Research Article

Survey of Students' Feeling of Presence of E-learning Courses and its Relationship with Students' Attitude toward E-learning Courses in Iran's Higher Education System

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Abstract

Introduction: Factors affecting student attitudes is an important factor influencing their educational success. This study is aimed and designed to survey the students' feeling of presence and its relationship with attitude toward virtual course.
Methods: This study uses descriptive statistical methods to devise correlations. The sample population includes professors and students of the following universities: Amir Kabir, Elmo san'at, Khaje Nasiroddine Toosi, Olumo Hadis. In the quantitative analysis, 650 individuals were selected through accidental categorical methods. The information was collected by means of the questionnaire "presence feeling and attitude toward virtual environment". Data was analyzed by inferential and descriptive statistics by means of SPSS.
Results: The results showed that the students had higher than middle presence of feeling and are in low levels with regard to real feeling and participation. There was no correlation between a feeling of presence and the students' gender but a correlation between feelings of presence the university that they attend was evident, and varied for each university.
Conclusion: According to the results and the sense of presence on the attitude of students, attention to student presence in electronically environments is so necessary.

Keywords
Presence, Attitude, E- Learning, Student, Higher Education

Introduction

Among important factors in learning are learning structure and environment as well as the subjective perception of learners. Learning environment came to be known during the early 1960s, when Blume used classroom learning environments to predict educational progress of students. At the time, studies on the educational achievement of students became focused on efficient learning environments (1). The conducted research illustrated that results and consequences of cognitive and emotional learning as well as attitudes of students towards learning are mostly influenced by the students' perception of the learning environment (1-3).

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Today, considering the e-learning phenomenon, one of the significant factors affecting student learning is their perception of reality in the electronic environment. A sense of presence of a human figure plays a significant role in the efficacy of teaching in an electronic environment. As sense of presence is an important factor relating e-learning courses, sense of presence of learner during the course is to be enhanced. Sense of presence refers to sense of being at a place, sense of presence at an environment which has been demonstrated (4).

Internal state resulting from application of virtual reality system is usually called remote presence or merely presence (5). In Loomis's opinion, presence is a state of alertness (6). In fact, presence is a change in alertness. Change in alertness refers to change of alertness from one environment to another. The sense of presence in an electronic environment along with the change in direction of cognitive processes from the real world surrounding the user to the electronic world is a product of technology. The user feels his/her presence in an electronic environment and deems it similar to the real world. Enhancing presence in an electronic world requires ignoring the real world. When a person feels present in an intermediary environment, they thinks of it in an unreal and indirect way. However, one of these two realities overcomes the other (7). When user has a significant sense of presence, he/she responds to direct (real) drivers. When a person confronts an intermediary, as product of or changed by technology, environment, he/she knows that such environment is a product of technology and his/her perceptional system sees things in the environment as if the technology has had no role in the experience (8). Users can distinguish between drivers resulting from such intermediary and real drivers. They may to some extent think that such environment is real. When an electronic environment is provided within a laboratory or a classroom, sense of presence refers to a sense of being in an electronic environment, not that of being in laboratory or classroom. Albeit, users actually do not believe that are present at the demonstrated stage but sense being at a virtual stage similar to the real world. In such circumstances, the person is stuck between conflict of emotion and cognition. Sense of presence can mean sense of being in a place (e.g. I felt that I was doing work inside an electronic environment not outside of it). Sense of presence refers to a subjective feeling of being in a place. Such feelings are seen in almost all definitions of a sense of presence. A person experiencing presence, senses being in electronic environment, and responds to whatever is in that environment and remembers it as a place (9). One of major results of presence is that the person remembers an electronic environment as a place, not a set of images. Some scholars point to presence as a place not a set of images, while some refer to it as a physical or remote presence, and others consider it as presence in a place (10). Another aspect of sense of presence is being real. Being real refers to judgment about reality of electronic environment compared to real world. Comparison of emotional inputs in both real and electronic environments is the basis for judging about reality. In fact, such aspects show how real electronic environments have been understood. Another aspect of a sense of presence is cooperation. Sense of cooperation in an electronic environment depends on ignoring indicators of a real environment and paying attention to electronic environmental indicators. As both drivers cannot be taken into account simultaneously, paying attention to one driver is equivalent to ignoring the competitive drivers. Such factors are related to processes relating attention and cognition. Considering what is mentioned regarding sense of presence and its importance in electronic environments, present research aims at

studying sense of presence of students in electronic courses within the higher education system of Iran and its relation to the attitude towards electronic courses. Regarding the said objective, the following research questions are offered:

