

Qualified Instructors, Students' Satisfaction and Electronic Education

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Abstract

Introduction: The main purpose of the present study was to investigate the relationship between the degree of the students' satisfaction from electronic education and the degree of observing morality and vocational qualifications by the faculty members of electronic education from the students' viewpoints.

Methods: The present study was applicative and it was conducted through descriptive-survey method. The statistical population was all virtual education students (N=550) in Isfahan University and the nursing and midwifery group of Isfahan medical sciences. The statistical sample was estimated 226 and they were selected by random clustering sampling method. The information was collected via the researcher-made questionnaire with 60 items. The reliability of the questionnaire was calculated 0.94 through Cronbach alpha coefficient. The data analysis was conducted through mean, percentage and standard deviation at descriptive level and mono-variable t-test, variance analysis, and Pearson correlation coefficient at inferential level.

Results: The results showed that the degree of the students' satisfaction from electronic education was 2.65. Moreover, the achieved mean regarding the degree of observing morality and vocational qualifications by the faculty members was 3.24. Further, the results indicated that there was a significant and direct relationship between the students' degree of satisfaction and the degree of observing vocational morality by the faculty members of electronic education. In examining the difference between the students' satisfaction from virtual education according to demographic factors, the results showed that just the age factor was effective $P < 0.01$.

Conclusion: The results of the current study, along with other conducted research, have indicated that there are relation between students' satisfaction with the rate of observing professors' morality and vocational qualifications. This means that there should be more instructions about ethical professional issues. More ethical and moral workshops and seminars are suggested.

Keywords

Vocational Morality, Vocational Qualification, Higher Education, Electronic Education, The Students' Satisfaction

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Introduction

Nowadays the extensive use of technology and consequently the need to extending their education, which is more costly, have made education centers and organizations to appeal to new strategies [1]. By identifying the factors affecting students' satisfaction, the researchers report that the best alternative for traditional education (face to face), is electronic education. Throughout the world, this educational style has made a rapid move with a growth rate of 35.6%. But it also faced a number of failures and problems and hence some electronic education users quit the program after experiencing it for a while for unknown reasons [2]. Quantity development of such educations without considering their quality aspects may lead to some problems which affects the students' satisfaction. Regarding the types of services offered in universities and the close relationship between universities and students, the importance of ideas and views of students is multiplied. Therefore, heeding to ideas and views of students lead to their commitment and loyalty to their university and such satisfaction is the key of success for a university [3].

There are numerous factors affecting students' satisfaction in an E-learning environment. In most studies, these factors are classified into 6 categories: learner, educator, curriculum, technology, design and environment [4-8]. As it was mentioned, the second most important factor affecting students' satisfaction is the educator. Studies show that a timely response by the educator and their attitude can significantly affect the learners' satisfaction. Logically, when learners face a problem during an online course, timely assistance from educators can encourage them to continue. Studies show that educators' failure in giving a timely response to learners' problems has negative effects on learning. Therefore, if an educator has the ability to manage the activities on E- learning and to respond timely to learners' problems, the learning satisfaction will improve [9]. A group of researchers found that educators' attitude towards E-learning or information technology can positively affect the results from E-learning because educators are the main factors in learning activity. Providing proper training courses by educational institutes can develop professors' skills for working with tools, performing their roles and doing their responsibilities [10]. Meanwhile, given that the electronic education area is new in Iran, the absence of research targeting the application, along with the problems, of electronic education in Iran is strongly felt and to the best of our knowledge few studies so far have been conducted on this issue. One of the few researchers worked on this issue is Fazeli [11], for example, who show that the way to support the educators is still unclear. It is necessary to be familiar with special features of the education and special training courses while teaching in E-learning environments. Therefore, it is essential for the educator to have two characteristics before entering such environments: having required qualifications for teaching in an E-learning environment and passing the required training courses [12, 13].

Bawane and Spector [14] claim that it is necessary to assume a multi-dimensional role for educators in E-learning environments and emphasize acquiring a wide range of various and numerous competencies. In E- learning environments, new teaching methods can come into being which improve social learning methods [15].

