

Internet Based Distance Education Quality Assessment in Iranian Virtual Universities

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ABSTRACT

The purpose of this study is to examine the quality of internet based distance Education in virtual universities in Iran based on 7 components of the internet based distance education quality and determining the differences between the present and favorable situation. The research method is a descriptive survey. The statistical population consists of students, administrators and faculty members of Shiraz virtual University, Science and Technology, Amirkabir, Tehran, and Hadith sciences universities. The sample included 538 students, 9 administrators and 9 faculty members which were selected randomly. Researcher's measuring instrument was a questionnaire of the quality of internet based distance education borrowed from Institute for Higher Education Policy (IHEP). The validity of the instrument was achieved through content validity and the reliability through Cronbach Alpha.

The results showed that there is a significant difference between present and favorable situation of the 7 components of internet based distance education quality. Factor analysis proved the present situation; questionnaire proved the favorable situation and eclectic models proved quality factors.

KEY WORDS: Quality – internet based distance education - Iranian virtual universities.

INTRODUCTION

Nowadays in the third millennium knowledge is considered as the dominant paradigm and competitive advantage and societies in order to survive need to acquire, create, and disseminate their knowledge. With the development of new communication technologies virtual universities were developed with specific goals, they made use of internet in different ways to provide their curriculum from remote distance. Bowden and Marton (2004) believed that the main mission of these Universities is the creation of "learning universities" which must have multiple skills such as technical skills, problem solving, critical thinking, negotiation, creativity and effective guidance of information to enhance the students.

Distance education proposed major issue in connection with the teaching - learning process in which the perpetrators of the time - space are separated from each other and information and communication technologies such as audio-visual playback, distance conference, and printed study guide and multimedia systems fills this gap (American Journal of Distance Education, 2008). Distance education theories that were developed by leading experts in this field such as Holmberg, Charles Wedemeyer, Michelle Moore and O. Peters has been classified into three broad groups (Keegan 1996, Saba 2003).

1 – Theories of autonomy and independence: Holmberg, Charles Wedemeyer, Rudolf Delling and Michele J. Moore, developed theories of distance education which placed the learner at the center of education process (ibid).

2 – Industrialization Theory: Oto Peters, Desmond Keegan and ... are theorists in distance education which developed theories that basically tend to how this field works and how it is organized.

3 - Interaction and communication theories: contemporary ideas and perspectives of Holmberg, John Bass, Kevin C. Smith, David Stewart and John S. Daniel emphasized on interaction and communication as important factors in planning for distance education (Keegan, 1996).

In the beginning of 1980s, the telecommunications, satellite for broadcasting transmission of lectures and training opportunities beyond the university campus was a famous method for distance education. From late 1980s to the 1990s interactive video-based micro-waves was used. This method of delivery was used till interactive video training was developed and in the late 1990s. When internet and www were of use "a growing perception that spatial or temporal boundaries need no education" in all academic positions began to develop (Chaney, 2007).

Internet based distance education (virtual) as the fifth generation of distance education is considered at least for three reasons: the internet based distance education quickly became a dominant technology (highlighted) in distance education that hypothesizing personal computers power high speed, increasing bandwidth telecommunications' capabilities, editing as a state of the art, software delivery, is not surprising. Secondly distance education allows that the process of learning-teaching occurs at any time and any place. The ability to

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provide interactive learning activities asynchronous becomes a distinguishing feature of this technology that makes it apart from most other technologies. Not only Internet-based distance education allows the learner and teacher to communicate with each other from any space and any place, but also change the concept of time. Generally students can involve in a course at any time of day and night that they choose. In fact, because of this characteristic, the idiom of "7-24" (twenty-four hours a week) becomes part of the distance education dictionary. Thirdly - because of these characteristics, many internet based distance education methods are basically different from traditional classroom training. Among other things, this is the different and distinct concept of time which concerns many people in communities of higher education. However, for some internet based distance education provides new exciting opportunities for training students (Phipps and Merisotis 2000). In order to improve the quality of distance education first we should know what quality is and how quality is measured in distance education programs. According to Meyer (2002) Lack of stable definition and agreeing in what quality is can be very problematic. To provide a universal definition of quality is difficult because the meaning of quality can vary for different roles players (Fresen, 2002). However, it should be noted that "the quality of distance education is a complex task that is allocated in an inner fabric of time, place and power" (Nunan, 1992, p. 2). As Sherry (2003) pointed out, providing pedagogical experiences within the environment of rapidly changing technology, can be difficult and needs the combined efforts of all those involved in distance learning institutions. . In order to meet the demand for distance education, it is required to meet the needs of administrators, faculty members and students and linking pedagogical techniques appropriate to the courses and programs, distance learning, structured guidelines of what is similar to high quality distance education (Chaney, 2007).

