E-learning in Iran: Looking at Effectiveness via a Qualitative Study

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Abstract. Developing learning through Information and Communication Technology with the advent of virtual universities and distance learning centers is one of the important issues for many countries world wide. Virtual university and e-learning centers provide opportunities for e- learners to learn at their own speed and style of learning. In Iran, e-learning has grown considerably in recent years. There is no doubt about the advantages of e-learning, but the method of implementation of this kind of learning needs to take care of the variables which may improve its effectiveness. The purpose of this qualitative study was to identify factors that affect the effectiveness of web-based courses from the perspective of administrators, instructors and staff working in e-learning centers in Iran's universities. Interviews with key informants and reviews of library resources were used in this study. The data obtained were analyzed using qualitative analysis techniques. The findings show that there were not enough attention being given to the quality of e-courses and its implementation. The effectiveness of e-courses should be increased with more coordination and cooperation among instructors, students and staff working at e-learning centers.

Keywords: Distance education, E-learning, Web-based learning, Learning effectiveness, Effectiveness

1. Introduction

Information Communication Technology (ICT) is considered an ongoing developing process in different countries. The use of Web technology in learning settings has begun to change the face of education. The World Wide Web has become a useful instructional medium and has provided students with new learning experiences that were not previously possible. In a Web-based environment, at any time and any place, 24 hours a day, 7 days a week, students with the help of an Internet connection, can receive instruction, compose and submit assignments, and pose questions to their instructors and fellow students. They can actively participate in virtual class discussions from home, office, or any nearest computer lab.

ICT has brought new forms of teaching and learning processes such as Web-based learning which is a type of e-learning. Web-based learning has been integrated in many university curricula. E-learning is defined by [1] as the term that applies to any kind of learning where electronic technology is used to increase the effectiveness of learning, and to make it accessible to a wide variety of people. Learning through online courses, E-mails, E-books, CD-ROMS, virtual simulation, and other types of software, all come under the scope of E-Learning.

Web-based learning is an alternative to traditional face-to-face education because this type of learning can be done by anyone at anytime and anywhere. Many institutions implement it to meet students' needs, especially those students with full time jobs. Since Web-based learning is conducted using the Internet and the WWW, the learning environment may prove to be an attractive option for many students who have increasing commitments to family and work. The promise of Web-based learning and the enabling learning technologies is to make education and learning experiences in all types of situations more effective, efficient, attractive, and accessible to learners. Educational organizations such as universities must develop strategies for transformations in the new arena. According to [2], "Education and training via the World

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Wide Web are growing rapidly. Reduced training costs, world-wide accessibility, and improved technological capabilities have made electronic instructional delivery to learners a viable alternative to classroom instruction." (P.2)

According to [3], the first course over the Web did not really start to emerge before 1995. Now, there are many other course authoring tools in the market or developed by certain institutions for their own use. In 2005, the major use of the Web for both E-learning and distance education was asynchronous, in that, materials can be accessed at any time by learners, and teachers do not have to be present while students are learning.

In Iran, the number of students is growing faster than the number of public and private universities or any other institutions of higher learning. The Web-based learning is the solution to this problem. However, the current Iranian higher education system faces so many challenges that it is very difficult to achieve the effectiveness of Web-based learning [4]. As with many other developing countries, one of the policies of the Ministry of Science, Research and Technology (MSRT) has been the improvement of the ICT standard in the country. The first public university in Iran which started e-learning was Shiraz University. It has been offering a number of courses and programmes through the Web over the past eight years. The syllabuses and programmes offered by these E-Learning centres are exactly the same as those officially offered by traditional universities with regular classes.

In the context of this study, e-learning centers refer to the special educational centers that their main buildings are inside the public university campus, founded by public universities and under the purview of these universities. There are 14 e-learning centers in public universities in Iran which deliver courses through the web to the learners. Some of these universities offer a number of fields of study through web-based learning, and the rest offer only courses through the Web. Most centres use open source software for web-based learning environment systems. They offer a hybrid model including three components: The interactive multimedia content on the web, the face-to-face meetings, and the internet-based support system that provides continuous interaction between the students and faculty.

Today, many other countries in the world including Iran are concerned about the Web-based learning as a new way of learning. One of the important reasons is to uncover the new role of students and instructors in this educational setting [5]. The researchers agree with [6] that the perceptions of four important parties involved in the web-based learning system (students, instructors, educational managers and IT staff) must be identified. Unfortunately, till now there is not enough research in this area in Iran [7]. So, the researchers wanted to explore the perceptions of these people who deal with web-based courses in the selected E-learning centers.

