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RESEARCH ARTICLE

THE IMPLEMENTING OF E-EDUCATION IN ZAHEDAN UNIVERSITY OF MEDICAL SCIENCES (ZAUMS): 2018

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ABSTRACT

Introduction: Today's economic and social changes force universities to try to find new learning approaches. E-Education is an evolved form of the old methods of teaching and learning that using in formation technology proposed and Forward as fast as the preferred method of learning was introduced in the era of knowledge. Initially e-education stood for electronically enhanced education. The present study was performed in order to Readiness of faculties for Implementing of E-Education in Zahedan University of Medical Sciences that with provide suggestions to managers and decision makers, help them for implement a successful E-Education system. ***Methods*:** This descriptive cross-sectional study was carried out using a Likert scale researcher-made questionnaire on four dimensions of cultural, human resource, skills and the existence of technology infrastructures to assess the readiness of 350 faculties on 2018. After confirming the validity and reliability of the questionnaire, the research data were collected and the data were analyzed using SPSS software version 16 and the results were analyzed using descriptive statistics method in the form of a table. ***Results*:** In order to implement e-education, the readiness of faculties in terms of cultural dimension with a mean of 3/38 and their computer skills with a mean of 3/568 and human resource dimension with a mean of 3/18 are good, but the readiness of more than half of the faculties for information technology infrastructure was a weak level. ***Conclusion***: The overall result of this study showed that the faculties were well prepared and the most important obstacle to the implementation of e-education was the technological dimension of the university. Therefore, it is recommended that, the faculty empowerment courses in order to implement e-education in the university are essential, and managers should have a plan for required technological infrastructure before implement e-education.

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INTRODUCTION

Today's age is the age of knowledge and information, it places all human societies in general, and the training centers in a particular, in a situation that they requires for continuity of life to use strategies, tools, practices and modern approaches (Selwynn, 2003). The growing population, inadequate educational opportunities, the advent of information and communication technology (ICT), and the growing desire of centers and educational organizations to use e-education has led e-education to be at the center of attention for all and as one of the most dynamic approaches to delivering educational services (Tinio, 2015). One category in which information technology (IT) plays a critical role is education. Today, e-education is becoming an emerging trend in education as well as an important strategy for the promotion of education in all major countries of the world (Chu, 2011).

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In recent years, IT has taken a close look at improving the efficiency of academic education at universities, and has taken a major step in changing old teaching methods, and creating concepts such as e-learning and e-education, and also IT has tried to develop group learning and educating knowledge-intensive people in order to increase the knowledge of human and to strengthen the infrastructure of the future of a country (Betts, 2009). E-education is one of the new methods of teaching based on ICT that with focusing on human as an active learner, can transform all forms of education and learning in the 21st Century and also, terminate to challenging the amount of socially demand for education and lack of adequate educational resources (Garrison, 2017; Dooley, 2012). Many universities and educational institutions around the world have been designing and presenting programs in e-education and e-learning courses for response to the growing need for education enthusiasts. According to Betts, in many developed countries, the growth of enrollment in e-learning courses is far greater than the overall increase in higher education, so that from 2002 to 2007, the rate of enrollment in

e-learning courses relative to the total enrollment in US higher education, reached from 9.6% to 21.9% (Allen, 2008; Betts, 2009). The growth of internet users and the increasing rise of higher education institutions and formal and informal organizations in the use of e-education in education is evidence of this claim. According to new statistics, Of the 6.7 billion people in the world in 2013, more than 1.8 billion people are Internet users, and more than 5 billion people are expected to connect to the Internet up to 2020. So that, In December 2000, there were more than 360,000 Internet users in the world (Howard, 2011). On the other hand, according to the OECD, the percentage of higher education institutions and other organizations using e-education systems is increasing rapidly (Anderson, 2003).

The results of the Naghavi study titled "Students' and teachers' attitudes towards e-education at universities" showed that the teachers had a positive attitude toward e-education as a teaching aid tool, and the feeling of usefulness and self-esteem of teachers was the most important factor in their desire to The use of e-education (Naghavi, 2009). Also, the results of the Zolfaghari study titled “the nursing faculty members' point of view to teaching using the combined electronic education system” showed that 66% of faculty members had a positive attitude. Statistical analysis showed a significant difference in terms of age, gender, and teaching experience with the attitude toward teaching with the combination of electronic education method, so that a more positive attitude was associated with greater readiness (Zolfaghari, 2008).

Huang, in a study into perceived value, computer self-efficacy, perceived pleasure, satisfaction, behavioral tendency and multimedia guidance on the attitude toward e-learning systems, showed that the behavioral tendency to use e-learning is affected by perceived usefulness and self-efficacyand professors and students have a positive attitudeto use of e-learning systems (Huang, 2007). Also, Jamatsho and et al., by study on improving the quality of distance education showed that most of students (87%) didn’t have enough access to information and communication services, and only 35% of students reported having easy access to computers (Jamatsho, 2007). Hendryx, on the other hand, in his research said that current generations are enthusiastic to use new technologies in education and learning (Hendrix, 2009).