Computer-based learning research has attempted to highlight the issue of quality in online learning. One of the broadest researches devoted to this subject was, "Quality on the Line: Benchmarks for success in online distance education" which was carried out in the National Education Association of USA (GHQ), the blackboard institute and IHEP institute in six American universities that offered online program Resulting in 24 benchmarks on the Institute's role, management, faculty members, course development, teaching - learning, course structure, students, and evaluation which are essential in ensuring quality in distance education (Phipps and Merisotis, 2000). Susan Mc Gary (2003) in her study investigated the literature of distance education and information technology in an effort to develop a model to measure the quality of learning in online courses. The resulting model is the first model for the simultaneous emphasis on issues such as flexibility, responsiveness, interaction, students' learning, technical support, and technology and student satisfaction. Finally, a scale for measuring the quality of online education in the seven factors listed above has been developed.

Golzari (2010) in his doctoral thesis titled "providing a model for internal evaluation of e-learning in higher education system" has developed the following factors in evaluating the quality of e-learning:

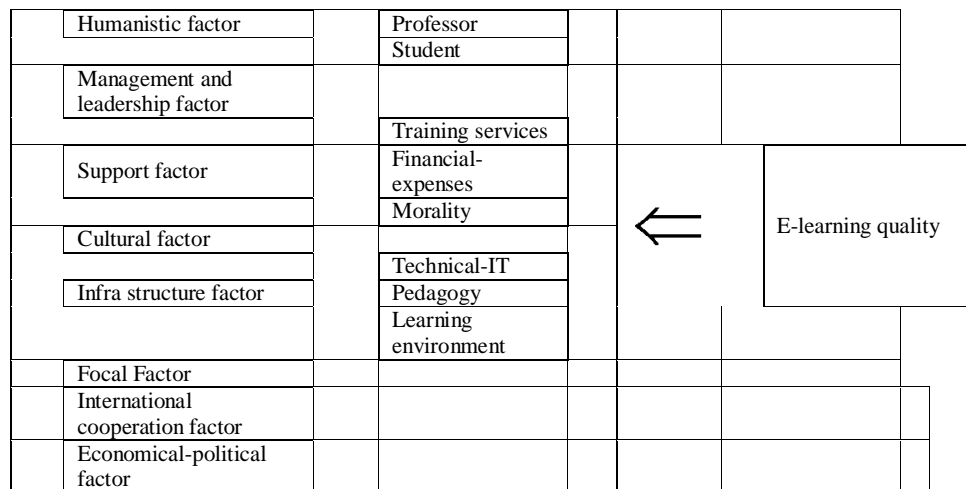


Figure 1: determining Factors of internal evaluation of e-learning quality adopted from Golzari

In recent years that the issue of internet based distance education was started in Higher Education and several universities started to establish learning centers unfortunately many problems, especially in terms of quality component and critical elements were seen in virtual education. Particularly because some of the universities have a minor look at this and follow virtual universities nominally and outwardly and provide traditional learning content in various forms. One of the major problems of virtual education (internet based distance education), is the technological limitations that we must examine whether the current technology level meets the educational needs of higher education applicants or not? If we upgrade the technology level of educational software, there will be full compatibility between all present software and hardware? Was the necessary infrastructure in virtual education provided?

Course subjects and the lack of standards in curriculum development (goals, content and method), course structure and technical problems are other issues in virtual universities. Teachers and students don't have the necessary skills (technological skills) required for use of telecommunications software and hardware. Low rates of access to internet (www) in the country (Iran) and its low velocity with respect to internet as the basis for virtual education, it will cause problems in virtual education. Especially because we cannot make good use of simultaneous techniques and interaction in education is also challenged. Problems in assessment and evaluation are other effective factors in the quality of virtual education programs, so much that measuring process is not clear and evaluations are made personally. Providing services to students on enrollment, tuition, and welfare are other problems which have improper status in virtual universities.

