to learn the skills under study. Also, the researchers adopted the opinions of experts and specialists and followed their advice in making some modifications on educational units.

3-4-3 Mechanism of sample work according to the research strategy

After conducting the tribal tests of the skills used in the research and for both groups, the researchers adopted the educational units prepared for the members of the experimental group. These units included various skill mathematical exercises, and the units were applied according to the steps of the Swom strategy separately and in the experimental group according to which you will learn.

This strategy was implemented on the experimental group represented by division (B) for students of the first stage in the College of Physical Education and Sports Sciences / University of Basra, and its steps are as follows:

• Questioning

This step is based on asking questions before, during, and after learning, in a manner that facilitates the process of understanding students and stops them at the important elements of the new skill. This indicates the learner's progress in the learning process, and helps the teacher to know the students' previous knowledge. The teacher should urge the students and encourage them to ask questions about what they think they need to clarify or explain, such as asking how to perform the back roll to stand on the hands, or how the body is during the roll.

• Comparison and Contrast

It is the skill that is used to examine two things, two things, two ideas, or two situations to discover the similarities and differences between them. They include the difference between frontal rolling to stand on the hands, and the difference between standing on the hands from standing and from rolling.

Prediction

It is the ability of the learner to envision or anticipate certain results, based on certain situations. It is certain that it occurs in the light of previous knowledge



that the individual has worked on forming, and it is not a type of imagination far from reality, but is according to rules and curricula according to certain conditions. It starts from real experiences, and depends on practical problems or issues, such as predicting how the body will be positioned before performing the quenching skill, or how the arms will be positioned while performing the rolling skill.

• **Generating Possibilities**

It is the ability to seriously innovate by discovering or generating other ways to re-organize the available information and generate new solutions, as in asking the following questions, is standing better than standing or rolling? Or is it easier to roll with one foot or with both feet?

• **Problem Solving**

It is an organized mental activity for the student, which begins by stimulating the student's thinking about the existence of a problem, which provokes thinking, and the search for its solution. For example, students study the reason for not controlling the handstand correctly, or the inaccuracy of standing.

Decision-Making

It is a distinction and choice between a group of alternatives, as decision-making implies that there are alternative options that can be taken into account. Here, decision-making is working on choosing the best alternatives after studying the consequences of each alternative or option, and the teacher here provides the learners with more than one option. They are asked to study it and the consequences of each of them and to make a decision to choose the best one from the learner's point of view, as in the following questions, 'what is the body's position during back rolling and how is the body when standing for performing the skill? Also, the main section also included some sudden movements to break the boredom of the students. The final section of the educational units also included a small game that serves the skill and proves its performance.

3-3-4The Exploratory Experience

The researchers conducted the exploratory experiment in the gymnastics hall on (1/10/2022 AD) at 1:30 am in the presence of the assistant work team, on a sample of (14) students, who are from the same community as the original

research and from outside the research sample. Conducting the exploratory experiment is to ensure the safety and validity of the devices and tools used, the appropriateness of the place when executing the tests, knowing the time taken to implement the tests used, as well as ensuring the efficiency of the assistant work team appendix (2). Also, the obstacles that may accompany conducting the tests were identified to be avoided in the future and we showed the extent to which students understand and comprehend the vocabulary of the tests used, and their suitability to the level of the sample members. The researchers chose an educational unit from the special units prepared for the Swom strategy, and the aim of conducting this experiment was to identify the obstacles that researchers may face when implementing the educational units prepared according to the steps of the strategy and work to overcome them.

3-5-Pre-Test

The pre-test for the experimental group was conducted at 10:30 am, and the pre-test for the control group was conducted at 12:30 pm of the same day in the indoor hall of the gymnasium on 13/1/2022. All the necessary requirements were prepared for conducting the tests and fixing all the variables related to the tests such as place, time, tools used, method of implementation with an assistant work team in order to control as much as possible the creation of the same or similar conditions when conducting post tests.

