

Evaluating the Use of Education Technology Aids in Teaching the Curriculum of Volleyball at the Faculties of Physical Education.

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Abstract

The research aim was to evaluate education technology aids in teaching the curriculum of volleyball (Applied – Cognitive) to male and female students of the faculties of physical education. The questionnaire for evaluating the use of education technology aids in teaching the curriculum of volleyball was introduced to 47 faculty members. . Obtained Results revealed general agreement on the importance and effectiveness of using the education technology aids in improving the educational process and the quality of education. Also, several obstacles that prevent the use of education technology aids in teaching the curriculum of volleyball were named. Finally, there are suitable technological aids for teaching the applied and cognitive aspect in the curriculum of volleyball such as the visual recorder (the video) – the computer “the educational computer” – the moving educational films – the educational modules – the educational bag – the visual recorder “video”, the computer “the educational computer” – the educational bag – the visual recorder “the video.”

Key Words: Education technology aids – Applied – Cognitive - Volleyball..

Introduction:

The university education faces great challenges to cope with technological revolution which extended to all branches of knowledge. This led to the university teaching aids used to provide the university professors enriched teaching experiences.

Atef Mohamed Elsayed (2000) stated that technology advances became major contributor in teaching and educational methods

The education technology includes all the devices and tools and the educational and strategic materials set to show how to use them. Its goal is achieving pre-specified teaching and educational objectives, as well as working at same time to developing and improving the educational process and raising its efficiency and effectiveness.

Al-Gharib Zaher and Iqbal Bahbahany (1999) stated that the education technology is considered an integrated system where the teaching process depends on technology. Teacher is a designer of the educational materials components one to determine the education strategies and an evaluator of the educational situation aspects and its various sources.

The educational aids are considered one of the basic elements which education technology is used by utilizing to address all senses of the learner in education. The educational aids including more than one sense in forming the mental imagination, perceived things and concepts for

the learner in a better form than the traditional method (indoctrination) which including words and performing the model from the physical education instructor.

Gigging, et.al (1997) and Soured Halts (1997) agree that the computer plays an important role in developing the study curricula. Some studies indicated that the academic achievement of learners who received education through computer surpasses the traditional education level. They stated that the use of computer in education saves 23% of time, and indicated as well that the tendencies of students are positive.

Research Problem:

The process of evaluation is considered a major requirement for developing and improving the educational process as it contains several aspects related to curriculum, academic achievement, administration of the educational institute and resources, and evaluation of the instructor’s performance and his personal features. The specialists in the field of educational evaluation emphasize that the benefit from the output of the evaluation process usually lies in making several effective educational decisions.

The educational aids are considered the basic elements in education. Nowadays, the learning methods target the utilization of all kinds of the individual in education, by using the different educational aids which address more than one sense.

the volleyball curriculum (applied – cognitive) in the faculties of physical education in the Arab Republic of Egypt relies in teaching on the traditional method of education, as the education technology aids in teaching the curricula in these faculties are still very limited. This attracted the attention of the researcher to evaluate the current situation of using the education technology aids in teaching the volleyball curriculum (applied – cognitive) to the male and female students of the physical education faculties, with the hope to identify the problems which hinder the use of education technology aids in teaching the volleyball curricula (applied – cognitive), and revealing the causes of these problems.. This was what led the researcher to define the extent of using the education technology aids in teaching the volleyball curriculum (applied – cognitive) to the male and female students of the physical education faculties in the Arab Republic of Egypt.

This research aims at evaluating the use of education technology aids in teaching the volleyball curriculum (applied – cognitive) to the male and female students of the physical education faculties through defining the following: (1) The importance of using the education technology aids in teaching the volleyball curriculum (applied – cognitive) to the male and female students of the physical education faculties. (2) The obstacles which hindrance the use of education technology aids in teaching the volleyball curriculum (applied – cognitive) to the male and female students of the physical education faculties. (3) The most appropriate aids of education technology which can be used in teaching the volleyball curriculum (applied – cognitive) to the male and female students of the physical education faculties.