1. How is the sense of presence of students in electronic educational courses?
2. Is sense of presence of students different in terms of university and their gender?
3. Does sense of presence of students determine their attitude towards electronic educational courses?

Methods

Present study is a descriptive and correlational study. Sample populatopm of this study comprises of students in Ferdowsi University of Mashhad, Iran University of Science and Technology, Amirkabir University of Technology, Olumo Hadis University of Ray and Mehralborz University attending electronic courses. The study sample was selected and analyzed using random classification (650 students). To investigate sense of presence of students, Igroup sense of presence questionnaire was used. This questionnaire was initially translated into Persian language and then, its reliability and validity were measured. To measure validity, content validity and construct validity were applied. To study content validity, the questionnaire was given to several related experts. Moreover, in order to study construct validity, factor analysis with Varimax rotation was used.The obtained results showed that factors were similar to the original version. Reliability coefficient of 0.76 was obtained using Chronbach alpha. This questionnaire comprises of three factors including presence in place, reality and cooperation. Based on Schubert et al study (11), internal consistency of presence in place, reality and cooperation were 0.80, 0.68 and 0.76 respectively. Panahi Shahri et al studied validity and validity of this tool in order to investigate sense of presence of users in computer games. Factor analysis showed three factors describing 0.64 common-method variance: reality, presence in place and cooperation. These scholars reported on reliability of this tool using internal consistency validity, halve and re-measurement of this questionnaire was equal to 0.87, 0.85, 0.74 respectively (12). To investigate attitude of students towards electronic courses, constructed questionnaire of attitude towards e-learning was used. In order to study reliability, Chronbach alpha was used and the value 0.88 was obtained. In order to investigate validity of this tool, content validity and construct validity were applied. While studying content validity, a number of questions were omitted considering the views of experts receiving questionnaire for measuring validity and a number of them were adjusted. To investigate construct validity, factor analysis using principal elements with Varimax rotation was applied. As KMO and Croit Bartlet indices of 0.89 and 2944.737 respectively were significant at 0.000 level, sample size was enough for statistical analysis. The results of factorial loads over 0.3 with orthogonal rotation verified the desired variable. To analyze the collected data, confirmatory factorial analysis, multiple regression, independent t-test, and multivariable variance analysis were used.

Results

Analysis of data obtained showed that average sense of presence for students was 19.08±2.74 in presence component, 11.31±2.66 in reality component and 11.11±2.26 in cooperation component. Considering classification of grades in three classes (as grades range from 6 to 30, the grade were divided into three classes of 6-14, 14.1-22

and 22.1-30 (weak, average and good), in the study of sense of presence, students evaluated this component as average. In order to study the role of gender and university on sense of presence of students in electronic environment, one-way variance analysis was used. The results obtained from single variable variance analysis showed that there is no significant difference between sense of presence of students in terms of gender (female: 41.65±6.01, Male: 41.24±4.68). Anyhow, there is a statistically significant difference between sense of presence of students in terms of university (Iran University of Science and Technology: 41.11±4.36, K.N.Toosi University of Technology: 40.89±5.70, Olumo Hadis University of Ray: 41.56±6.51, Mehralborz University: 42.36±4.12) ($p<0.05$). Analysis of each dependent variable individually using standardized Bonfrony alpha (0.02) showed that the only difference is sense of reality of students towards electronic courses in terms of their university and no difference was observed in presence and cooperation of students in terms of university.

