

## **The effect of strategy –based learning self-organized learning in the cognitive achievement of artistic gymnastics**

**By**

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### **Abstract**

It is no longer logical to make knowledge accumulate in the minds of learners as if they were isolated pools, because the presence of a huge amount of information that cannot be known to any human being, regardless of his mental abilities, as well as the reliance of the lesson on the teacher prompted educators to make the greater weight of the responsibility of learning rests with the learner through Adopting a strategy that makes the role of the learner active in the educational process and its impact on their cognitive achievement in the artistic gymnastics for a sample of second-year students with two equal groups, an experimental one that works with the independent variable using a learning strategy that makes the female learners a role in the learning process so that there are differences in the cognitive achievement before and after the educational units The experimental group outperformed the control group in the cognitive achievement test to conclude their work and recommend the necessity of applying the strategy within the special educational curricula in the subject of artistic gymnastics or with any other sporting activity.

**Keywords:** strategy, learning, self-organized and cognitive achievement

### **Introduction**

Our current era is witnessing a tremendous development in information, so it is necessary to keep pace with these rapid and successive developments in various fields of science and knowledge, especially the field of kinetic learning, which is witnessing an information flow, knowledge expansion and the development of information technology. To new knowledge, and this requires work on a comprehensive development whose main objective is to move from an education based on the culture of memory, to an information education based on developing the skills of investing information and converting it into knowledge based on the characteristics of the learners and shifting the attention from looking at what teachers due mainly to what the learners do and what they think Which leads to the formation and management of a learning environment that develops the ability to learn, and how do we learn? This type of learning, of course, helps learners to become better learners, organize themselves, and improve their motivation and abilities to learn, especially when they are self-reliant. Especially in the subject of technical gymnastics and what this game requires as one of the individual games and the importance of using the strategy of self-regulating learning, the importance of which is clear through what Perkins & Salman 1992 indicated that it is no longer logical to make knowledge accumulate in the minds of learners As if they are isolated pools, the fact that there is a huge amount of information that cannot be acquainted with any human being, regardless of his mental abilities, as well as the reliance of the lesson on the teacher prompted educators to make the greatest weight of the responsibility for learning rests with the learner .<sup>1</sup>

The self-regulation of knowledge and behavior is an important aspect of students' learning and academic achievement, especially in technical gymnastics, as it is a difficult subject due to the multiplicity of its devices and skill requirements, which are affected by the laws of nature, as it expresses the extent of their actual participation in the learning processes and directing their learning academically and practically. Learning according to this concept is not something that happens to students, but rather something that they talk about in their interactions with the educational situation in an active and effective manner.

Educational institutions in developed and developing countries alike face unprecedented challenges posed by the rapid changes in the fields of communications, globalization and the new world order whose features began to take shape at the beginning of the last decade of the last century. These educational and educational institutions, especially in the field of kinetic learning, face enormous pressures to develop their programs in order to respond to the needs of their future students, which can be summed up in how to prepare them to deal with these changes that affect all aspects of contemporary life, and on the other hand, they should respond to the requirements of community development in its various forms. If we accept that change is a phenomenon inherent in the lives of societies and individuals at different times and places, it is necessary to prepare ways to keep pace with this change, especially in the field of gymnastics. It is still limited to listening, receiving and applying what the teacher offers or requests, through teaching methods and methods of performance that do not amount to encouraging or motivating and involving the learner in the educational process, which is negatively reflected on good academic achievement and efficient academic achievement, which does not achieve in a satisfactory and acceptable manner in meeting the objectives and requirements of the process. educational attainment, which makes it possible to reach good levels of academic achievement for many students You know a problem in itself, as this weakness is mostly not due to their low skills in organizing, processing and retrieving information in an organized, clear and directed manner.<sup>2</sup>

This problem is evident in teaching gymnastics by relying on traditional models. The prevailing educational model may not solve many teaching problems. Therefore, educators agree that the best way to improve and develop education can only be done through the use of the scientific method based on research and experimentation, and the use of The mind is in solving problems with a focus on sensory means, looking at their applications, and involving students in reaching them and realizing the relationships between them, by reconsidering their role during the educational process and considering them as active thinkers, and not limiting their role to remembering the accumulated information and knowledge.

