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THE ROLE OF E-LEARNING IN THE VALIDATION OF UNIVERSITIES

*Sanaz Mazaheri¹ and Nahid Owrak²

¹Department of Education, College of Education and Counseling, Roudehen Branch, Islamic Azad University, Roudehen, Iran

²Department of Elementary Education, Islamic Azad University, MasjedSoleiman, Iran

*Author for Correspondence

ABSTRACT

The present investigation was conducted with the aim of studying the role of e-learning in the validation of universities in the academic year of 2013-2014. The population consisted of 850 managers and faculty members of Islamic Azad Universities in Tehran city among whom 168 individuals were chosen as a sample size using Cochran's formula and simple random sampling method. An e-learning system evaluation questionnaire (researcher-made) was used to collect data, which some of the questions were from standard questionnaire of Levy assessing the value of e-learning systems (2006) and the rest of them were designed according to the existing components. After data contribution and collection of questionnaires, data analysis was carried out through Structural Equation Modeling (SEM) and Smart PLS 2.0 software in two parts of measurement model and structural model. Technical characteristics of the questionnaire including reliability, and convergent and divergent validity were investigated in the first part and the significance coefficient of the software was used to check the hypotheses in the second part. The findings demonstrated that e-learning and its dimensions (communication tool, information tool, having access at any time and place, multiple presentation of the content and personalization capability) have significant role in validation of universities.

Keywords: *Electronic Learning, Validation, Personalization*

INTRODUCTION

If we know the improvement of human's life and building a society based on wisdom as the pivot of all development planning, it is necessary to accept that education and especially higher education plays a significant role in advancing the goals of the society towards achieving the sustainable development. However, growing changes at the present time have made some issues and challenges face the higher education system that not only has caused the decrease in effectiveness domain of higher education but also lack of extensive attention to them could follow the vulnerability and the decline in confidence of various range of individuals and the society's organization towards the higher education centers. One of the pivotal challenges is to maintain and improve quality and to deal with that it needs to adopt meta-activities and apply wise and accurate validation strategies (Eidi & Bidokhti, 2006).

Therefore, it seems that validation as a fundamental prerequisite can provide the grounds for improving the quality in the higher education system with due attention to the actual and potential problems and by guiding the activities and their results in order to achieve desirable extent of discipline in a specific field. Validation is a process that through which validity and scientific, research, and educational status of one university system are granted with due attention to the determined standards of that system by one board of evaluator (Supreme Council for accreditation, professional institutes, scientific associations, official institutions, NGOs, and etc.) and by using tools such as measurement and monitoring and ongoing evaluation of qualitative and quantitative evaluation criteria are ultimately judged Whether universities or research and educational institutes enjoy minimum standards at a period of time or not? (Washington University, 2002).

Validation is a mechanism through which universities and higher education institutes status are determined qualitatively and quantitatively based on the educational, research, and service status and amendatory recommendation are done according to validation. In this pattern, internal assessment is used in order to maintain and improve the quality and the external evaluation is used for quality assurance (Eidi & Bidokhti, 2013).

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In other words, validation can be known as control process and quality assurance in a higher education system that has a rotational evaluation cycle based on acceptable standards that takes care of performance evaluation of universities and higher education institute through standards, components and criteria. In this way, it can actually provide the grounds for quality improvement through validation:

1. The degree of compliance of university status with the predetermined standards is determined by the internal and external evaluation.
2. Functional ambiguity is removed.
3. Institutes are ranked.
4. Accountability and scientific guidance of universities and higher education institutes, productivity and the optimal allocation of funds, innovation and increase in the capabilities and competitiveness of national, regional and international are provided.

Validation model is composed of two parts of internal and external evaluation to maintain and improve quality and quality assurance, respectively. Internal evaluation is the beginning stage of applying a validation model. At this stage, university system self-evaluates for the purpose of seeing itself in the mirror in order to find out its strong and weak points and modify and fortify them. The purpose of internal evaluation or self-evaluation is that those who are involved in the system (plan) obtain more awareness towards system's goals and the issues that exist in achieving these goals. Then they measure the extent to which they can achieve them so that they can plan to improve the quality in the future accordingly. In other words, in internal evaluation the compliance degree of system's goals is evaluated with the existing status and the future activities are planned based on them (Bazargani, 2001).

