The Effect of Electronic Teaching on Improving the Level of Some Gymnastic Skills

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Abstract: The purpose of this study was to determine the effect of electronic teaching on improving the level of some gymnastic skills and to compare it to the traditional teaching program. The study compared two groups with different methods of teaching (electronic and traditional teaching) and their effect on improving the level of some gymnastic skills. Twenty male students from the gymnastic class at physical education college in the university of Jordan (aged 20 ±3), subjects were randomly divided into two groups: experimental group received electronic teaching method (N=10) and control group received traditional teaching method (N= 10). The program conceited of 36 sessions for 3 -months, 3 sessions a week, 50 mints per session for both groups. Pre – post treatment were measured for the two groups to assist skills ability. The results in the post test showed that there was a statistical significant between pre-post measurement in all skills ability for both groups, but was more in favor of the experimental group.

Key Words: Electronic teaching, classical teaching, Gymnastic skills, improving skills**.**

1.Introduction

Electronic teaching and learning has gained growing attention over the past years as one of the most important technological devices of the time (Wilson, 2001) largely because of its effect on enhancing the teaching process (Aqad & Hasan,2003).

The use of technology in education provides the students with a more suitable environment to learn, serves to create interest and a learning centered-atmosphere, and helps increase the students' motivation. The use of electronic teaching in this way plays an important role in the teaching and learning process (İşman et al, 2002). The use of computers in the teaching and learning activities enables the students to learn by self-evaluating and reflecting on their learning process motivates students to learn better by providing them with the immediate feedback and reinforcement and by creating an exciting and interesting atmosphere (Brophy, 1999). The studies in the field reveal that the students' achievements increase when they taught by electronic methods (Adaghestany, 2000), computer-based teaching is more effective on less successful students, the reason for this is that the computer-based teaching enables the students to progress at their own pace and provides them with appropriate alternative ways of learning by individualizing the learning process (Senemoğlu, 2003).

The computer-based teaching makes teaching techniques far more effective than those of the traditional teaching methods as it is used for presenting information, testing and evaluation and providing feedback. It makes a contribution to the individualization of education. It motivates students and gets them to take an active part in the learning process. It helps to develop creativity and problem solving skills, identity and self-reliance in learners. Computer-based teaching provides drawings, graphics, animation, music and plenty materials for the students to proceed at their own pace and in line with their individual differences. It serves to control lots of variables having an impact on learning, which cannot be controlled by means of traditional educational techniques (Chang, 2002).

Liao (2007) found out that Computer-based instruction had a positive effect on individuals by comparing (52) research studies carried out in Taiwan in his meta-analysis study. Almahameed (2007) also found out that computer-based teaching enabled the students to increase their motivation and achievements and to develop positive attitudes. According to research studies in literature, the use of computer-based education increases students' attitudes and achievements significantly This is in agreement with (Alqawqzeh, 2004; hyoty, 2006; Abo Rass, 2006).

This study, which aims to test the effects of electronic teaching on improving the level of some gymnastic skills and compare it to the traditional teaching program. is thought to be important to improve skills learning and enable students to make their own meaning. And considered to make the computer-based teaching enjoyable, productive and functional more than the classic way of teaching.It is important as its results serve to complete the other

studies done on electronic teaching to provide a basis for further studies.

2. Method

The study investigates the effect of electronic teaching on improving the level of some gymnastic skills and compares it to the traditional teaching program. The subjects volunteered and informed about the study, they were (20) students at physical education college in the university of Jordan with mean age of (20 ± 3) years. They were divided randomly into two groups, the experimental group (n=10) and the control group (n=10). At the beginning of the study both groups finished a pre physical subjective evaluation test which measured their level of some gymnastic skills. The experimental group taught by the electronic teaching way (computer-based teaching). The control group taught by the traditional teaching way. The program conceited of 36 sessions for 3 -months, 3 sessions a week, 50 mints per session for both groups. At the end of the program, all subjects finished a post physical subjective evaluation test which measured their level of some gymnastic skills. Condition did not change between pre- and post-tests in the performance evaluation.

Table (1) Means Physical characteristics for the subjects

Variables	group	Mean	sd	Calculate t	prob
age(years)	control	20.75	0.71	0.50	N.S
	experimental	20.88	0.50		
weight(kg)	control	76.63	9.21	0.11	N.S
	experimental	76,00	13.93		
height(cm)	control	176.00	4.72	0.07	N.S
	experimental	176.19	6.02		
hours In practical courses	control	7.25	2.38	0.62	N.S
	experimental	6.63	2.28		

3. Contents of the Program Applied

The research was conducted in learning and improving some gymnastic skills based on computer teaching units which aim to enable students to become familiar with the tasks and to acquire information about the results of their performance. The computer based software was prepared by consulting science and technology teachers and experts.

This program was used in order to deal with the issue of quality software. The "Adobe Photoshop" program was used in preparing the graphics. The "learning package" applied to the experiment group was prepared by using the Macromedia Flash 8 program. The reason for the preference of this program is that it offers a better visual medium, as the shapes produced remain clear, the files created are very small in dimension and the files can be disseminated on the internet. The contents of each subject were presented systematically in accordance with predetermined, specific aims in the software. The visual aids used in the software were suitable for the age and educational level of the students. The software contained documentaries and activities related to the subjects. Furthermore, the student could direct his learning process and evaluate his learning; the software had a dynamic structure that enabled the student to see the right performance and compare it with his own and make the correction.

