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Measuring the Extent of use of Technology in Education and Learning in the Faculty of Physical Education in Jordanian Universities

Suhaib Khalaf Albzeirat[1], Amani Ali[2], Ibrahim Eskandar Fadhel[2], Mohannd Odeh Al-zghelat[3]

[1]*Ministry of Education, Queen Rania Center for Educational Technology and Information, Hashemite, Kingdom of Jordan*
[2]*School of Techno communication and Human Development (IKOM), Universiti Malaysia Perlis*
[3]*Faculty of Sport Sciences, Mu'tah University, Hashemite Kingdom of Jordan*

Abstract: *This study aims to identify and measure the extent of used technology in education and learning in the faculty of physical education in Jordanian universities. It also aims to investigate the effect of difference in experience at universities to use the technology. To achieve the objectives of this study, the researchers have designed a questionnaire to collect information and then analyze this data through software and then discuss the results. The study sample includes four public sector universities in Jordan and includes 83 lecturers. In addition, the study also shows the reality of the use of technology by the faculty of physical education in Jordanian universities. Furthermore, to refer to the series of recommendations for the development of the educational process in universities, is also one of the main goals of this study.*

Keywords: *Physical Education, Educational Technology.*

I. Introduction

The process of developing education by entering technology is not easy and simple operation [1-3] because they need to plan, implement different requires a study needs to determine for the educational reality. There are several barriers to do that, as mentioned in [4], therefore, the development process actually begins to know and then to recognize this reality and finally develop solutions and implementation. The truth is that the development of education is strongly linked to technology and there is a continuing need for the use of technology in education in general [5]. According to several studies to involve technology in the education process, we need qualified teachers to use technology in education [6-7]. Therefore, this study focuses on the relationship between lecturers and technology [8],which is based on the state of teaching in the faculty of physical education in Jordanian universities. This paper is organized as follows: firstly, in section 1the introduction about technology is given, secondly, in section 2 the basic definitions of technology and education is elaborated, thirdly, in section 3,the study procedures are explained, and finally, the conclusion of this paper is presented in section 4.

II. Basic Definitions of Technology and Education

2.1 Technology

There are many definitions of technology [9-12]: it is a word associated with modernity in all aspects of life such as medicine, engineering, transport, communications, and education. In general, the technology aims to achieve development and the development is based on the optimal use of available technology in our life. The most important stages of the use of technology in life begin with education, specifically the university education.

2.2 Education

There are many definitions of the word education [13,14], i.e., it can be said that the ability to acquire knowledge is the base of education.

2.3 University education

This is the level of education after school, which prepares qualified people in all disciplines [15]. In addition, this is an utmost important factor of life due to the following factors:

1. The efficiency of university education is reflected on the development of societies.
2. University education is a supporter of the process of development in all sectors of the state.
3. The efficiency of higher education is reflected on the efficiency of school education.

2.4 Lecturers

Lecturers are the specialists in teaching at university level. The efficiency of universities is linked to a strong correlation efficiency of lecturers. Development of lecturers is considered an important factor in the advancement of the educational process at universities. Next figure shows the relation between the (Technology, Education, University education, and Lecturers) and impacts on the development of societies as a whole.