Research Method:

The researcher used the descriptive method “the survey studies” The research population represents the faculty members and their assistants, Volleyball section, Games

department, or Team sports, or Games training at the faculties of physical education males and females in the Arab Republic of Egypt.

Research Sample:

The research sample was randomly selected from the faculty members , Volleyball section, Games department, or Team sports, at the faculties of physical education males and females in the Arab Republic of Egypt in the academic year 2013/2014. The total of the research sample was 49 individuals. When selecting the research sample attention was paid such that it represented to the faculties of physical education males and females.

Steps of designing the questionnaire:

The researcher designed the questionnaire according to the following:

Preparatory procedures:

Determining the main axes and the special statements of each axis based on what was drawn from the following resources (1) References and related studies which handled the problems facing the obstacles of using the education technology aids in the different education stages. (2) The personal interview with many of faculty members and their assistants specializing in teaching the volleyball curriculum at the faculties of physical education males and females, in order to identify the most important problems which face them when using education technology aids.

Based on this, the researcher designed the questionnaire in its preliminary form by using the following steps: (1) Determining (4) axes that include (56) statements according to the referential survey, previous studies, and personal interviews. Table (1) shows the distribution of the questionnaire axes and the number of statements of each axis.

Table (1)
Axes and Statements of Each Axis of the Questionnaire in its Preliminary Form

Axis	Axis Title	# of statements
First	Importance of education technology aids in teaching volleyball curriculum to male and female students at the faculties of physical education	12
Second	Hindrances of using education technology aids in teaching volleyball curriculum to male and female students at the faculties of physical education	12
Third	Appropriate means of education technology for teaching volleyball curriculum (applied aspect) to male and female students at the faculties of physical education	16
Fourth	Appropriate aids of education technology for teaching volleyball curriculum (cognitive aspect) to male and female students at the faculties of physical education	16
	Total	56

(2) The researcher presented the content of the questionnaire in its preliminary form to a 7 specialists in

volleyball and teaching methodology of physical education with the purpose of determining the extent of

appropriateness and accuracy of the statements. This presented in table 2 :
resulted in some suggested changes by the experts as

Table (2)
Axes and Statements of the Questionnaire in its Final Form

Axis	Axis Title	# of statements
First	Importance of education technology aids in teaching volleyball curriculum to male and female students at the faculties of physical education	11
Second	Hindrances of using education technology aids in teaching volleyball curriculum to male and female students at the faculties of physical education	10
Third	Appropriate aids of education technology for teaching volleyball curriculum (applied aspect) to male and female students at the faculties of physical education	15
Fourth	Appropriate aids of education technology for teaching volleyball curriculum (cognitive aspect) to male and female students at the faculties of physical education	15
	Total	51

To determine validity of the questionnaire, the researcher used the content truthfulness which relies on the extent of representation of the questionnaire to the field it analyzes and evaluates. Some statements were modified, and the results are presented in table 3 .

Table (3)
Percentages of the Content validity According to the Experts Opinions on the Axes of the Questionnaire

Axis	Axis Title	%
First	Importance of education technology	85.71%
Second	Obstacles of using education technology aids	85.71%
Third	Appropriate aids of education technology for teaching the applied side	100%
Fourth	Appropriate aids of education technology for teaching the cognitive side	100%

Most of the experts emphasized that the questionnaire measures what it was put for, and as such the content of the axes and statements of the questionnaire was confirmed.

Second: Reliability Factor:

To calculate the consistency factor, the researcher used test-retest the method of with sample of 10 participants. The correlation coefficient was calculated and presented in Table 4.

Table (4)
Reliability of the Questionnaire

Axis	Axis Title	Value of "r"
First	Importance of education technology	0.633*
Second	Obstacles of using education technology aids	0.609*
Third	Appropriate aids of education technology for teaching the applied side	0.714*
Fourth	Appropriate aids of education technology for teaching the cognitive side	0.681*
	Total	0.629*

Value of " r" at level 0.05=0.632

Significant at 0.05 level

It is clear from table (4) there exists a statistically significant correlation between the first and second applications for all questionnaire axes (subject of study) which indicate that it is of a high consistency factor.