## **Research objective**

- Recognizing the effect of learning by a self-organized learning strategy on the cognitive achievement of the technical gymnastics subject for the experimental group.

### *Hypothesis*

- There are statistically significant differences between the experimental group and the control group, in favor of the experimental group.

### *Research fields*

- The human field: second-year students, College of Physical Education and Sports Sciences, University of Diyala University.
- time domain:

- Spatial domain: Gymnastics Hall in the College of Physical Education and Sports Sciences, University of Diyala.

### **Research Methodology**

The researchers used the experimental method in order to suit the application of the research and its procedures, using the experimental design with two groups, one experimental and the other controlling.

### **Research population and sample**

The sample of the research was chosen in the intentional way from the students of the second stage, which amounted to (60) students. The experimental group and the control group, each of whom consisted of six (26) female students.

**Table 1.** *The distribution of the research sample on the experimental and control groups*

<b>Groups</b>	<b>The number before the exclusion</b>	<b>The number after exclusion</b>	<b>Excluded</b>
Experimental	30	26	
Control	30	26	8
Total	60	52	

Equivalence of my group to search the previous information

The test consisted of the test group of (77) items of the type of multiple test, the average scores of the two groups were (11.538), a variance of (3.618), and the average scores of the control group (11.038) and a variance of (4.678), using the t-test equation for two independent samples of equal number, It was found that there is no statistically significant difference between the control and experimental group students in this variable.

**Table 2.** *Show mean, variance and t value in the variable of previous information in the subject of gymnastics*

<b>Groups</b>	<b>Sample</b>	<b>Mean</b>	<b>Variance</b>	<b>df</b>	<b>(t) Value</b>		<b>Statistical significance</b>
					<b>Calculated</b>	<b>Tabulated</b>	
Control	26	11.538	3.618	50	0.886	2.009	No Sig.
Experimental	26	11.038	4.678				

Means of collecting information, devices and tools used

- **Means of collecting information**

1. Arab and foreign sources.
2. International Information Network (Internet)
3. Survey experience.
4. Tests and Measurements.
5. Forms for recording and unloading data.

- **Tools and equipment used**

1. Floor movement mat.
2. Camcorder (1).
3. Laptop Calculator (1).
4. (4) laser discs.

- **Survey study**

1. The researchers conducted the survey on 11/5/2021 with the aim of the following:
2. Identifying the difficulties that the two researchers may face during the application of the basic study.

- Ensuring the clarity of the stages of the strategy for the respondents.
- Ensure that the measuring device is suitable for the sample.

### ***Basic studies***

#### ***1 Determining the scale***

After the tool was determined to measure the cognitive achievement of the technical gymnastics subject, based on the scale prepared previously in the cognitive achievement test for the technical gymnastics subject for the second stage and in one of the colleges of the northern regions, which included two axes (the devices axis, the axis of the theoretical framework), as the current study relied on the axis of the theoretical framework and included The subjects of the first semester for students of the second stage, which amounted to (29) paragraphs distributed on the sub-themes, as it included (the number of paragraphs of the axis of the history of devices (11) paragraphs, the number of paragraphs of the axis of characteristics of devices (10) paragraphs, and the number of paragraphs of the law of devices (8) paragraphs.

#### ***2 The application of learning based on the strategy of self-organized learning***

After making sure to ensure the standard characteristics and their suitability for the sample, the two researchers, after dividing the sample into two groups, the first control group, numbered 26 students, who depended on the teaching of gymnastics by the subject's school, and the second group, experimental group number 26, taught using the self-organized learning strategy. One of the researchers was keen to be the direct responsible in The learning process for the subject of artistic gymnastics for the experimental group so that there is no effect on the sample. The duration of the experiment is by an educational unit per week and at an average of two hours per week. On 7/11/2021, the researchers began to apply the daily plan for the first educational unit, which was prepared according to the learning based on the structured learning strategy. Subjectively, after its importance and applications were clarified to the students by adopting steps according to the components of the Zimmerman model (Zimmerman 2002): (the stage of preparation and planning, the stage of performance, the stage of control and organization, self-evaluation) and as shown in Appendix No. (1) and the two researchers finished applying the educational units on day 21 1/2022 After completing the theoretical course on the measurement tool for the cognitive achievement of the technical gymnastics course.

