

Effectiveness of e-study on learning physical exercises and teaching formations

***Dr/ Rehab Adel Eraqe Gabal**

Introduction

The Internet is the global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide. It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies. The Internet carries a vast range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), electronic mail, telephony, and file sharing. (Strickland 2014), (Wikipedia, March 2016), (Oxford 2005)

E-learning has become a standard for the success of education in countries in general, and university education is in need of technology at the moment. Today, students are using the

Internet on a regular basis. E-learning provides flexibility in time and space and supports channels of communication with students. (Abdel-Fattah 2016)

Therefore, learning based using materials or electronic means, such as the Internet or using the technology of education in general, it is a way of tools that support the educational process. (Mohamed 2005)

This e-study (across the web) is one of these evolving patterns of so - called learning from the public after, based on education and computer private. (Selwyn 2010), (Wikipedia, November 2016)

According to the above, this study is based designing of an E -study across the Internet, which offered content of lessons for the purpose of learning physical exercises and teaching formations of physical education lesson, The researcher observation during

* Assistant professor at department of curriculum, teaching methods, training and sport movement science, faculty of P.E, University of Sadat City.

her work at the Faculty of Physical Education that Methods and means used to learn learning physical exercises and teaching formations of physical education lesson lacks the motivation of the learner and the desire to learn more skills, as period after using these methods the learner sense monotony and boredom, these traditional methods doesn't commensurate with what the world reached of technological uses and applications in the educational process.

Thus, this research is based on the provide alternatives for teaching methods, technology techniques and content through this study (e-study across or via the Internet) to find alternative paths for learners to learn and raise the educational process level.

Research objective:

The aim of this study was designing e-study via the Internet and monitor its effectiveness on learning: Body positions and physical exercises, Teaching formations and configurations in physical education lesson for faculty of physical education female students.

Research Hypothesis:

1- There are statistically significant differences between the average of the pre-and post-measurements for experimental group (e-study group) in the

level of learning physical exercises and teaching formations in favor to the post measurement.

2- There are statistically significant differences between the average of the pre-and post-measurements of the controlled group (explanation and presentation group) in the level of learning physical exercises and teaching formations in favor to the post measurement.

3- There are statistically significant differences in post measurements between the two experimental, controlled groups (e-study, traditional method) in the level of learning physical exercises and teaching formations in favor to the experimental group (e-study via the Internet).

Methodology

Method:

The experimental approach was used for two groups, one experimental and the other controlled, using pre-post measurements for each group.

Research sample:

The research society consisted of (230) female students of the first class students in faculty of physical education - Sadat university for the academic year 2016/2017. The basic sample was randomly selected from the female students of the research

community. The total number of the sample was (100) students with 43.48% of the total population, and the sample was divided as follows:

- Experimental group: uses e-study via the Internet in learn physical exercises and teaching formations, (50) female students.

- Controlled group: uses the traditional method “explanation and presentation” in teach physical exercises and teaching formations, (50) female students.

Tools:

A. Data recording forms: Forms for recording the data for the research sample were prepared. (Appendix 1)

B. Evaluation form of exercises and teaching formations: The form was used, physical exercises and teaching formations, prepared by R. Gabal, A. Khalil 2010 (Appendix 3). Some modifications was made when preparing the form to suit the community and sample of the first class students in 2016 as follows:

1- The purpose of the form: the form was aimed to learn physical exercises and teaching formations in physical education lesson for faculty of physical education female students.

2- The education content: The curriculum content was analyzed through the curriculum (Abdallah A., Rehab A. 2016), In addition the following references (Zeinab O., Ghada G., 2008), (Essam 2016), (Fathy K., Mostafa S., 2002), (Mohamed et al. 2001) in order to determine the physical exercises and teaching formations in physical education lesson.

3- phrases of the form: The form phrases was formulated, after reviewing the scientific references (Abdallah A., Rehab A. 2016), (Zeinab O., Ghada G., 2008), (Essam 2016), (Fathy K., Mostafa S., 2002), (Mohamed et al. 2001). The number of phrases reached (31) phrases. The following table shows the number of phrases for each axis of the form:

Table (1)
Number of phrases physical exercises and teaching formations form

No.	Form axes	No. of phrases
1	body positions and physical exercises	21
2	Teaching formations and configurations	10
Total		31

4- Determine type of the assessment: The assessment was included (4) estimates, as shown in the following table:

**Table (2)
Balance of assessment**

Evaluation	Degree
The phrase largely available	3
The phrase moderately available	2
The phrase is slightly available	1
The phrase is not available	zero

5- The experts' opinion (appendix 4): The experts' opinion was reviewed. After presenting the form (in its initial form) on the experts, the percentage of the experts' agreement was calculated on phrases of the form. The agreement rates on the phrases ranged from 75% to 100%. Experts was agreed on the quadrant evaluation of the form.