Displaying and Discussing of Results:

Table (5)
Frequencies and Percentages of the Axis of Importance of Education Technology Aids N=49

S	Statements	Yes		To some extent		No	
		F	%	F	%	F	%
1	Education technology aids in achieving objectives of the education process	45	91.84%	4	8.52%	-0-	-0-
2	Education technology aids in increasing the teaching efficiency of the learner	42	85.71%	5	10.64%	3	6.38%
3	Education technology aids in attracting the learner's attention to the educational process	30	63.83%	12	24.49%	7	14.89%
4	Education technology aids in leading to acquire the basic skills in volleyball	37	75.51%	8	17.02%	4	8.52%
5	Education technology aids in decreasing the effort made for both teacher and learner	34	69.39%	15	31.91%	-0-	-0-
6	Education technology aids in developing the psychological skills for the learner such as mental visualization and attention concentration	30	63.83%	14	28.57%	5	10.64%
7	Education technology aids in providing visual and hearing feedback to the learner	42	85.71%	6	12.77%	1	2.13%
8	Education technology aids in leading to acquiring theoretical knowledge and information to the learner	37	75.51%	10	21.28%	2	4.26%
9	Education technology aids in attracting the attention of the learner to the small details in the educational situation	32	65.31%	13	27.66%	4	8.52%
10	Education technology aids in achieving the shorting of teaching and learning time	39	82.98%	8	17.02%	2	4.26%
11	Education technology aids in achieving the individual learning	41	83.67%	6	12.77%	1	2.13%

Many of the faculty members and their assistants at the faculties of physical education, males and females, responded with Yes on the statements of the 'the importance of education technology aids in teaching the volleyball curriculum (the applied side – the cognitive side), and the percentages ranged between (63.83% - 91.84%). This indicates that education technology aids have a great importance in teaching the curriculum of volleyball (applied side – cognitive side) This result agrees with the study results of Wilkinson (1999), Mervat Samir Hussein (2003), Eglal Ali Gabr (2004), Lada, et.,al (2004), Mohamed Ahmed Fathy (2004)(19), Asmaa Hekmat (2005), Salem bin Muslim Al-Kendy (2006), Stover & Del (2006), Ali Ahmed El-Mabrook (2006), Makasi, et.,al (2006), Ahmed Talaat Ahmed Mohamed (2007), Yehia Hussein El-Metwally (2007), Reda Moustafa Helal (2008),

Mazen Abdelhady Ahmed, Nahed Abdou Zayed, and Feras Souhail (2009), and Saad Hammad El-Gemely (2011) Fath Elbab Abdelhamid (1995) indicates that the learning process completes if the instructor keen using different educational aids which related to provide exciting which achieves the required answer that supports the required behaviour.

These results agree as well with what each of Gaber Abdelhamid (1998), Enayat Farag (1998), and Khaled Malek (2000) which stated that the education technology is considered the major contributor in the education process as program consists of small, easy and gradual steps. This is recognized to be positive support to the learner, as well as it allows the learner to work at his pace in the learning process, while the program enables the instructor to observe the improvement of the learner

Table (6)
Frequencies and Percentages of the Axis- Obstacles of using Education Technology Aids