Many experts, given the importance of communication and information technology in E-learning, point to the shift of elements in education and learning and conclude that educators should have special competencies for online education. For example, the educators should know how to use synchronous and asynchronous educational systems [16].

Several studies have been conducted on learners satisfaction from E-learning environments; some of them are mentioned below: Nassr Esfahani research shows that seven factors including stress, using a computer, educators attitude, flexibility, learning methods, quality of methods, benefits and ease of understanding and diversity of evaluation can totally determine 61.1% of learners satisfaction variance. Regarding the relationship, there is a positive and direct relation between satisfaction from E-learning and the educator and it is found that an E-learner's attitude is strongly influenced by their educator's attitude [17]. Rezvani shows that factors such as lack of anxiety, interaction with course content, self-benefiting, interaction with other students, interaction with professors and diversity of evaluation, respectively, are the most important functional factors affecting students' satisfaction. Factors such as students' attitude, flexibility in offering educational content, quality of educational content, professors' attitude and their timely responses, respectively, are the most important motivational factors affecting students' satisfaction; and the most important factors which can create satisfaction for students are useful design, high quality and easy to use internet, respectively [18]. Elahi has identified and designed a framework for factors affecting the tendency of E-learning students towards E-learning. The framework consists of four main factors including individual, environment, media and content. The research results show the individual factor is in the best condition and the media factor is at the lowest [19]. Sanaei Nasab, investigating satisfaction among BA students of Health Care Management, shows that 68.54% of them are satisfied with main and specialized courses, 42.7% with the content and 50.57% with the professors [20]. In a research on offering a framework to assess the relationship between quality and satisfaction in cyberspace, Golmohammadi indicates that there is a strong and positive relationship between electronic quality and users' satisfaction [21]. Sedgh pour, investigating the attitude of universities' faculty members towards education in 3 methods of face to face, semi- virtual and virtual, shows that reduction of interaction between students and professors, while using traditional education method, is more obvious than the two other methods and skills development of E-education among faculty members who teach in E methods and the two other method is low. In addition, faculty members who use traditional teaching methods have less knowledge about E-learning than those who use both methods [22]. In a research about educational roles and competence of teachers who work in E-learning environment, Cesar shows that the highest concern of the faculty members is related to educational facilities; that is to say, faculty members have a tendency to become aware of changes and necessities of E-learning and acquire knowledge and more training in the field [16]. Lee believes that the professors' characteristics, educational content and the users' delight from using E-learning systems affect the intention to use E-learning systems [23]. Sun in his research has showed that professors' attitude towards E-education, the stress for using a computer, flexible and quality E-learning, ease and diversity of evaluation are the most important factors for users' satisfaction of E-learning [7]. Wu et al have showed that computer availability, self-efficiency, system performance, content, student and professor interaction are the main factors which affect students satisfaction. The research findings show that a combinational environment of both traditional and electronic methods can increase students' satisfaction [24].

As it was mentioned, numerous factors affect students satisfaction, one of which being the professors' adherence to professional competence. Therefore, given the students' views on how faculty members of electronic educational centers adhere to

professional competence, the research tends to investigate the relation between students satisfaction from electronic education and the adherence to professional competence by faculty members of such educations. The most important goals of the research are:

1. Determining professional competence of faculty members in Esfahan University and Esfahan University of Medical Sciences based on lesson design, lesson performance, lesson evaluation and using technology in E-learning courses
2. Determining the level of students' satisfaction from E-learning based on demographic factors
3. Determining the effects of adherence to professional competence by faculty members on students' satisfaction.