6- Scientific transactions of the form: The scientific transactions of the form was calculated as shown in the following tables (3, 4):

**Table (3)
Validity of Internal Consistency of the form N= 25**

No. of phrases	Correlation coefficient	No. of phrases	Correlation coefficient
1	0.728	18	0.647
2	0.745	19	0.695
3	0.839	20	0.642
4	0.698	21	0.684
5	0.816	22	0.631

**Follow Table (3)
Validity of Internal Consistency of the form N= 25**

No. of phrases	Correlation coefficient	No. of phrases	Correlation coefficient
6	0.765	23	0.642
7	0.587	24	0.673
8	0.689	25	0.731
9	0.574	26	0.791
10	0.694	27	0.843
11	0.478	28	0.674
12	0.619	29	0.682
13	0.486	30	0.624
14	0.795	31	0.843
15	0.584	32	0.566
16	0.564	33	0.495
17	0.533	34	0.812

The t-value (23, 0.05)= 0.418

Table (4)
Stability of of the form N= 25

Axes	First half		Second half		half – stability Coefficient	Total stability coefficient "Spearman Brown"
	M	±SD	M	±SD		
physical exercises	3.54	0.03	3.58	0.06	0.626	0.77
Teaching formations	2.26	0.02	2.25	0.02	0.705	0.827
Total	5.8	0.03	5.83	0.04	0.694	0.819

The t-value (23, 0.05)= 0.418

7- the final form: In light of the results of the previous steps which was included the review of the form to the experts (The experts' opinion) and the calculation of the scientific transactions, The final form

was obtained as shown in appendix (3).

8- Applying of the form: the form was applied on the basic research sample (100 students) before and after the implementation of the

Educational units on the two research groups (the experimental and controlled group).

C. The cognitive achievement test: (Appendix 6) The cognitive achievement test was prepared by R. Gabal, A. Khalil 2010, The test was purposed to "identify the information and knowledge associated with the formations, configurations teaching, body positions and physical exercises in physical education lesson". The test was prepared in 2010 through the following references (Zeinab, Ghada 2008), (Essam 2016), (Moustafa, Fathy 2002), (Zaghloul et al. 2001), (Nawal, Mirvat 2002) and (Rehab A. Abdallah A., 2010,2016).

The cognitive achievement test was presented to the experts at the faculties of physical education (appendix 4) for the purpose of identifying the experts' opinion. The percentage of the experts' agreement was calculated on questions of the test. The agreement rates on the questions ranged from 70% to 100%.

E-study design

E-study was designed via the internet as shown below:

1- Objective of E-study: The e-study through the Internet was aimed to learn physical exercises and teaching formations in physical education lesson for faculty of physical education female students.

2- Mental and skillful level of the research sample: The mental aspect of the study sample was determined by Intelligence and mental abilities test (Appendix 2). The skillful aspect was determined by the form of physical exercise and teaching formations (Appendix 3).

3- E-study content: The e-study content was determined of physical exercise and teaching formations through the following scientific references (Abdallah A., Rehab A. 2016), (Zeinab O., Ghada G., 2008), (Essam 2016), (Fathy K., Mostafa S., 2002), (Mahmoud "good education" 2016), (Mahmoud "structure and policies" 2016), (Mohamed et al. 2001) by including some multimedia; videos, pictures and texts.

4- A web site: A web site was designed or created contain the e-study, "<http://ahmedthussaam.wixsite.com/pecb-sports>"

Figure (1) Model of e-study site



5- Method or style of teaching:
The teaching method was used in the learn was the individual or self-learning method through the use of each individual student for the Internet.

6- Site features:

- Display and download text, images, graphics and video on full screen.
- Sound control during video playback.

- Repetition of images, graphics and video more than once.

- Pause during video playback.

7- The experts' opinion: The experts' opinion (appendix 4) of e-study and agreement was obtained on a web site was designed, and the experts agreed to instructions and contents of the website (appendix 5).

8- The exploratory study: The e-study was tested by presenting the site on the

sample of the exploratory study in order to identify the clarity of the pictures, drawings and video were e-study contained on the website. The result of this experiment was the clarity of all the contents of the e-study.

Application:
E-study, traditional method (explanation and presentation) were implemented on the basic study sample (100 students), as shown in table (5, 6):

Table (5)
Time distribution of the two research groups

Content	Time
Application Duration	10 weeks
Number of units (lessons) per week	2 units in week
Total number of units	20 units
Unit time	60 m

Distribution of the study content on the total units for two research groups:

The time distribution of the teaching unites was standardized for the two groups (experimental and traditional group) and the difference was only in the learning method for each group. The experimental

group was learn by the e-study via the website, The controlled group was through explanation and presentation method.