S	Statements	Yes		To some extent		No	
		F	%	F	%	F	%
1	Faculty and department administrations provide the education technology aids for teaching the applied and cognitive volleyball curriculum	2	5.26%	5	10.64%	42	58.71%
2	education technology tools are necessary to teach the applied and cognitive volleyball curriculum at the educational institute where you belong	1	2.13%	5	10.64%	43	87.76%
3	There are shortcomings in the professional preparation to teach education technology before graduation	46	93.88%	3	6.38%	-0-	-0-
4	There are shortcomings in holding training session to prepare you professionally on how to use the education technology aids	42	85.71%	5	10.64%	2	4.26%
5	There are difficulties in preparing and equipping the education technology aids for the education process	44	89.80%	5	10.64%	-0-	-0-
6	There is the lack of ready-made software such as the educational disks or the transparencies or the programmed books in the applied and cognitive curriculum of volleyball	47	95.92%	2	4.26%	-0-	-0-
7	There are specialized technicians using the education technology aids in the education process	2	4.26%	5	10.64%	42	85.71%
8	There is cooperation between the administrations of the faculty and the department to provide for the necessary education technology aids for teaching the applied and cognitive curriculum of volleyball	5	10.64%	8	17.02%	36	73.47%
9	The numbers of learners are inadequate as to the available education technology aids at the department	42	85.71%	6	12.77%	1	2.13%
10	There is a shortcoming in preparing a special room with education technology	44	89.80%	5	10.64%	-0-	-0-

The most important obstacles are: (1) the lack of ready-made software such as the educational discs, transparencies, or programmed books in (the applied side – the cognitive side) with a percentage of 95.92%, (2) a shortcoming in the professional preparation for teaching education technology before graduation with a percentage of 93.88%, (3) difficulties in the preparation and equipping of the education technology aids for the teaching process with a percentage of 89.90%, (4) a shortcoming in equipping a special room with the necessary education technology aids with a percentage of 89.80%, (5) the educational institutions (the faculties) do not have the necessary education technology aids for teaching the applied and cognitive curriculum of volleyball with a percentage of 87.76%, in addition, and (6) the administrations of faculty and department do not provide for the necessary education technology aids for teaching the volleyball curriculum (the applied side – the cognitive side) with a percentage of 85.71%.

This result coincides with the study results of Lada, Other (2004), Salem bin Muslim Al-Kendy (2006), Reda Moustafa Helal (2008) that stated several obstacles that prevent from using the education technology aids in teaching the applied and theoretical curricula of physical education in all education stages.

It is possible to overcome many of these obstacles through: the use of available facilities and not using some of the expensive software, the use of visual recorder tapes (video) in the applied side and the voice recorder (cassette) in the cognitive side, and holding some training sessions for the faculty members and their assistants on how to design software and operating the education technology aids through the project of developing the abilities of the faculty members in the Egyptian universities.

Table (7)
Frequencies and Percentages of the Appropriate Education Technology Aids Axis
for Teaching the Applied Curriculum of Volleyball

S	Aid	Applied side		Order
		%	F	
1	Computer “educational computer”	91.84	45	Second
2	Visual recorder “video”	95.92	47	First
3	Education bag “education CDs-programmed books”	75.51	37	Fifth
4	Slide show device	46.94	23	Sixth
5	Over-head display device “projector”?	34.69	17	Ninth
6	Stationary educational films?	38.78	19	Eighth
7	Moving educational films?	89.80	44	Third
8	Voice recording sets	-0-	-0-	Twelfth
9	Education modules	89.80	44	Third rep.
10	Education posters	24.49	12	Eleventh
11	3D models	34.69	17	Ninth rep.
12	Illustrative drawings	42.86	21	Seventh
13	Optical board	-0-	-0-	Twelfth rep.
14	Magnetic board	-0-	-0-	Twelfth rep.
15	Wooden board	-0-	-0-	Twelfth rep.

The most appropriate education technology aids for teaching the applied side of the volleyball curriculum, and which scored more than 70% of the opinions of the faculty members were in the following order: First: Visual recorder (video) with a percentage of 95.92%, Second: Computer “the educational computer” with a percentage of 91.84%, Third: Moving educational films and Third repeated: Educational modules with a percentage of 89.80%, Fifth: Educational bag “educational CDs – programmed books” with a percentage of 75.51%.

This result coincides with what Al-Gharib Zaher and Iqbal Bahbahany (1999) which indicated that education technology pays attention to general methodology and the group of methods that are employed in applying the general principles. They emphasized the effort with or without the machines, and used to control the individuals ratio in order to making a change in the education state or to obtain other educational outputs.