Toki test illustrated that only K.N.Toosi University of Technology and Olumo Hadis University of Ray ($p=0.028$ and $d=-0.92$) and Mehralborz University ($p=0.023$ and $d=1.20$) were statistically and significantly different in terms of sense of reality of electronic environment. In conclusion, students at K.N.Toosi university of Technology compared to students of Olumo Hadis University of Ray and Mehralborz University had experienced less sense of reality in electronic courses.

In order to study sense of presence of students in terms of age, multivariable variance analysis was applied. The obtained results illustrated that sense of presence of students in relation to their age was not different. Therefore, age of participants has no effect on their sense of presence in the electronic environment.

To investigate the relation between sense of presence (sense of presence, sense of reality and cooperation) and attitude of learners towards the course, step-wise multiple regression was applied. The obtained results showed that the only variable entering the analysis was sense of reality. Correlation coefficient of 0.42 ad regression coefficient of 0.18 were obtained and in fact they are statistically significant ($p<0.001$ and $f(1,653)=141.45$). Due to not being significantly effective in prediction of criterion variable, other variables were not considered in the analysis.

Conclusion

As the obtained results showed, students of electronic courses in universities of Iran have above average sense of presence but cannot sense real presence and have low cooperation in these courses. As one of components of quality educational courses is a high sense of presence of learners in the course, the obtained results are in line with results of a study conducted by Akbaribooreng (which showed components relating quality of e-learning by students at Ferdowsi University of Mashhad, K.N.Toosi University of Technology, Amirkabir University of Technology, Iran University of Sconce and Technology and Olumo Hadis University of Ray are average and above average) (13), the results of study conducted by Rahmani, Ghaedi, Seraji, Mortazavi (14-17), results of study of Badrian (on e-curriculum of K.N. Toosi University of Technology according to sims pattern showing efficiency of e-curriculum relating the field of computer engineering in view of professors and students) (18), results of study conducted by Momenirad (on the quality of the field of information technology as an e-learning course in terms of interaction, educational plan, feedback, accessibility, learning management system and multimedia showing good quality of e-learning course of information technology at K.N.Toosi University

of Technology), in line with view of Knapper & Cropley (who believe that in a good learning system, there should be a good interaction between student and professor, cooperation among students should be encouraged, active learning should be followed, immediate feedback should be provided, and time for doing assignment and different methods of teaching and learning should be emphasized on) (20) and against view of Gryft & Bangert who studied effective e-leaning components (22, 21).

Sense of students in terms of reality of electronic courses was different according to their university. This finding is in line with finding of Akbaribooreng which showed that in students' opinions, quality of e-learning in universities in Iran varies (13). Also, this finding is in line with findings of researches conducted by Aghakasiri, Badrian and Muller (which showed that using modern technologies is not effective, as student teacher interaction play a more significant role in effective learning) (15, 18, 23) and study conducted by Salim (which considers support and technology as main factors of success in e-learning) (24). This finding can be described as the fact that different universities have taken different approaches and facilities regarding e-learning in Iran and this have resulted in formation of different teaching methods and the difference in sense of reality among students towards electronic environment.

Studying the relation between such variables as presence, reality and cooperation along with attitude towards e-learning courses showed that only sense of reality has a significant effect on prediction of attitudes of students towards electronic courses and therefore, the students who had felt more of reality of the course, had a high attitude towards electronic courses. This finding was in line with the finding of Anderson, Valberg, Freeze, Go & Khyn which showed that return and consequences of cognitive and emotional learning as well as attitudes of students towards learning is significantly affected by their perception of learning environment (1-3).

According to the results obtained it could be construed that sense of presence is an important factor affecting success of e-learning courses. As e-learning students have not managed to feel sense of reality in electronic courses, has weak cooperation in the said courses. Moreover, there is a significant correlation between sense of presence and attitude towards e-learning courses. Therefore, there should be some attempts to making e-learning courses closer to physical courses in order to enhance sense of presence of students and their positive attitude towards e-learning and enhance their success in such courses.

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