In fact, Iranian public universities should know about CFSs for web-based learning to be successful. Seriously lacking are studies that identify the influencing factors on the effectiveness of web-based learning in Iran. This situation is critical, particularly now, because these centers will play a pivotal role in the success of the implementation of ICT in the country. Furthermore, the completion rate of registered web-based courses by students is currently low. This suggests that learning does not occur among these students and taking such courses may not satisfy students who study in e-learning centers [8]. There is a need to investigate about the factors that may increase the completion rate. So, the objective of this study was to identify the perceptions of instructors, educational managers and IT staff towards the effectiveness of web-based learning at Iranian public universities.

2. Methodology

This study used a qualitative method to gather information from other people involved in the Web-based courses such as IT staff, instructors and educational managers. The accessible population was 20 instructors, 20 educational managers and 40 IT staff from ten universities which offered computer courses through the Web. The participants involved in the interview were 12 instructors, 12 educational managers and 21 IT staff.

The qualitative data were gathered from instructors, educational managers, and IT staff through face-to-face interviews. Interviews were done at each selected E- learning centre in order to obtain the participants' perceptions towards the effectiveness of E-courses. The qualitative approach was chosen as it would help

the researchers to capture the perspectives of participants in more detail, and accurately. In this way, the researchers would be able to understand the phenomenon under study [9][10]. The data analysis usually results in the identification of recurring patterns in the form of factors, variables and themes and it does not extend to building a substantive theory [10]. This was done until a saturation point was reached every time. The whole process involved collecting information through the interview, asking questions about the data collected, decoding the meaning through a combination of techniques, analyzing and evaluating the conclusions and disseminating the findings.

3. Findings and Results

Findings showed that the majority of instructors interviewed were full-time associate professors of Engineering and Computer Science with at least three years of experience in web-based teaching. They were extremely proficient in using a wide variety of computer and Web technologies for educational purposes. During the interview, they were asked many questions. The answers to these questions have been summarized below. Most of instructors believed that: "the effectiveness of web-based courses is only average". Also, they asserted that:

> The quality of virtual class recordings in studios is not very satisfactory and need to be improved to find more students' satisfaction. Moreover, students should participate in virtual classes and they have the interest to participate, but they are too busy to do so due to job commitment. So, it may affect the effectiveness of web- based courses. Further, the curricula of web-based courses are just as equal as that of courses offered through the traditional classes because the curriculum adopted is the same. However, the Ministry of Education should revise the curriculum from time to time to improve the quality of web-based courses. The level of satisfaction among students in a particular course of the traditional class is higher than that of students taking the same course via the Web. This problem can be eliminated by improving the learning process of web-based courses. It can be done by minimizing the technology problems as well as providing better instructional designs for each web-based course. Meanwhile, the most ideal class size for web-based courses should be between 20 and 40 students. This is to make sure that the students would receive enough attention and derive more satisfaction from their learning.

The instructor, who taught Programming at the E-learning centre at K.N.Toosi University of Technology, explained that:

> One of the major problems facing Web-based learning students is that their learning quality is comparatively low. A majority of the students have not much time to participate in virtual classes and discussions due to job commitment.

Also, another instructor of Computer Science Faculty from E-learning centre at Ferdowsi University asserted that: "Students using Web-based learning did not fully use the facilities provided" thus, confirming the instructors' concerns regarding the learning quality.Meanwhile, most instructors who participated in this study explained that:

> (they)prefer to use E-mail and forums compared to other forms of communication methods. Also, our teacher assistants (TAs) reported that students did not make full use of all communication tools provided in the LMS. In the mean time, we believe that studying is not the students' first priority and students do not spend enough time on their courses based on our experiences in web-based courses.

The instructors and IT staff who participated in this study were asked about the learning flexibility in the web-based learning system. Two of the questions were: (1) Do you agree that an instructor must determine the students' pace of learning based on their experiences? Why? (2) Do you agree that students must receive the course contents and materials which were designed and developed prior to the beginning of a course? Why? These respondents expressed that:

> Web-based learning should eliminate place and time problems that learners may face during the teaching and learning processes. Its flexibility is supposedly better than the traditional educational system. Nevertheless, the current situation of web-based learning in Iran is not as good as what was intended regarding the learning flexibility. Although it is flexible, many students are unfamiliar

with the self-learning method that follows the learning flexibilities; hence they do not know what their roles are in this new kind of educational system. This problem is evident among some students as their learning skills was not enough and their learning had not improved. As a result, it needs to monitor closely their students' performance just like in the traditional classes. Although students can gain access to all learning materials from the beginning of each course, they still cannot finish their courses whenever they like. Instructors should determine the time for these students to sit for their final examinations and end their courses. Furthermore, controlling undergraduate students is more important than controlling the graduate students in web-based courses. So, when students know self-study skills, then learning flexibilities can be effective.