The use of e-education leads to increased learning opportunities, easy access to educational resources, accelerated access to updated information, consolidation of the role of guidance for teachers, continuous teacher guidance for learners, and lifelong access to information (Sobhani Nejad, 2009). Currently, the university's educational system is such that students do not have permanent access to lecturers, and students cannot be trained or answer their questions whenever they need to learn in a specific field. According to the existing educational system, Educational interactions remain unchanged at a level (Starrs, 2003). The existing teaching methods do not provide the students information needs quickly, and they are not enough flexible for different student conditions and cannot motivate the students (17). Students need techniques that help them understand the lessons better and provide essential guidance and direct them (18).The purpose of this study was to investigate the readiness of faculty members of ZAUMS to implement e-education in order to help managers and decision makers to implement successful e-education.

MATERIALS AND METHODS

The present study was conducted in a descriptive-cross-sectional study in the second half of 2018. In this study, the research population consisted of all faculty members of ZAUMS (350). All professors were present in the research. The data gathering tool was a researcher-made questionnaire including demographic questions and questions about assessing the readiness of faculty members in four dimensions: culture, human resources, computer skills, and technology infrastructure. Validity of the questionnaire by content validity method was verified by experts and professors. To determine the reliability of the questionnaire, an open-test method was used. The questionnaire was distributed among a group of 30 people from the research community and after 10 days the questionnaire was again distributed among the same people. The results were compared and reliability was confirmed by Cronbach's alpha coefficient of 0.83. Then, the researcher gave them a questionnaire by visiting the faculties and obtaining their satisfaction. Finally, the results of the study were presented using the SPSS software Ver.18.

RESULTS

According to the research findings, among the 350 contributing faculties, 61.1% of male and 39.9% were female, and 31.1% of them had a master's degree and 68.9% had a Ph.D. And higher. The research findings (Table1) showed that most faculty members accept e-education as a complementary teaching method (61.3%) and 78.5% of them are interested to new educational methods in teaching. In general, the readiness of faculty members of Zahedan University of Medical Sciences in terms of cultural components for implementation of e-education with an average of 3.38 are in a good level. 51.7% of the faculties are eager to provide their lessons as e-education and 60% of them are familiar with basic IT skills, but 74.3% of them believed that for the more accurate implementation of e-education, need to IT training courses is more that hold faculties more fully trained for IT topics. In terms of human resources dimension, in general, faculties are generally well-equipped with a good average of 3/18. The findings showed that faculties have good skills in using PowerPoint and Word software, working with the Internet, and search engines, but they are weak in using Access and Excel software and Web applications. Totally, the computer skills level of faculty members with the average of 3/568 is classified into a good level. In the context of IT infrastructure, more than 80 percent of faculties have personal computers and high-speed Internet access within the university, but most faculty members have inappropriate condition in access to the Internet outside the university (64.3 percent), access to hardware facilities (74.3%) and software (54.3%) and 84.3% of them consider safety and network security as inappropriate for implementation of e-education. Therefore, in term of IT infrastructure, more than half of the faculties (52.3%) are in a weak level.

DISCUSSION

Determine the feasibility of implementing e-education based on the faculty members' cultural readiness: Analysis of the results indicates that the average cultural readiness of the studied components is 3.38 (out of 5), which indicates a good level faculty members' readiness. This result is in line with the results of Darabi (2013).

Table 1. Percentage and Mean the opinions of the professors participating in the research

Cultural Preparation						
No	Items	Agree	No Idea	Disagree	Mean	SD
1	Teachers accept e-learning as a complementary educational method	*64.3*	24.3	11.4	3.59	0.919
2	There is a general interest in electronic culture at the university	*42.9*	*34.3*	22.8	3.19	0.962
3	Teachers are interested in teaching new educational methods	*78.5*	*5.7*	*15.8*	3.67	0.891
4	Professors are aware of the importance and benefits of e-learning	*38.6*	*32.8*	*28.6*	3.07	1.048
Human Resources Preparation						
	Items	Agree	No Idea	Disagree	Mean	SD
5	Professors are eager to offer their lessons electronically	57/1	14/3	28/6	3/36	1/058
6	Teachers have enough time and time to improve their education	31/4	18/6	50	2/74	1/066
7	Professors are ready to participate in e-learning	37/1	38/6	24/3	3/11	0/856
8	Professors are familiar with communication methods in the virtual environment (Mail, Chat, SMS)	44/3	30	25/7	3/21	1/000
9	Professors are familiar with the rules of the educational system of the e-learning system	37/1	35/7	27/2	3/09	0/875
10	Professors are familiar with basic IT skills	60	24/3	15/7	3/43	0/936
11	Educational staff have been well trained for e-learning courses	20	41/4	38/6	2/77	0/86
12	Professors are familiar with the design, production, and presentation of lessons in the virtual environment	27/2	35/7	37/1	2/86	0/916
13	Professors need to hold IT training courses	74/3	15/7	10	4/01	1/167
Computer skills						
	Items	Week	Mid	Good	Mean	SD
14	Skill working with Word software	1/4	14/3	84/3	4/03	0/633
15	Skill working with power point software	1/4	17/1	81/5	4/01	0/666
16	Skill working with Excel software	41/5	31/4	27/1	2/59	1/191
17	Skills to work with the Internet	5/7	17/1	77/2	4/76	6/234
18	Skills working with Access software	61/4	28/6	10	2/09	1/040
19	Understanding Web Applications	38/6	45/7	15/7	2/64	1/071
20	Understanding Windows Applications	24/3	35/7	40	3/16	1/025
21	Find specialized information from specialized sites	12/9	21/4	65/7	3/63	0/882
22	Find information from search engines	7/1	21/4	71/5	3/77	0/760
23	Email Writing Skills	0	7/1	92/9	4/36	0/611
24	Attach file to e-mail	1/4	10	88/6	4/27	0/696
25	Usability of electronic libraries	14/3	37/1	48/6	3/51	0/939
IT Infrastructure						
	Items		Yes		No	
26	Teachers have access to a personal computer		85/7		14/3	
27	Professors have access to high-speed internet at the university		81/4		18/6	
28	Professors have access to high-speed Internet outside the university		35/7		64/3	
29	Professors have access to appropriate software facilities		45/7		54/3	
30	The professors have access to appropriate hardware features		25/7		74/3	
31	Teachers have access to scientific resources in a virtual way		44/3		55/7	
32	Safety and security of the network is suitable for the implementation of e-learning courses		15/7		84/3	
	Total		47/7		52/3	