Methods

The research is a descriptive survey. The study population consists of 550 people including all the virtual students of MBA (Master of Business Administration) department, EMBA (Executive Master of Business Administration) department, library and information science, nursing and midwifery departments of Esfahan University of Medical Science. The sampling method was: stratified random sampling proportional to the size. The sample was estimated using Cochran formula to be of 226 participants; after adjustment for incomplete questionnaires, 168 questionnaires were used: 83 belong to Medical Science University and 85 to Esfahan University. The validity of the questionnaire was verified by 7 education technologists and planning experts by using formal content method. Then, in an introductory study on 30 people of the study population who were selected randomly, the variance was estimated and the reliability was calculated by Cronbach's alpha test based on which the reliability of the questionnaire was 0.094. The information collection tool in the research is questionnaire. The 60-item questionnaire was made by using the educators professional competence in E-learning environments and suggestions by 14 authors about educators roles in E environments, which were gathered from resources such as information and statistics education center in Spain ERIC (Education Resources Information Centre), higher center for scientific research portal of Spain, ISOC (Higher Centre Portal for Scientific Investigation of Spain), regional system of scientific magazines from Latin America, the Caribbean, Spain and Portugal LATINDEX (Regional Cooperative Online Information System for Scholarly Journals from Latin America, the Caribbean, Spain and Portugal) [16]. The questionnaire was made in the form of Likret spectrum on the bases of four components of design, teaching, evaluation and the use of technology. The questionnaires included questions related to trying for innovation in E-course contents, considering read-aid courses, complementary resources and activities for students, having sufficient knowledge and expertise in the field of developed courses, knowledge of teaching methods in E-learning environments, dealing respectfully with the students, improving the quality of courses in E-learning, updating contents for students, giving students freedom to choose educational contents, assigning appropriate evaluation format for evaluating the lesson contents and learning goals, assessing students performance impartially, considering the scientific level and ability of students in designing questions, trusting the students regarding the virtual environment, encouraging students to follow ethics in a virtual class, trying to create more interaction between the students via the system

regarding their lack of physical presence, observing the privacy of individuals in virtual space and the like.

Given the basic assumptions of the research, in addition to descriptive statistics, T tests, variance analysis and Pearson correlation coefficient were also used for research data analysis; and to compare the views of students and professors, we used the ANOVA test.

Inclusion criteria for the study were as follows:, the person being in the research sample, having the demographic features such as field of study required by the researchers. Exclusion criterion was the student unwillingness to cooperate and participate in research. Amongst the ethical considerations in research were the freedom of participants to be included in research and his/her consent to participate in research. Another ethical consideration was the freedom of participants to withdraw from the study at any stage. Besides, non-disclosure of the participants' names was another ethical consideration.

Results

In this study, the frequency percentage of students according to their gender is 84 male students (48%) and 90 female students (51.4%). 43 people (24.6%) were under 20 years old, 80 people (45.7%) between 21 to 30, 35 people (20%) between 31 to 40, 11 people (6.2%) between 41 to 50 and only 2.9% of them were over 50 years old. 92 of them (52.5%) were undergraduate students and 81 of them (46.3 %) were postgraduate students. 109 students (62.3%) have been trained to be in E- learning environments and 64 students (36.6%) have not been trained. By investigating the average and standard deviation, general opinions of respondents about the faculty members' level of adherence to professional competence were specified and the highest averages belong to the following three items: "trusting the students given the virtual educational space" with an average of 4.37; "conducting impartial assessment of students performance" with an average of 4.32 and "dealing respectfully with students" with an average of 3.63.

The lowest averages belong to these items: "trying to acquaint students with virtual space" with an average of 2.14; "considering the scientific level and ability of students in designing questions" with an average of 2.92 and "considering proper educational strategies for poor students with special needs in E-learning environment" with an average of 2.93. To achieve the overall results from students' views, the average of 60 items of the questionnaire was investigated as the general opinions of respondents. The results are presented in table 1.

Table 1: Frequencies and mean of students' viewpoints about their professors' vocational qualifications utilization in electronic education

Utilization of vocational and moral qualifications dimensions by professors	Frequencies	Minimum	Maximum	Mean	Standard deviation
Instructional design	168	1.07	5	3.238	0.73016
implementation	168	1.13	5	3.2468	0.79023
Evaluation	168	1.07	5	3.1827	0.79469
Technology utilization	168	1.27	5	3.28	0.74584
Total	168	1.13	5	3.244	0.70012

According to table 1, the average of students' views about respecting professional competence in designing, developing, teaching, performance and evaluation of virtual education courses shows that the highest average belongs to using education technology with an average of 3.28 and the lowest average belongs to evaluation with an average of 3.18. One-sample t-test was used to compare the average with the favorable average of 3.5. The results from the t-test are presented in table 2.