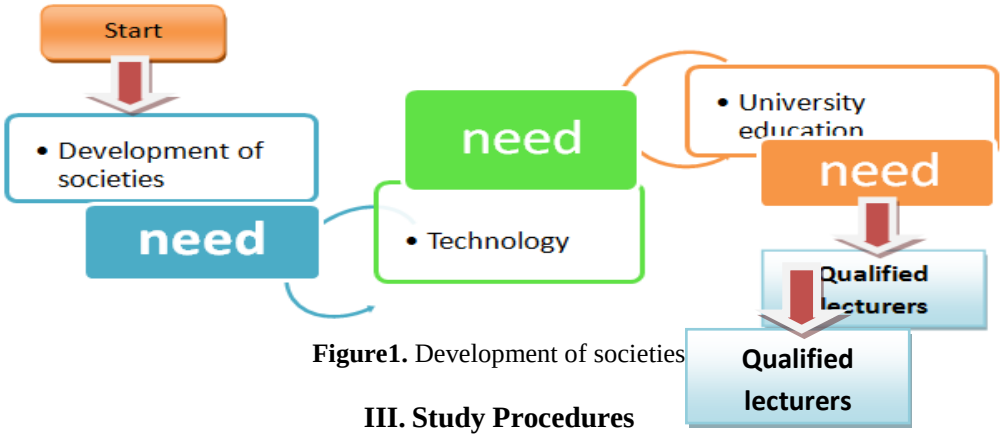

Figure1. Development of societies

III. Study Procedures

3.1 To achieving the goal of this study, the researchers go along the following steps:

1. Study of the literature on the scope of research.
2. Formulation of objectives to measure the reality of the use of technology in education and learning.
3. Identify variables in the study (i.e., University, Experience).
4. Design a questionnaire to measure.
5. Verify the authenticity the instrument used to measure.
6. The application of the questionnaire to a sample study: (Lectures in the Faculty of Physical Education in Jordanian universities)
7. Statistical treatment by (SPSS) predictive analytics software.

3.2 Results

3.2.1 Results and discussion of the first question

What is the extent of knowledge of lecturers to the process of the use of modern technology in Education and Learning in the Faculty of Physical Education in Jordanian universities?

To answer this question, the questionnaire was designed and the data were collected and analyzed on the basis of averages, standard deviations, and percentages, as shown in Table1.

Table1: Averages, standard deviations and percentages for first equation

No.	Sentence	The Arithmetic Average	Standard Deviation	Relative Importance	Level	Rank
1	Programmed instruction	3.11	0.86	62.20	medium	1
2	E-learning	2.94	0.87	58.80	medium	2
3	Simulation	2.89	0.86	57.80	medium	3
4	Asynchronous Education	2.88	0.80	57.60	medium	4
5	Synchronous Education	2.83	0.78	56.80	medium	5
6	Total Summation	2.89	0.77	58.60	medium	

Through the data collected and the results of the analysis show that the process of using modern technology within the medium borders suggest that there are barriers to use this technology. Likely to be the source of these constraints, the lack of technology or lack of ability to use technology is encountered.

3.2.1 Results and discussion on the second question

Are there any statistically significant differences in the use of technology according to the universities variable?

To answer this question, the questionnaire was designed and data were collected and analyzed and extraction of averages, standard deviations, and percentages were collected, as shown in Table 2.

Table 2: Averages and Standard Deviations (Universities Variable)

University	No.	Averages	Standard Deviations
University of Jordan	23	2.87	0.51
Yarmouk University	20	2.81	0.88
The Hashemite University	18	3.03	0.86
Mutah University	22	3.02	0.83

It is noted that the existence differentials between universities need to determine the significance of these differences. Therefore, we applied (one-way analysis in ANOVA), where its result is shown in Table 3.

Table 3: The results of One-Way Analysis of Variance (ANOVA)

Source of variation	Sum of squares	Degrees of freedom	Averages of squares	P-Value	The level of significance
Between the groups	0.74	3	0.25	0.41	0.784
Within the groups	74.54	79	0.60		
Totally	48.27	82			

Clearly, the absence of differences in knowledge between the lectures suggests the reasons, which means that this is not an individual's problem.

3.2.2 Results and discussion of the third question

Are there any statistically significant differences in the use of technology according to the experience? To answer this question, the questionnaire was designed and the data were collected and analyzed, and extraction of averages, standard deviations, and percentages were obtained, as shown in Table 4.

Table 4: Averages and Standard Deviations (Experience)

Experience	No.	Averages	Standard Deviations
Less than 5 years	17	3.01	0.93
From 5 to 10 years	25	3.00	0.82
From 10 to 15 years	21	2.81	0.57
Above 15	20	2.90	0.77

It is noted that the existence differentials between lectures' experience for the determination of the significance of applied technology is too much high (it is one-way analysis through ANOVA), as shown in Table 5.

Table 5: The results of One-Way Analysis of Variance (ANOVA)

Source of variation	Sum of squares	Degrees of freedom	Averages of squares	P-Value	The level of significance
Between the groups	0.56	3	0.19	0.31	0.81
Within the groups	74.72	79	0.60		
Totally	48.28	82			

Results of any mentioned role of ordinary experience and their relationship to the ability to use technology do not appear, as the differences between the lecturers do not appear depending on experience.

IV. Conclusion

Looking at the results, it is clear that there is the need to provide an institutional environment that takes care of the development of university education in all disciplines, including physical education. This interest can be achieved through training courses and continuing support for the process of expanding the use of technology in education.

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