



Impact of Infographic Technology on Learning Some Basic Skills on the Floor Exercises

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Abstract: The current study was conducted on learning some basic skills in the artistic gymnastics on the floor exercises. The sample was consisted of the first –stage female students of The College of Basic Education / Department of Physical Education and Sport Sciences for the Academic year (2020-2021) in the Artistic Gymnastic. The sample were (20) female students divided into two group, experimental and controlling, each of which contained (10) female students .

The study aimed at identifying the use of infographic technology in learning some basic skills on the floor exercises. The results obtained through statistical data showed the presence of incorporeal differences with statistical reference in favor of the experimental group. The two Research recommend using equipment in artistic gymnastics for girls.

Keywords: *Infographic Technology, Floor exercises and Artistic Gymnastics.*

1. INTRODUCTION

The progress in development in all fields of life requires a lot of needs at all the levels required by the individuals from the variables of the age through technology. The technology that is compatible with the educational process made the educators work constantly on the development of the educational environment in order to attract the attention of students and work on developing it through the use of (infographic) technology, and this, in turn, simplifies the complicated issues facing the student or the learner during the lesson by dividing and segmenting information through images, clips, videos and texts, because most of the initial thinking processes come through visual perception, as it is 60% of the learning processes made by the sight (vision) because is the first transmitter of images to the brain and the primary responsible for the interpretation and comprehension processes of complete presentation and in detail.

This technology, in turn, simplifies these media by involving the largest number of ways in communicating and transferring information to the learner through the presentation of the material, whether this presentation fixed or movable. [1]

This also requires developing the capabilities of the learners through this atmosphere and changes during the learning process in general and learning the skills of gymnastics in



particular. The specificity of learning the skills of artistic gymnastics for students needs such means because of the difficulty of this activity which is resulted by the performance with a high concentration of accuracy, simplicity and aesthetics.

So the skill needs to be facilitated to the learner so that the learner can memorize how to perform it. This process needs these means because the learner deals with two main parts: The equipment and skill performance, the two processes of memorization and concentration are dispersed, so workers on this field must find ways and methods to teach skills, and because of the difficulty of performance on female students, since they are not practiced nor taught to perform the skill of artistic gymnastics . Another reason is that, the fear of practicing performance because of the occurrence of injuries; because dealing with devices may cause injuries. Injuries sometimes occurs for: not following the steps during the learning process due to the difficulty of performance, the multiplicity of skill parts , the confusion factor and the lack of feeling.

The significance of the study lies in using the infographic technology which in turn increases the capabilities of learners in the teaching session in general, and especially in the effectiveness of artistic gymnastics for students. This is so because the effectiveness is characterized by high speed, accuracy, focus and the division of skill into several parts, which in turn requires a high effort in the learning processes in order to deliver information well, simply and understandably [2].

2. METHODS

Participants

The community of the study were selected deliberately from the female students of the first stage, department of physical education and sports sciences, College of Basic Education, the subject of Artistic Gymnastics. They are detailed as follows:

- a. They were (24) female students. Four of them have been excluded, two of the four participated in the pilot study, other two were injured.
- b. Thus, the number of the final application sample members reached (20) students, and the study sample were divided, randomly by a (lot), into two equal groups: the first is the experimental group and the second is the controlling one . Each of them ha (10) female students to represent a percentage of (96%) of the study community.

Protocol

The experimental method, suitable to the nature of the study, was used. Choosing the experimental method is: an attempt to control all the variables and basic factors, except one variable which the researcher can modify and change in order to identify and measure its general impact. [3]

The style of two equivalent groups was chosen. The two groups are controlling and experimental, with two tests, pre and posttests. The independent and dependent variables of the study are: as the independent variable of the experimental group is the infographic technique and the dependent variable is the traditionally followed method.

Pretests:

Measurement and evaluation methods are to be considered among the important factors in the



pretests of the study. The tests on the sample of the study were conducted in some basic skills in the floor exercises (Floor Exercises). On the 16th of Jan.2021 in the Hall of Artistic Gymnastics.

The set teaching sessions specified to the skills of the study according to the technology of infographic. Time was divided according to the priority of each part.

❖ The experiment of the study was applied on Wednesday the 16th of Jan.2021 and finished on the 18th of July. 2021. It lasted for four weeks, two sessions for each week. The total of the sessions for the whole period of the study were (8) sessions.

The following steps were used in the sessions:

- Setting the media of infographic technology.
- Adopting segmenting of the teaching session according to the priority of the skills and the simplest media for the first skill.
- Using media directly
- Dividing the levels of performance and considering the application of the easy part then the difficult one.
- The experimental group applies the infographic technique set by the Research
- The controlling group applies the method followed by the teaching staff. The pre-tests were conducted one day before the start of the experiment, while the post-tests were conducted a day after the end of the experiment.
- Teaching session was divided into three sections, which were (preparatory, main, and final). The exercises were applied in the main section of the session.
- The duration of one teaching session was (90) minutes
- Preparatory section was (15) minutes
- The main section (65) minutes, as the share of infographic technology was (40) minutes, and the application was (25)
- The closing (final) section was (10) minutes.