Moderation of sample distribution:

Table (6)
Distribution moderation for basic and exploratory research sample N =125

Parameters	Unit	Statistical analyses			
		Mean	Median	±SD	SK
Age	year	17.25	1.05	17	0.71
Intelligence	degree	86.4	3.29	86	0.36
physical exercise and teaching formations	degree	9.95	2.28	10	-0.07

Sample equivalence (Pre- measurement):

Table (7)
Equivalence of the two research groups (tribal measurements) N= 100

Parameters	Experimental 50=N		Controlled 50=N		Mean Differences	T
	M	SD±	M	SD±		
Age	17.23	0.96	17.24	0.98	0.01	0.92
Intelligence	86.41	3.25	86.38	3.23	0.03	0.98
physical exercise and teaching formations	10.01	2.29	10.03	2.3	0.02	0.94

T (28, 0.05) = 2.00 (two directions)

Results

Table (8)

Significance of the mean differences between the pre- post and post-post measurements of the two groups (experimental and controlled group) in physical exercise and teaching formations

Parameters	Experimental (e-study) 50=N				Mean Differences	T value
	Pre		Post			
	M	SD±	M	SD±		
Body positions and physical exercises & formations and configurations teaching	10.01	2.29	49.28	9.27	39.27	23.57*
Parameters	explanation and Controlled 50=,presentation) N				Mean Differences	T value
	Pre		Post			
	M	SD±	M	SD±		
Body positions and physical exercises & formations and configurations teaching	10.03	2.30	44.59	8.86	34.56	19.94*
Parameters	100= N Post				Mean Differences	T value
	Experimental		Controlled			
	M	SD±	M	SD±		
Body positions and physical exercises & formations and configurations teaching	49.28	9.27	44.59	8.86	4.69	7.84*

T (49, 0.05)= 1.68, T (98, 0.05)= 1.66

Discussion

First research hypotheses:

The results of Table (8) show that there are statistically

significant differences between pre and post mean values of the experimental group in learn physical exercises and teaching formations in favor to the post measurement.

These results indicate that the e-study via the website was a positive effect on the skillful level under research (physical exercises and teaching formations). This indicates that the e-study led to the correct perception of how to perform physical exercises and formations of physical education lesson. The images, drawings, texts and videos were attached to the educational site was a positive result on the learning process, which is how to emplement the body positions and physical exercises, in addition to teaching formations and configurations in physical education lesson.

The previous results is consistent with many studies which was indicated that use of the Internet in the educational process shows an improvement and effectiveness in the learning process in general, such as the study of (Ahmed 2011), (Rania 2008), (Rasha 2007), (Mar Pérez et al. 2015), (Koen et al. 2015), .

Thus, the first hypothesis is achieved, which stated that there are statistically significant differences between the pre-and post-measurements for experimental group (e-study group) in the learn level of physical exercises and formations in favor to the post measurement.

Second research hypotheses:

The results of Table (8) show that there are statistically significant differences between pre and post mean values of the controlled group in learn physical exercises and teaching formations in favor to the post measurement.

These results indicate that the explanation and presentation method was a positive effect on learn of the skillful aspects under research (physical exercises and teaching formations). This indicates that the traditional method of teaching was led to students improvement in the information and concepts related to these exercises and formations. Thus, Improved and effective learning in emplement of teaching formations and configurations & body positions and physical exercises in physical education lesson.

Accordingly, This proves that teaching through explanation and presentation leads to higher level of learning and performance as a result of the practice of what has been explained and presented by the teacher. Thus, reflected in the level of students' performance during the learning process.

Therefore, the second hypothesis is achieved, which stated that there are statistically significant differences between the pre-and post-measurements for the controlled group (explanation and presentation group) in the learn level of physical exercises and formations in favor to the post measurement.

Third research hypotheses:

The results of Table (8) show that there are statistically significant differences in post mean values between the two groups (experimental, controlled) in the level of learn physical exercises and teaching formations, where the value of calculated (t) (7.84) is greater than the value of table (t) at a significant level (0.05), which indicates the higher level of learn for the experimental group (e-study) than the controlled group (explanation and presentation).

This proves that the use of learning through the Internet has a positive effect on the exercises and formations of physical education lesson, because of the attractiveness and effectiveness of using the educational site. Thus, increase the element of suspense and tendency towards learning by students' interests raising and motivate them to exert effort compared to the traditional method in teaching Which did not have these characteristics, which led to the effectiveness and positive learning via the Internet compared to the method of explanation and presentation.

The above is consistent with the study both of Chastre, Edouard (2015), which indicated that the using of multimedia and technology in general in the educational process has effective in learning the skills under research because of the attractiveness and effectiveness of multimedia e-studies compared to others traditional methods. (Jean, Edouard 2015) Therefore, the third hypothesis is achieved, which stated that there are statistically significant differences in post measurements between the

experimental and controlled groups for the learn level of physical exercises and teaching formations in physical education lesson in favor to the experimental group (e-study).

Conclusions

- E-study using the Internet, explanation and presentation method have effective on learning body positions and physical exercises & teaching formations and configurations in physical education lesson.

- E-study via the Internet has a more effective effect on learning physical exercise and formations of physical education lesson compared to the traditional method in teaching (explanation and presentation method).

Recommendations

- Encouraging the using e-study via the Internet because of its positive effect in learn physical exercise and formations of physical education lesson.

- Introducing learning through the internet within the curricula of the scientific subjects in the faculties of physical education.

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