3-6-The main Experience

The researchers determined all the requirements of the main experiment, by defining the tests that measure performance for the skill of back rolling to stand on the hands, preparing the educational units for research, conducting exploratory experiments and using them in organizing work and preparing for the main experiment. Then, they accordingly the researchers conducted the main experiment on a sample of (40) students only, included each of division (A) of (20) students, which represented the first group. Division (B) was (20) students, which was the control group, as the researchers began to apply the educational units to the first two groups on Saturday (16/1/2022 AD) at 10:30 am for the first group, and at 12:30 p, for the control group, and it included (16) educational units, at a rate of (8) units for each group. It took (4) weeks to implement, with (2) educational units per week for each group, and the practical period of the educational units for the two groups ended on Sunday (7/3/2022 AD), and the



time of one educational unit was (90) minutes. The total time taken to implement all units reached 1440 minutes, and the components of the unit were divided into three sections (preparatory, main, and final), and each section has a purpose that connects it to the other section and enhances it in reaching the goal. The preparatory section has reached (20) minutes per unit. The total is (320) minutes, at a rate of (22.22%) of the total time, and it included a general warm-up in which various exercises are performed during walking and jogging at a rate of 66.66 of the total time. It included the application of Swom steps to the first group, and the main section contained the educational activity and the applied activity, where the teacher in the educational activity instructed all the students to stand in the formation (square minus a side) and begin to explain the skill. Then, the students apply what they have learned in the educational activity, and after the teacher finishes explaining the skill, he begins to apply the exercises prepared by the researchers. of the total time.

3-7- Post Test

After completing the application of the educational units on (7/3/2022 AD), on Sunday to identify the level reached by the students, the researchers subjected the members of the two groups to post-tests on Sunday (14/3/2022 AD) in the Gymnastics Hall. Under the direct supervision of the researchers and in the presence of the assistant work team, the post test for the first group was conducted at 10:30 am, while the second group was conducted at 12:30 am in the afternoon of the same day, and the researchers were keen to prepare the same conditions, variables, requirements and tribalism that was prepared in the pre-test, in order to avoid the variables that might affect the results of the tests.

3-8-Statistical Means

The researchers used the statistical program (SPSS) version (21) to process the data and extract the results, by using the following applications:

- Arithmetic mean.
- standard deviation.
- Test (T) for interconnected samples.
- Variation coefficient.

4- Results and Discussion

4-1 Presenting and discussing the results of the pre- and post-tests of the experimental group:

No	Variables	measuring unit	Pre-test		Post test		value T	Sig
			Arithmetic mean	standard deviation	Arithmetic mean	Standard deviation		
4	Roll back handstand	Degree	1.88	0.600	8.333	0.250	25.164	0,00

Table(3) the arithmetic means, standard deviations, the calculated (T) value and the sig value of the pre-test and the post-test for the experimental group.

The researchers attribute these moral differences to the effectiveness of the educational units that were applied to this group according to the Swom strategy, which is one of the modern strategies in teaching. These strategies have been accepted by students as a new form of learning that differs from the traditional form and because they work on recalling previous information and linking it to new information through provoking experiences and knowledge through discussion and asking questions about the skill, which leads to an increase in students' interest in the new topic of the lesson. Marei (1982) believes that the learner must reorganize concepts, ideas or information for the content to be learned, and integrate them with what was previously learned in the mental structure during the activities and practices that increase the consolidation of his concept(Marei, 1982). These differences are caused by the exercises prepared according to the Swom strategy, which is based on teaching by exciting the mental and cognitive abilities of the students and addressing them. This confirms the ideas of Shatnawi, Al-Jadaan, Ahmad, and Al-Saeedin (2021) who state that the nature of constructivist learning helps students build meaning for what they learn. They rely on themselves and do not wait for anyone else to tell them this solution in a ready manner, and they feel that learning is the making of meaning and not just memorizing sterile information(Shatnawi et al., 2021), and the educational units prepared by the researchers and the sequential stages. They have provided a good opportunity for students to learn the skills under discussion in the practical application of all the details of the skill through the application of a variety of exercises that serve to learn the skill and its performance in various cases of stability and movement. They took into account the position of the body, which led to the continuous evaluation of performance and reinforcement with the intention of knowing the extent of benefiting from the education and its