#### ***3 Application of the cognitive achievement test for the technical gymnastics subject in question***

After the completion of the theoretical material for the first semester by the students of the second stage, which includes the axes of the cognitive achievement scale, the test forms were distributed to the students to answer them on 01/24/2022 and for the two experimental and control groups.

## **Results**

Presentation of the results of the means, the value of the variance, the value of the t-value of the tabular and computed degree of the two control and experimental groups, and the value of significance

**Table 3.** *The value of the variance and the value of the t-value of the tabular and computed degree of the two groups, the control and the experimental, and the value of the significance*

Groups	Sample	Mean	Variance	df	(t) Value		Statistical significance
					Calculated	Tabulated	
Experimental	26	20	12.2	50	3.209	2.009	Sig.
Control	26	17.230	6.584				

In order to calculate the size of the effect that the independent variable had on the dependent variable, the researchers adopted the effect size (n) squared, table (4).

**Table 4.** *Shows the value of n squared, the value of t and the size of the effect on achievement*

(t) Tabulated	(t) Calculated	Effect value	Effect Size
2	3.209	0.170	Big

## Discussions

Through the results of the statistical analysis of the study data, the two researchers reached through the results of Table (3), which showed that there were significant differences at the level (0.05) between the average differences of the two experimental groups that were taught according to self-organized learning compared to the control group that studied according to the traditional method in Cognitive achievement of artistic gymnastics for the benefit of the experimental group. The researchers attribute this to the fact that self-organized learning provided the students with the opportunity to demonstrate their abilities in learning methods commensurate with their personal characteristics, their interaction with the educational material, their active and positive participation in educational situations, and the acquisition of knowledge according to their abilities, preparations, special capabilities, and self-speed with less direction.<sup>3</sup> From the researcher, which allowed for the possibility of correlation with the cognitive, emotional and motivational dimensions of their behavior towards the achievement of gymnastics, which is consistent with the theoretical construction, as self-organized learning reaches the degree to which the learner can use self-processes (personal) to organize behavior and the learning environment strategically and that behavior is the outcome of resources Self-organizing and influential external sources .<sup>4</sup> Thus, we can say that the steps that were allowed for the students to adopt in this group of numbers, planning, arousal and activation of knowledge and performance, as well as control and organization, as well as self-evaluation, all contributed to facilitating the acquisition and perpetuation of knowledge,<sup>5</sup> which created a better level in their achievement compared to the control group that studied In the usual way, and this supports the predictive ability of the components of self-organized learning in academic achievement.<sup>6</sup>

The setting a goal is immediately followed by working to achieve this goal with motivation,<sup>7</sup> self-confidence, and determination to achieve it. The two researchers also indicate that the value of the effect size amounted to 0.170, which is a significant value in the influence of the independent variable, which is the learning based on the strategy of self-organized learning on achievement. To study and gain knowledge, and this was evident by performing the achievement test for gymnastics.<sup>8-11</sup>

## Conclusions

1. The self-organized learning strategy has contributed to the superiority of female students in the cognitive achievement of artistic gymnastics.
2. Teaching using the self-organized learning strategy gave the students a positive role in the

learning process, making judgments related to their learning and providing feedback in this direction, which enabled the students to feel self-confidence and organize ideas.

## Recommendations

1. The necessity of using a self-organized learning strategy in teaching gymnastics, as the research revealed a good effectiveness in the cognitive achievement of students.
2. The technical gymnastics curriculum includes activities and exercises that contribute to providing students with the most prominent self-organized learning strategies for both sexes.
3. The necessity for the Directorate of Preparation and Training in the Ministry of Education to organize courses for teaching and teaching cadres (with specialists) for teaching skills based on the theory of self-organized learning.

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