It seems that according to some of the problems mentioned above, the quality of internet based distance education of virtual universities in Iran is not acceptable, so this study aimed to evaluate the components and indications of (institutional support – course development - the process of teaching-learning – course structure - student support - faculty support - assessment and evaluation) in distance education quality and determine the differences between present and favorable in order to provide a proper model for improving internet based distance education in virtual universities of Iran And investigated this hypothesis that there are differences between present and favorable of 7 components of internet based distance education quality in virtual universities in Iran. The research question is: what is the suitable model for improving the status of internet based distance education?

RESEARCH METHODOLOGY

Statistical population, includes students, faculty members and administrators of virtual universities in Iran (Shiraz University, Science and Technology, Amirkabir, Tehran, Virtual School of Hadith sciences)and their number according to the statistics obtained are 8620 students, 42 managers and 106 professors.

Table1: Statistical population

University	Student	Manager	Professor
<i>Tehran</i>	1000	8	10
<i>Amirkabir</i>	580	9	20
<i>Science and Technology</i>	1840	10	20
<i>Hadith sciences</i>	2000	8	26
<i>Shiraz</i>	3200	7	30

Because the number of faculty members was limited and specially faculty members did not want to cooperate and has a lot of fallings 9 faculty members and 9 administrators were involved in the study sample but students were selected randomly from each university. Since 10 percent of the population is enough based on available resources in descriptive survey, and also in accordance with Morgan table for the 8620-person sample, 368 people is enough, therefore, 10 percent of students were selected and finally 538 students sent questionnaire and sample size was of 556 people.

Table2: sample of research

University	Student	Manager	Professor
<i>Tehran</i>	42	4	2
<i>Amirkabir</i>	42	1	2
<i>Science and Technology</i>	109	1	2
<i>Hadith sciences</i>	93	3	3-
<i>Shiraz</i>	252	-	-
Total	538	9	9

The instrument for data collection was questionnaires adapted from IHEP (2000), with local considerations. The questionnaire included 51 questions (7 questions for institutional support, 10 questions for the curriculum development, 7 questions for teaching – learning process, 7 questions for course structure, 9 questions for student support, 5 question for faculty support and 6 questions for assessment and evaluation) with a semi-metric spectrum. Thus the sample individuals allocated scores of 0 to 100 on the present status and then allocated scores of 0 to 100 for its importance to ensure quality (favorable condition). The questionnaire was sent and received electronically for those samples. In order to evaluate the validity of the data achieved through instrument (questionnaire) readers, advisors, and experts, and also factor analysis is used. The Cronbach test was also used for data reliability of 51 questions in the present situation, 0 / 981 in favorable condition, 0 / 97 is obtained, which showed the reliability of the above question's instrument.

FINDINGS

According to the data in Table 3 regarding quality question, lambda Vilks 842/0 is obtained at a significant level sig=8420 which shows a significant difference between the present and favorable situation.

Table 3: Analysis of variance for repeated data regarding questions, the present and favorable situation and their interaction

Multivariate Tests ^b						
Effect		Value	F	Hypothesis df	Error df	Sig.
Questions	Pillai's Trace	.842	9.877 ^a	50.000	93.000	.000
	Wilks' Lambda	.158	9.877 ^a	50.000	93.000	.000
	Hotelling's Trace	5.310	9.877 ^a	50.000	93.000	.000
	Roy's Largest Root	5.310	9.877 ^a	50.000	93.000	.000
situation(present&favorable)	Pillai's Trace	.772	480.713 ^a	1.000	142.000	.000
	Wilks' Lambda	.228	480.713 ^a	1.000	142.000	.000
	Hotelling's Trace	3.385	480.713 ^a	1.000	142.000	.000
	Roy's Largest Root	3.385	480.713 ^a	1.000	142.000	.000
Questions. situation	Pillai's Trace	.771	6.263 ^a	50.000	93.000	.000
	Wilks' Lambda	.229	6.263 ^a	50.000	93.000	.000
	Hotelling's Trace	3.367	6.263 ^a	50.000	93.000	.000
	Roy's Largest Root	3.367	6.263 ^a	50.000	93.000	.000