impact units. These units clearly contributed to increasing students' motivation towards learning, as Mahjoub (2001) report that the exercise leads to the development of skill and access to the correct technique and automation in performance and the ability to know the error and correct it (Mahjoub, 2001).

Mahkoun also attributes the reason for that interaction between the teacher and the student to the creation of a positive field for the student in the educational process by not relying on the subject teacher only to acquire information through the educational activity prepared by researchers in the educational units. This encourages students to reflect and think to increase their understanding and knowledge. It also confirms (Saleh, 2017) that the players' knowledge methods must be presented through questions in order for learning and training to take place in the field according to the requirements of the competition. This benefits the players in the process of linking the theoretical side with the applied side. It also improved the performance level of the skill of standing on the shoulders well and achieving better results in the post tests that came from the practical application and practice of the technical performance of skills during the educational units. It is also because it included a variety of exercises, as the application of these exercises by the students are considered an effective practical experience for new experiences, in addition to the researchers' development and complexity of the exercises to advance the process of learning the skill using cognitive apprenticeship in learning. Therefore, the students participate in a student-centered learning process that made learning artistic performance in gymnastics a real pleasure for them.

4-2-Presenting and discussing the results of the pre and post tests for the control group:

Table(4) the arithmetic means, standard deviations, the calculated T value and the sig value of the pre-test and the post-test of the research variables for the control group.

No	Variables	Measuring unit	Pre-test		Post test		value T	Sig
			Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
1	Roll Back Handstand	degree	2.111	0.600	6.555	0.446	21.429	0,00

The researchers attribute the development in some variables of the control group to the method followed by the subject teacher, the good regularity in the



performance of the educational units of the subject and curriculum in terms of ease and difficulty and the role of the teacher in planning and good preparation. It is also die to the practice and repetition of performance. The control group only adopted the exercise on the carpet of ground movements. Afaf (1993, 50) asserts that “traditional learning depends on the positive role of the teacher in making all decisions from planning, implementation and evaluation, as well as determining the appropriate time needed to achieve the goals.

Table (5) the arithmetic mean, standard deviation and the calculated (t) value for the experimental and control groups in the post test of hand rolling backhand skill.

Statistical means	Experimental group		Control group		Calculated t value	Significance
	S	A	S	A		
Roll back handstand	8.333	0.250	6.555	0.446	10.432	mean

Table (5) shows the arithmetic mean (8.333) of the post-test for the experimental research a standard deviation (0.250). For the control group, the arithmetic mean was (6.555) and the standard deviation was (0.446). The statistical significance value is less than (0.05), which indicates the existence of significant differences between the two groups and in favor of the experimental group.

Table (5) makes it clear that there are significant differences in the post-tests of the research variables in favor of the first experimental group. The researchers attribute this improvement and superiority to the first experimental group in most of the research variables due to the use of the Swom strategy and its various stages, steps and methods that give motivation to students, which were accepted by the students as a new form of learning. It contributed significantly to increasing the amount of information about some skills as a result of the diversity and distinction of its methods that link the skill side to the knowledge side through adequate explanation, clear presentation and sequence in explaining the skill, which helped to arouse students' interest and make them more able to understand and absorb information by increasing Their attention and focus for active participation in achieving the objectives of the educational units help mastering the technical performance of the skill of rolling back to stand on the hands Zaitoun (2010)stresses that “the Swom strategy works to move students away from mere memorization of scientific facts and principles to a meaningful self-understanding that can Interpretation and prediction of what is happening and thus the active use of knowledge”(Zaitoun, 2010). The educational units



ensure asking exploratory questions that can be searched and tested in order to treat them and find solutions to them increased the results of the post-test. These questions were prepared to research the technique of each of the skills under research. Also, answering them requires the student to provoke a group of mental processes such as thinking, visualization, and cognition, and thus retrieve Information stored in memory about the method of motor performance of the skill, which enables access to the correct answers to these questions for the purpose of mastering the required performance,