Table 2: t-test for determining the professors' utilization of vocational and moral qualifications in electronic courses

Variable name	Respondents	Significant level	t-test	Mean	df
Utilization of vocational and moral qualifications dimensions by professors	Students	0.0256	-4.838	3.244	168

* $P \leq 0.05$

According to table 2, since possible values obtained are less than 0.05, the difference between the averages and favorable average 3.5 is significant and the averages obtained for students' views are less than 3.5; therefore, we can be 95% sure that the level of adherence to professional competence by faculty members of E-learning centers is less than favorable.

In order to determine the students' satisfaction from holding E-learning courses, demographic factors based on gender, age, etc. have been investigated and the results are presented in table 3.

Table 3: Frequencies and mean of students' satisfaction of electronic education according to their demographic factors

Variable name	Demographic factors	Minimum	Maximum	Mean	SD	
Students' satisfaction of electronic education	gender	male	1	5	2.79	1.074
		female	1	5	2.51	1.114
	age	Under 20 years old	1	5	2.51	1.114
		21-30 years	1	5	2.51	1.066
		31-40 years	1	5	2.8	1.079
		41-50 years	1	5	2.45	0.934
		Over 50 years	1	5	3.6	0.548
	Educational Level	Bachelor	1	5	2.55	1.113
		Master of science/art	1	5	2.77	1.049
		Ph.D	1	5	-	-
	Field of study	Humanities	1	5	2.75	1.054
		Sciences	1	5	2.52	1.036
	Medical sciences	1	5	2.6	1.228	
Total students' satisfaction of electronic education		1	5	1	5	

According to table 3, concerning students' views on their level of satisfaction from E-learning courses, we noticed that the highest average belongs to age and the lowest ones to gender and field of study. In order to investigate whether the students' satisfaction from E-learning courses based on demographic factors is different or not, each factor including gender, age, level of education and their field of study were appropriately tested. The overall results are in table 4.

According to table 4, since the possible values are less than 0.05 for age factor, we can be sure age factor has a significant effect on students' satisfaction from E-learning; namely satisfaction increases with age. Factors such as gender, the level of education and field of study, do not have significant effects on students' satisfaction. Also, regarding the general investigation of students satisfaction from E-learning courses, the average of students views is 2.65 which is lower than the favorable average of 3.5; therefore, we can be 95% sure that the level of students' satisfaction from E-learning courses is less than favorable.

Table 4: Students' satisfaction of electronic education according to their demographic information

Demographic factors	Test	Test type	Probability level
gender	independent test t	t-test: 1.684	0.094
age	Pearson correlation coefficient test	r= 0.234	0.002
Education level	ANOVA test	F=1.1682	0.196
Field of study	ANOVA test	F= 0.684	0.506
Total students' satisfaction of electronic education	One sample t-test	t-test= 10.100	0.000

In order to investigate the relationship between students' satisfaction from E-learning courses and the faculty members' adherence to professional competence, Pearson correlation coefficient test was used, whose results are presented in table 5.

Table 5: Correlation coefficient matrix of relationship between students' satisfaction and their professors' vocational qualifications utilization in electronic education

	Students' satisfaction of electronic education	Professors' vocational qualifications usages
Students' satisfaction of electronic education	1	0.348
Significant level	0.002	0.000
Number	168	168
Professors' vocational qualifications usages	0.348	1
Significant level	0.000	168
Number	168	

*P < 0.01

According to table 5, since the possible values are less than 0.05 and the correlation coefficient is 0.348, then it is acceptable to say that there is a direct and significant relation between students' satisfaction from E-learning courses and the faculty members' professional competence.