Contrary to the current research, Montazer concluded that the most readiness of the professors are in the field of equipment and their least readiness are related to the cultural index (Montazer, 2009). Determine the feasibility of implementing e-education in terms of computer skills of faculty members: In this research, the average of computer skills of ZAUMS faculty members was 3.56 (out of 5), which indicates that faculties' computer skills are in a good level. Of the items related to computer skills, Internet familiarity with the mean of 4.7 was the highest, and Excel's working skill was 2.59, Access skill at 2.9, and familiarity with the Web base programs with a mean of 2.64 have the lowest values. Rezaei Rad concluded that the knowledge of working with computer and Internet is moderate (Rezaei Raad, 2012) and Mehdizadehrated the computer knowledge and skills of faculty members as satisfactory level (Mehdi Zadeh, 2010). Determine the feasibility of implementing e-education with regard to human resource readiness: Based on the results, the human resource readiness dimension was evaluated in intermediate level with an average of 3.18 (out of 5). In this section, most professors believed that there was not enough time and time to improve their education and that IT training courses should be held for them. Contrary to the current research, Rahimi-Dost and Razavi concluded in their research that most of the faculties had enough time and time to improve their education, and the university was in a proportional position to implementing e-education programs (Rahimi Dost, 2012), and Montazer in his research, the average readiness of the university in this field was 4.8 out of 10, which is aintermediate score of readiness for students, faculties and staff (Montazer, 2009). Determine the feasibility of implementing e-education according to the IT infrastructure: Based on the results, the ZAUMSIT infrastructure was assessed as inappropriate level. In this study, most of the faculties had access to personal computer and also high-speed internet within the university, but believed that, at present, the safety and security of the network to implement e-education is inappropriate. Rahimi Dost and Razavi, In their research, concluded that most of the faculties had a PCs and also the majority of faculties had access to the Internet and the internal network in the university (Rahimi Dost, 2012), and Darabi, In his research, concluded that the readiness and suitability of the technology platform and access to high-speed Internet are essential items to implement e-education, that the Qazvin University of Medical Sciences is in a non-ready situation (Darabi, 2013).

Conclusion

According to the research findings, in the field of human resource readiness, the professors did not have enough time and time to improve their education, and educational staff in the field of e-education needed more training. In the field of IT infrastructure, faculties believed that the safety and security of the network, hardware and software, as well as high-speed Internet outside of the university were not in a favorable situation. In the field of computer skills, faculties needed to conduct Excel, Access, and web based courses.

Therefore, the following suggestions are provided for use by managers and authorities:

In universities with telecommunication problems, it is suggested that e-education for faculties be used in multimedia educational CDs in order to provide sufficient experience for future use of this technology.

- Considering the cost-effectiveness and other benefits of e-education at universities, it is better to plan for the use of this technology by university education managers.
- In order to improve IT infrastructure, especially in the field of faculties training, ICDL's seven-digit computer skills must be taken seriously by the IT managers in universities, and faculty members are required to learn these trainings.
- In the department of educational management of universities, there are people who have management and supervisory skills in the field of e-education.
- Top university executives should develop perspectives and strategies, and based on human resources education and development strategies, proceed for implementing e-education.
- Before introducing e-education as a new teaching method in universities, the comprehensive analytical and comparative studies are needed to implement this methodology and use the results of these studies in its implementation.
- E-Education is carried out in different phases (step by step) according to training programs.
- To design a learning and educational management system, universities will set up a specialized team with different expertise to analyze the educational process and then prepare, install and implement the suitable software.
- Before the implementation E-Educatin, for the administrators and faculties of the university, should be held an e-education workshop.

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