Al-Hassoun (1993) believes that “educational questions are one of the cognitive means that activate the information stored in the student’s mind, retrieve it and benefit from it in an effective manner” Nazeer: (2000) believes that there is great importance of educational questions that work to enrich the learning process and increase the student’s motivation to learn” (3). Also, the multiplicity of sources of information reception for students during their performance helped acquire information that increases their level of efficiency, and left an effective impact on the learning process. Hamdy (1999) sees that the process of receiving information Knowledge from multiple sources is more clear to the recipient, attracts his attention and motivates him to learn, which leads to improving his learning.

Sabr (2005) state that learning within an educational method that is applied objectively leads to increased learning and improvement in mastery of skill in the cognitive and skill sides. Neamah (2014) and Zaitoun (2010) state that learning through the constructivist strategies, including the Swom strategy, help the student organize the experiences and knowledge. They will reach a broader understanding, which leads to the creation of meaningful learning towards the details of the skill and its performance, and giving them the freedom to reach the exploration in the skill performance themselves. Also, the repetition of that in all the prepared units greatly helped in learning the skill technique and improving the level of learning, as well as the diversity in sports exercises increased the suspense of the students and contributed to the acceleration of learning Skills, according to Al-Jadaan, Zaalán, and Ali (2020). Sabr (2005) argue that diversity in the use of exercises and methods when teaching sports skills is the most appropriate method in creating an atmosphere of suspense and pleasure for students and thus contributes to achieving rapid learning of sports movements and activities.



The repetition of each exercise during the time allotted to perform the exercises during the units is an important factor that contributed to the development of the students' level. In addition, the educational units were appropriate to the level of the sample and its absorption in addition to the good use of those units and their proper and organized implementation by a football specialist as a result of successful planning, based on solid scientific foundations, allowed group members to work and progress in skillful performance.

The effectiveness and advantages of Swom have given a positive opportunity for each student's participation and interaction with his colleagues through the expression of ideas, which increased the students' enthusiasm, raised the level of performance and developed their motivation. According to Abdel-Ghaffar (1977), among the important factors that have essential roles in the learning process and reaching good results is the process of developing motives that contribute to controlling what the individual has of information in his field of competence, and that drives him to think, work hard and perform.

5. Conclusions and Recommendation

5.1 Conclusions

- 1-The strategy used (Swom) had a positive effect in learning the skill of back rolling to stand on the hands
- 2-Through the teacher's role in strategy (Swom), supervision and direction reduced the teacher's effort and thus investing the teaching time by the teacher.
- 3-The first experimental group, which used the Swom strategy, was better than the control group in learning the skill of back rolling to stand on the hands.
- 4-The Swom strategy works on developing the student's ability to understand, developing his abilities to contemplate and accurate observation, and provokes real experiences, which makes the students readier to learn.

5.1 Recommendations

This work recommends the following:

1. Adoption of the educational units prepared by researchers using the strategy (Swom) for their significant and effective role in developing the level of skill performance for some basic skills in gymnastics.



2- Emphasis on urging teachers in the faculties of physical education and sports sciences to use modern educational strategies and methods, in addition to relying on self-experience in teaching and staying away as much as possible from traditional methods and methods.

3- The choice of educational strategies and methods that are appropriate to the nature of learning the skill, its performance, and the students' capabilities, in a way that ensures their active participation in organizing and managing the lesson.

4- Emphasis on conducting similar studies on other age stages not covered by the current study for male and female students, and on other skills and activities.

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