According to the data in Table 4, considering paired t-test data, the mean difference between the present situation and the favorable quality of institutional support (41/27-) with 511 degrees of freedom, t values significant at the level of sig= .000/0 (572/42-), the mean difference between present and favorable status of course development (02/40-) with 281 degrees of freedom, t values significant at the level of sig=.000/0 (8/290-), The mean difference between the present situation and the favorable quality of Teaching - learning process (77/37-) with 285 degrees of freedom, t values at significant levels (sig=.000/0) (78/45-), the average difference between the existing situation and the favorable course structure quality (29/26-), with 290 degrees of freedom in a significant t value (sig=.000/0) (30/25-) mean difference between the present situation and the desired quality of student support (64/37-), the paired t with 246 degrees of freedom with a significance level (sig=.000/0) (86/25-), the mean difference in optimum conditions and quality of faculty members support (48/19-) level was significantly correlated with the degree of freedom t value of 222 (sig=.000/0) (009/23-), average difference between present and favorable situation of quality measurement and evaluation (45/25-) with 230 degrees of freedom t value significant at the level of .000/0 = sig (269/22-) are obtained. Therefore, with respect to sample individuals there is a significant difference between the present situation and the favorable quality of the seven components of internet based distance training in virtual universities of Iran, so null hypothesis is rejected and research hypothesis is confirmed.

Table 4: Paired t-test for comparison of the seven components in the present and favorable situation

	Present and Favorable Situation Difference					t	Freedom Range	Significant Level
	Mean	SD	SD Mean	Reliability Level 95/0 mean Difference				
				Higher	lower			
Institutional support (present and favorable situation)	27.4199-	14.5741	.64409	-28.685	26.1545-	42.57-	511	.000
Course Development (present and favorable situation)	40.0212-	22.9458	1.3664	42.7109-	37.3315-	29.28-	281	.000
Learning Teaching Process (present and favorable situation)	37.7762-	13.9531	.82507	39.4002-	36.1522-	45.78-	285	.000
Course Structure (present and favorable situation)	26.292-	17.722	1.0389	28.3368-	24.2473-	25.30-	290	.000
Student support (present and favorable situation)	37.647-	22.874	1.4554	40.5144-	34.7810-	25.86-	246	.000
Faculty Support (present and favorable situation)	19.488-	12.648	.84702	21.1580-	17.8195-	23.00-	222	.000
Evaluation (present and favorable situation)	25.450-	17.369	1.14285	-27.7020	-23.1984	-22.26	230	.000

DISCUSSION AND CONCLUSION

Considering the findings there is a difference between all seven components of present situation of internet based distance education quality and favorable situation. Especially in the present situation the problem of Teaching - learning process, course development, the student's support is important. Also institutional quality assurance support, the teaching - learning, faculty members and students' support have the greatest importance for favorable situation.

As it was seen in literature review and conducted research, internet, quality and bandwidth are the foundation of virtual education and there will be main problem in virtual education quality and the assumption

of virtual education is impossible with low speed internet. Unfortunately in our country much of universities tend to establish electronic and virtual centers which does not have organizational structure and infrastructure and certain standards to support virtual education and this has an effect on devastating the quality of this type of education. According to Bowden and Marton (2004), the main mission of creating virtual universities is to create "learning university" and in this University to ensure the quality of students learning, determined quality in qualities should be considered instead of standard and single-centered training give their place to multi learning skills such as understanding the structure in relation with scientific development, encouraging continuous learning, understanding basic concepts and their relationships, understanding the relationship between theory and practice ", strengthening communication skills, business insight and holistic self-learning ability and spontaneity. Therefore curriculum development in virtual universities as learning universities is designed based on integrated learning approaches and students' needs is an effective agent in its formation.

The important point is that the courses should be designed to be consistent with approaches to learning and students play a key role in building knowledge, something that virtual universities are looking for as learning universities but unfortunately attention has not been paid to learning styles and the master of the teacher-base education is delivered to students from the microphone.