Table (8)
Frequencies and Percentages of the Appropriate Education Technology Aids Axis
for Teaching the Cognitive Curriculum of Volleyball

S	Aid	Cognitive side		Order
		%	F	
1	Computer “educational computer”	93.88	46	First
2	Visual recorder “video”	61.22	30	Third
3	Education bag “education CDs-programmed books”	85.71	42	Second
4	Slide show device	51.02	25	Seventh
5	Over-head display device “projector”	44.89	22	Eleventh
6	Stationary educational films	53.06	26	Sixth
7	Moving educational films	51.02	25	Seventh rep.
8	Voice recording sets	51.02	25	Seventh rep.
9	Education modules	57.14	28	Fifth
10	Education posters	59.18	29	Fourth
11	3D models	20.41	10	Fifteenth
12	Illustrative drawings	51.02	25	Seventh rep.
13	Optical board	42.49	12	Thirteenth
14	Magnetic board	42.49	12	Thirteenth r.
15	Wooden board	36.73	18	Twelfth

The most appropriate education technology aids for teaching the cognitive side of the volleyball curriculum, and which scored more than 60% of the opinions of the faculty members and their assistants were in the following order: First: Computer “the educational computer” with a percentage of 93.88%, Second: Educational bag “educational CDs – programmed books” with a percentage of 85.71%, Third: Visual recorder (video) with a percentage of 61.22%.

This result coincides with the results of study of : Mervat Samir Hussein (2003), Mohamed Ahmed Fathy (2004), Asmaa Hekmat (2005), Ali Ahmed El-Mabrook (2006), Ahmed Talaat Ahmed Mohamed (2007), Yehia Hussein El-Metwally (2007), Mazen Abdelhady Ahmed, et.,al. (2009), Saad Hammad El-Gemely (2011) on the effectiveness of education technology aids (the computer “the educational computer”-the educational bags-the visual recorder “the video”) in helping the students acquire the knowledge sides which relate to the motor skills in the sports field.

The results of this study also coincide with the study of Makasci, et.al. (2006) that the training existing on the educational CD was more effective than the traditional instructions on all tasks (theoretical and applied).

Conclusions:

(1) The agreement of all faculty members and their assistants, volleyball section at the faculties of physical education males and females, on the importance and effectiveness of using the education technology aids in improving the educational process and the quality of education. (2) The agreement of most faculty members and their assistants, volleyball section at the faculties of physical education, on the existence of obstacles that prevent the use of education technology aids in teaching the curriculum of volleyball. The most important obstacles were the lack of ready software such as the educational discs or the transparencies or the programmed books – the shortcoming in professional preparation of teaching the education technology before graduation – the existence of difficulties in preparing and providing education technology aids in the teaching process – the existence of shortcoming in equipping a special room with education technology aids – the non-existence of education technology aids at the educational institutes (the faculties) – the faculty and department administrations do not provide the necessary education technology aids for teaching the curriculum of volleyball). (3) The agreement of all faculty members and their assistants, volleyball section, that there are suitable technological aids for teaching the applied aspect in the curriculum of volleyball such as (the visual recorder (the video) – the computer

“the educational computer” – the moving educational films – the educational modules – the educational bag – the visual recorder “video”). (4) The agreement of most faculty members and their assistants, volleyball section, that there are suitable technological aids for teaching the cognitive aspect in the curriculum of volleyball such as (the computer “the educational computer” – the educational bag – the visual recorder “the video”).

Recommendations:

(1) Paying attention to train the faculty members and their assistants to the use of education technology aids in teaching their academic curricula. (2) The necessity of cooperation between the experts and specialist in education technology and the professors of volleyball is to produce several educational computer software on different curricula of volleyball, these software have positive return on both teacher and learner. (3) The necessity of providing for the technicians who are specialized in operating and maintenance of education technology aids at the faculties of physical education. (4) Providing the applied and theoretical departments of their needs of education technology will improve the academic curricula at the faculties of physical education in light of the overall quality of education project.

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