Posttests:

The post tests were conducted on 19/7/ 2021 and the same method was followed in the pretests, after the completion of the scheduled period of the experiment, which lasted 4 weeks. The Research were keen to provide all conditions for the pretests and their requirements when conducting the post tests in terms of time, place and means of test and performance of judges in order to assess skill.

Statistical Analysis

Table (1), shows the values of the arithmetic means and the standard deviations of the post-tests for the controlling and experimental groups, for the skill levels. The results were in favor of the experimental group. The reasons behind such results is the use of infographic technique in the teaching sessions which had a great role on learning of the three skill for the students and the priority over the program used in the controlling group. Learning with the infographic technique style, which relied on the prepared multimedia, led to the improvement of the learning process of skills for the experimental group.

3. RESULTS

The process of correct manipulation of the independent variable is the important step in the process of learning the correct performance of the student and the learner. By simplifying the gymnastic skills with infographic technology from video, images, in connected and separated performances, a high percentage of the learning process for the sample occurred in an easy and a smooth manner.

Table (1) Shows the values of arithmetic means and standard deviations of the Posttest and the calculated (t) for the tests of the study of both groups

Variables	Means of Measurement	Experimental group		Controlling group		Calculated (t)	Error Percentage	Reference
		Mean	SD±	Mean	SD±			
Forward Roll	Mark	8.350	1.900	6.250	0.900	4.664	0.000	Significant
Backward Roll	Mark	7.000	0.680	6.750	1.780	5.957	0.000	Significant
Hand balance	Mark	6.750	1.240	4.600	1.290	4.818	0.000	Significant

Incorporeal in the error percentage of $\leq (0.05)$

Research attribute the reason for the progress of the experimental group members to the use of the infographic technique. This technique is relied on previously set media. Such technique leads to the improvement in the learning process of skills for the experimental group.

The infographic technique also has a great impact on learning because it expresses the presentation of ideas and information through the interrelationship between any of the written texts, graphics, pictures and snapshots, video and sound effects. Then the media will be presented as educational experiences for the students to control and choose from the elements with which they interact. This is consistent with [6] that of the hypermedia method, which allows the learner to use the information or part of it in an appropriate sequence.

This what was confirmed by Wajeeh Mahjoub, that the earlier the error correction is done the greater the probability of success can be [7] in learning the skills of the study (forward roll, backward roll and hand balance). That was shown through the results obtained after conducting the teaching sessions, also after extracting the results and final grades of the posttest.

The differences obtained from the results were with incorporeal reference for the experimental group in the learning process. The reason behind that was the use of infographic technique throughout all the days of the teaching (training) session which were (8) sessions; two sessions a week .Obviously, learning would not take place if the students are not committed to attend the teaching sessions and following up the right steps [8]

Generally and accurately, feedback refers to all the information that the learner can obtain from different sources, whether internal, external or both; before, during or after the kinetic performance. The aim is to reform the kinetic performance until the ideal response is obtained. [9]



This is what (Ibrahim Al-Far) confirmed saying that “Learning using computers is more effective than using the traditional way. It is one of the important methods and styles of teaching, because it has capacities that can be used to increase and enhance the students learning.”

Furthermore, displaying the most common mistakes of the skill and the attempting to correct them, to reach the best performance helped the students to avoid committing such mistakes during the kinetic performance. This also explained more clearly the right kinetic performance of the skill.

In this regard, (Asmaa’ Hikmat) indicates that the wrong performance does not divert the student’s focus from the correct performance, and it must be treated as a learning experience, i.e. correcting the error to perform his best [11].

As well as the educational program set by the Research, which had an effective role in the achievement of this development in the experimental group, and this was confirmed by the practice by the students according to the specific times of performance, as “repetition and training give the skill more mastery, competition and more accurate kinetic brilliance [12]

Research attributes this progress in the performance to the use of infographic as a modern technique in learning skills after effective performances to deliver complicated concepts and complex skills. It helps shortening time and draws students' attention for longer periods of learning than that in the traditional way.

This is what Al-Ghareeb Zahi Ismail (2001) agreed, he refers to the use of technology and the modern techniques , in teaching and learning, and what they provide help to address the problems and obstacles of teaching in general, and those of physical education in particular, as it has become something that must be matched. They contribute in specifying the ways and styles of learning by providing modern stimuli, that activate the female students’ response, helping them in acquiring experiences and concepts and allowing them to think and pay attention in a new, systematic way.

4. DISCUSSION

Results were in favor of the experimental group. The reasons behind such results is the use of infographic technique in the teaching sessions which had a great role on learning of the three skill for the students and the priority over the program used in the controlling group. Learning with the infographic technique style, which relied on the prepared multimedia, led to the improvement of the learning process of skills for the experimental group.

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