Meanwhile, educational managers in this study were asked about the instructors' role in the current web-based learning environment. They were also asked about who should determine the reasonable level of control over the students. In response to these questions, the managers believed that: "the instructors still do not know exactly their roles in the web-based learning system and they should be trained further. However, instructors are the ones who should determine the reasonable level of control over their students."

The next group of respondents in this study was IT staff. They were asked with some questions. All of the IT staff interviewed perceived that the web-based learning system in the first semester of the academic year 2009 was moderately effective. Three IT staff, namely Nasirpor, Satar, and Shafiee who were all from the E-learning Centre at Shiraz University, suggested that:

Two actions that can be taken to increase the effectiveness of web-based learning are: Firstly, proper time schedule is important before the contents of any web-based courses can be uploaded in the LMS. Secondly, IT staff and instructors must spend more time together while designing the contents of web-based courses. Instructors are usually hard to find, so IT staff always have difficulty completing their tasks successfully.

Ghorbani, another IT staff, from the E-learning Centre at Iran University of Science & Technology, in his interview claimed that:

First, some key people responsible for the decision making regarding E-learning centres are not familiar with the digital world. This could be a serious problem as their decisions would affect the effectiveness of the web-based learning system. Second, certain phases of the E-learning processes are not completely carried out or sometimes get delayed, so the whole system was badly affected. Last, he pointed out that the managers of E-learning centres should clearly state their expectations from IT staff before they started their work.

Another IT staff interviewed was Ehsani and she was from the E-learning centre, Ferdowsi University. She asserted that:

First, the approach taken to evaluate students' academic performance was sometimes not appropriate as complained by the students themselves. It was necessary to have a committee that can supervise the evaluation processes to satisfy these students. Second, technological problems should be eliminated as best as possible. For instance, suppose that the server suddenly went down while the virtual classes were in progress, the learning processes would be interrupted. As a result, the effectiveness of web-based learning would decrease. Third, IT staff working at E-learning centres need to improve their technical knowledge by taking part in training or workshops related to E-learning issues inside or outside of Iran.

Meanwhile, there were four IT staff members interviewed from the E-learning centre at Isfahan University of Technology. All of them had the same ideas and believed that:

To increase the effectiveness of web-based learning, more teacher assistants (TAs) should be hired especially in handling students' assignments and giving feedback. Second, the authorities of E-learning centres should assess the instructors' performance by asking the students to take part in a survey. The results obtained could be used to further improve the instructors' performance. Third, the instructors who taught web-based courses must have sound knowledge on the Internet and IT skills. Fourth, the web-based courses had been using the traditional syllabus and therefore, it is time for policy makers from the Ministry of Education to provide the new syllabus. Fifth, there

must be some academic collaboration among all the E-learning centres in Iran so that new issues pertaining to E-learning can be discussed and knowledge sharing becomes possible. Finally, there is lack of coordination between the IT staff and the instructors. Therefore, both parties should stay connected to each other via virtual communication. This way, they can exchange information almost instantly and web-based courses can be updated, modified or completed straight away. Then, the educational managers should consider this extra work by rewarding them financially.

In this study, all IT staff interviewed believed that:

In order to increase the effectiveness of web-based courses, the instructors should have more computer and Internet skills. There are always problems working with the instructors while preparing the web-based courses because we could not understand what these instructors wanted us to do. It is essential to have meetings with the instructors each month or at least three times per semester. In addition, E-learning Centres should provide an opportunity for students to engage themselves as part of the support team. This is because certain students knew the drawbacks better than their instructors or IT staff and can come up with new ideas on how to improve the quality of web-based courses. However, their involvement should be closely monitored due to the fact that information on the LMS is strictly confidential.

4. Conclusion

The educational managers who participated in this study believed that the effectiveness of web-based computer courses was highly based on the students' achievement and students' satisfaction. On the high rate of non-completed courses among students, they believed that students needed to adapt themselves to new methods of learning, and needed more directions and control from instructors. They needed to be self-regulated learners, and this need to be investigated further to find solutions to increase the effectiveness of web-based courses in Iranian public universities. They believed that interdisciplinary staff in the fields of education and technology who could determine suitable pedagogical designs for web-based courses, were lacking at the e-learning centres and this was a major problem.

The instructors who participated in this study believed that when students wanted to enter e-learning centres and make decisions about selecting a programme, a workshop should be held by e-learning centres on the methods of study for students. Students should be familiar with the different duties that they would have to undertake, otherwise the education would not be effective.

The IT staff who participated in this study believed that it was necessary for the course developers and instructors to work very closely to ensure enough time be given to clarify what was needed in the course so as not to negatively affect the output of web-based courses. It would be very important that all people working at the e-learning centres would share information regarding this new method of education. It would be even better if instructors were familiar with e-learning processes and its trends.

The study also showed that there was a lack of co-operation and collaboration among IT staff and instructors and educational managers on web-based courses. As such, further research should be undertaken on this area.

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