Bangert (2004) in his article titled "The Seven Principles of good practice, a framework for evaluating online teaching": have emphasized on – encouraging teacher-student interaction - - encouraging cooperation among students - active learning – encouraging quick feedback - and the various methods of learning methods is. According to Holmberg (2003), the teacher – student interaction, consultant and management teaching-learning process, includes arrangements for students to interact with the students. Theories of interaction and communication as the hands of the theories of Holmberg, Bass, Smith, Stewart and Daniel have been emphasized on designing interaction and communication as important factors in distance education. Kurtiz (2001) in his study found that students in order to monitor, evaluate, provide feedback and their social relations interact with each other. Since the quality of course structure directly affects Teaching - learning process, therefore, knowing the course objectives, motivating students, virtual access to library resources and scheduling in assignments' arrangement and attending classes can increase the quality of Teaching - learning process .The student unfortunately believed that attention is not paid to them and staff and faculty members have negative attitudes toward them and this makes there does not exist immediate answer in this field. Besides, technical assistance required, is not good particularly before and during the process of teaching - learning situation.

Today people participating in technical support of these trainings must not be people whom participate in our virtual training or in the presence of these people and if they participate due to lack of expertise and experience are not appropriate to help the students. There is much technical training which unfortunately students achieve it more or less during the education period. In the theoretical foundations of the present also students is considered as the most important factor in order to ensure internet based education quality. In the final model of research student support has an important role in explaining the quality of internet based education and after the infrastructure problem is considered the most essential factor for quality assurance in virtual education in Iran. When faculty members with the same mental model, attendance and traditional education, attend in online classes first they don't have necessary skills and secondly do not have the proper understanding of this type of education and this highly affects the quality of teaching-learning process and is causes reason less restrictions and great stress in students and on the other hand assigns education to its residents and even students at the same level with virtual students which considerably decreases education feedback, the fact which is seen in most of the students' comments. Simon (2005) in his study stated that of some teachers are afraid of using IT and communication in teaching. Findings of the present study show that teachers in order to design need ongoing support, guidance and technical support, the most desirable combination of online instructional design should include a teacher, designer and technology specialist, teachers, who spend more time to collaborate with technology experts. Their stress of technology reduces and show more interest in using. Also, arranging regular meetings, technical support and participation among group members reduces the problems of training teachers and teachers learning IT and communication skills and educational design are motivated to design spontaneous electronic and student-centered learning environments. Higher Education Council (2002) in his report approved results of students' learning has been raised as a key component of quality. Ravir (2004) in construction based approaches to online university learning, emphasized on the evaluation methods which has multiple objectives, so various strategies should be used in their evaluation and the resulting data should be used in providing feedback and help to improve learning.

The basic argument in the measurement and evaluation is lack of evaluation process and using its feedback for improving teaching – learning process. First, discussing the evaluation of attending and virtual students' evaluation should be a separate process. Unfortunately, most evaluations are conducted in person and like every day student's attendance evaluation. Given the prevailing approach to online training and learning is construction based approaches and learners are involved in knowledge construction, therefore, final and teaching based evaluation cannot measure progress and fitness to their requirements but during training with different individual and team projects strengths and weaknesses of the education can be better realized. However, till feedback of Teaching - learning process is not done, problems and especially the quality continues to involve for virtual education administrators.

Limitations of research are in the field of theoretical framework, adapted measurement instruments, selection of quality factors of internet based distance education of HIP institute, conducting the electronic quality questionnaire and falling of professors' sample.

According to survey results the following recommendations are effective:

- Strengthening Internet based education infrastructure for distance education with government and IT industry support.
 - Supporting a central online LCMS system of distance education.
 - Course design and development by an expert team (faculty members, content experts, instructional designers and technical specialists, and evaluation staff).
- Developing and deploying the CMS (content management system) for developing and supporting content.
- updating content using the latest world standards such as SCORM and IEE.
 - Encouraging students' interaction with faculty members and other students using the latest communication technologies in the world.
 - Establishing an equipped and update virtual library which can provide world scientific resources for students and teachers.
 - measuring students' motivation and commitment to distance learning website using valid and reliable tools.
 - Full coordination of faculty members and students about the expectations of each other for doing homework and response from faculty members.
- Establishing "a comprehensive service system for students" which meets students' problems accurately and quickly, especially in the LMS environment
- Launching online training courses in academic institutions of higher education for teacher training.
 - Specialized teams of faculty members to help each other during the online educational process.
- Application of the determined evaluation process and the use of feedback for improving Teaching - learning process
- Application of developmental evaluation during training formation
 - Investigating students' feed back to ensure the accuracy, learning efficiency, usability and relevance to students' needs.

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