Conclusion

The research was performed to investigate the relationship between students' satisfaction from E-learning courses and the level of faculty members' adherence to professional competence of those who deal with such education. The results from the research show that from students' point of view, the average of faculty members' adherence to professional competence is 3.24 which are lower than the favorable average. Given the competencies required for teaching, the favorable average is

considered as 3.5 in the research. Regarding the level of students' satisfaction from E-learning courses in Iran, the average is 2.65 which are lower than favorable average. Pearson correlation coefficient test was used to investigate the relation between the two variables and the resulting correlation coefficient is 0.348; the results show that there is a direct and significant relation between them. The more faculty members adhere to professional competence, the more students are satisfied with the learning. The results from this research are in line with the studies done on students' satisfaction from E-learning courses. Nasser Esfahani's research [17] shows that there is a direct and positive relation between satisfaction from E-learning and the educators; besides, the E-learner attitude is strongly affected by the educator attitude. Sun [2] in his research has showed that professors' attitude towards E-education, the stress for using a computer, flexible and quality E-learning, ease and diversity of evaluation are the most important factors for users' satisfaction of E-learning. Lee [22] believes that the professors' characteristics, educational content and the users delight from using E-learning systems affect the intention to use E-learning systems. Golmohammadi [21] indicates that there is a strong and positive relationship between electronic quality and users' satisfaction.

By investigating the demographic features, the results also show that students' satisfaction increases by age. The reason, probably, is due to the individual's business and family: older people believe the E-education is more appropriate. In studies concerning the benefits of E-education, one of the best benefits mentioned is its ease of use at any time and place and its suitability for working population.

Other results include the highest and lowest averages obtained from the research. The highest averages belong to the items "trusting the students given the virtual educational space" with an average of 4.37; "impartial assessment of students performance" with an average of 4.32 and "dealing respectfully with students" with an average of 3.63.

Given the high scores in the first two items, we can infer that since faculty members do not have face to face relation with the students, without being influenced by students' views, in an impartial and confident manner, evaluate the students. Likewise, the high scores for the item "dealing respectfully with the students" may be due to Islamic ideology and the emphasis of Islam on respecting the dignity and status of human beings.

The lowest averages belonged to these items: "trying to acquaint students with virtual space" with an average of 2.14; "considering the scientific level and ability of students in designing questions" with an average of 2.92 and "considering proper educational strategies for poor students with special needs in E-learning environment" with an average of 2.93.

Given the low score in the item "considering proper teaching strategies for poor students with special requirements in E-learning environments", we should indicate that this item is an important and intricate aspect of teaching which has less been taken into consideration by faculty members. Different factors can lead to such inattention. For instance, the faculty members are so busy teaching that they do not have time to be acquainted with their students and provide a curriculum according to the students' needs and learning styles. On the other hand, reducing the relationship between professors and students to a purely academic level and lack of emotional communication between them can lead to professors' not paying enough attention to their students. Likewise, given the low average in the item "considering the scientific level and ability of all the students in designing questions", we should mention that

one of the principles of psychology of learning is that the professors design different questions and have different expectations regarding the students differences in talent, and/or physical and mental abilities; unfortunately, in most cases the faculty members ignore this important issue. Given that the item “trying to acquaint students with virtual space” gained the lowest score, we can say that faculty members assume that their role is teaching and students are familiar with such important issues; they also think that media and society inform people sufficiently about the issue. But we should indicate that one of the professors’ duties is moral training of the students which is of significant importance. As Naghdi-Pour [25] and Zamani [26, 27] conclude, more than 85% of users are exposed to damages from virtual space and add that parents’ and educators’ roles in teaching social behavior to users is very important. Generally, in order to increase the level of adherence to professional principles and requirements by faculty members of E-education and students satisfaction, there are some suggestions. Universities should try to:

1. Develop standards to promote the quality of teaching in E-education; namely in designing, performance, evaluation and proper use of technology.
2. Encourage students to participate in training courses related to the standards.
3. Increase students’ satisfaction by increasing professional competence of faculty members of such education.

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