The computer - based "teaching package" which was applied to the experiment group made it possible to have interactive lessons using media like the internet, video, slides, CD's, sound, animation and the like. In the program, first topics were presented. They were enriched with visual material and made attractive with animation. The colors used in the software were interesting for the student but not distractive or tiring for the eye. The design of the graphics was simple and easy to understand, which made it easy to direct the student. When the student entered the program, he encountered an introductory screen which showed all the subjects to be studied throughout the unit. In order to enhance interaction, there were return buttons throughout the program with which the student could go to the main menu or to a previous page. Again, throughout the program, the subjects were presented with rich visual animations. The written material on the screen was minimal but sufficient to summarize the subject. The students studied the subjects with their teacher but also reviewed the subject as much as they wanted. After they studied the subject with their teacher on their own computers, they did the interactive exercises in the gym at the second half of each lesson.

4. Results

All subjects, 20 males, completed the 3 months study. Data are presented as means and SD. Tables (2) and (3) presented the values of pre-post selected variables. There was a significant difference between both the experimental

and the control group in pre and post variables measured. ($P \leq 0.05$). The results of the investigation revealed that There was a significant differenced on all the skills tests, and skills abilities pre-post and between both groups in favor of the experimental group.

5. Discussion

The present study investigates the effect of electronic teaching on improving the level of some gymnastic skills and compares it to the traditional teaching program. The results of this study showed that there was a significant difference between both the experimental and the control group in pre and post variables measured in favor of the experimental group These results coincide with a number of studies conducted in the field o f education (Alqawqzeh, 2004; hyoty, 2006; Abo Rass, 2006). This finding is indicated the **important of using the** technology in education which provides the students with a more suitable and comprehensive environment to learn (Wilson, 2001). The effects of computerized learning and the use of technology in education and its effect on enhancing the teaching process very well documented (Aqqad,2003).

Table (2) Mean and SD for both groups on skills pre- tests

Variables	group	Mean	sd	Calculate t	prob
arabian front on floor	experimental	0.18	0.37	1.93	0.065
	control	0.15	0.42		
front handspring on floor	experimental	0.26	0.30	1.58	0.127
	control l	0.46	0.23		
front up rise on horizontal bar	experimental	0.41	0.40	1.61	0.121
	control	0.67	0.27		
shoulder stand on horizontal bar	experimental	0.05	0.15	0.15	0.879
	control	0.04	0.12		
swing on pommel horse	experimental	0.01	0.05	0.66	0.511
	control	0.03	0.09		
swing on rings	experimental	0.17	0.39	1.21	0.236
	control	0.00	0.00		
backwards roll to land on rings	experimental	0.18	0.41	1.27	0.217
	control	0.00	0.00		

Table (3) Mean and SD for both groups on skills post - tests

Variables	group	Mean	sd	Calculate t	prob
Arabian front on floor	experimental	3.84	0.57	0.85	0.403
	control	4.04	0.49		
front handspring on floor	experimental	3.85	0.50	1.35	0.190
	control l	3.57	0.42		
front uprise on horizontal bar	experimental	3.75	0.35	4.48	0.000
	control	3.01	0.45		
shoulder stand on horizontal bar	experimental	3.86	0.53	3.12	0.005
	control	3.18	0.43		
swing on pommel horse	experimental	3.80	0.44	3.31	0.003
	control	3.14	0.49		
swing on rings	experimental	3.76	0.48	2.88	0.009
	control	3.19	0.41		
backwards roll to land on rings	experimental	3.84	0.54	3.47	0.002
	control	3.06	0.48		

Our finding suggest that using the computerized learning is very effective in enhancing skills, physical abilities and achievement of gymnastic athletic. Similar to our finding a recent study by Almahameed (2007) who found that computerized learning enhance skills and speed of learning among students with disability.

A large numbers of studies have identified relationship between increasing level of speed and learning when using computerized learning methodology comparing to the traditional methods of learning (Isman 2002, Liao 2007 & Change 2002). According to administrators' and faculty opinion, computers and instructional educational technology have a positive impact on the quality of teaching and research (Lehmann et al, 1999). Students indicate that the availability of electronic information has been helpful in their work (Goggin et al, 1997). Thus, there is agreement among colleagues and students that technology can be a useful tool for a successful teaching and learning environment.

6.Conclusion

In the present study, we investigated effect of electronic teaching on improving the level of some gymnastic skills and compares it to the traditional teaching program after the proposed program and according to the results of the present study all the skills and physical abilities were improved. Our finding supports the current recommendation of using computerized learning methodology which will enhance and speed the teaching process. However, More research should be conducted to investigate the effect of electronic teaching method for various sport activities. The development of more electronic teaching programs and the evaluation of their effectiveness should provide information about the application of the electronic teaching method in schools and the academic curricula of physical education.

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