Nevertheless, performing just internal evaluation cannot cause the quality improvement, assurance, and its continuity. Therefore, external evaluation should be conducted. External evaluation is necessary since the scientific community requires the confirmation of the board of counterparts for trusting the quality of one university system apart from the results of internal evaluation. This entails the formulation of standards accepted by experts in the field of evaluation that with the visit of board of supervisor from the department, college or university, by taking the report from internal evaluation into consideration, result in judgment from outside and recommendations over improving the quality in the long run. This way it prevents from the vulnerability of educational groups or university and higher education system in general. In the rapid and updated changes right now, new methods of learning such as E-learning, codification and agreement on national and international standards and consequently the maintenance and improvement of high quality are considered as important and vital issue for universities and higher education centers. For this reason, the request for quality evaluation and quality assurance processes are increasing. The result of such requests is identifying and applying different quality assurance systems. Validation has been one of these systems that enjoy high frequency in Iran in recent years. In fact, the universities and higher education institutes status in terms of education, research, and service whether quantitatively or qualitatively are characterized by using the mechanisms of validation and the amendatory recommendations are done accordingly. (Ghourchian, 2003)

On one hand in recent years, taking advantage of modern technologies has provided opportunities for offering new methods of education (Geogieva, 2003). Using such technologies directed traditional learning towards E-learning and changed it into an important instructional tool (Chen, 2009) so that most universities and education centers set them as a part of their long-term plans and make substantial investments in this respect (Kamlan & Fazel, 2009). Now, E-learning industry enjoys the most financial growth in the education market of \$2.3 trillion. According to the report from the world analysts' research center, it is predicted that this growth reaches to \$69 billion by 2015 (Shih, 2008).

Many universities and educational institutes existed around the world to meet the increasing According to Bettz, in many developed countries the growth of enrollment in E-learning courses is by far more than the total growth of higher education (Bettz, 2009).

E-learning is a set of instructional activities that is done by using electronic tools including aural, visual, computer and network (Thomas, 1997). E-learning is defined as a system based on technology, organization, and management based that offers students the required ability to learning through internet

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and facilitates their learning in this process (Levy, 2006). Wanting et al defined E-learning as the acquirement and using the distributed knowledge by means of electronic tools (Wanting *et al.*, 2000). Khan knows the meanings of E-learning in network-based learning, internet- based education, and advanced learning (Khan, 2000). In fact, E-learning, with all related hardware and software equipment, directed the human's knowledge towards a great knowledge to network, internet-based education and extensive methods of learning (Fallah and Jamali,2011).

E-education and E-learning are new paradigm and the product of information technology that are recently proposed and even implemented by some organizations and universities in the form of several instructional programs. In general, information technology has made new opportunities for different societies. Those societies who identify these opportunities faster can compensate their backwardness with a structural mutation. Providing the necessary infrastructure and proposing plans such as E- Literacy Movement will be our passing key to the information society. E-learning can solve many issues including the growing needs of people to education, Lack of equal access to education centers, lack of economical equipment, lack of experienced trainers, High costs that would be spent on education (Keshavarz *et al.*, 2013).

E-education, with all the related hardware and software equipment, directs the human's knowledge towards a great educational revolution. Nowadays, with the fast growth of multimedia systems and network-dependent technologies, internet-based education and extensive learning methods and also traditional methods are directed to the virtual learning environments (Fallah and Jamali, 2011).

From the Boticario and Gaudioso point of view, an optimal structure for E-learning includes the following:

1. Ability to create and develop an interactive model of educational resources by taking into account the needs of all members of the educational system.
2. Improvement of learning process through increasing the participation of learners in using different educational resources.
3. The feasibility of extensive communications for the simple and quick use of all groups of learners.
4. Developing and encouraging the learners to optimal utilization of relevant and appropriate information and educational resources.
5. Developing and improving communication techniques to facilitate the creation of workgroups of learners (Boticario and Gaudioso, 2000).

Along with the development of e-learning in universities and higher education institutes, the validation issue gained importance especially in terms of investigating the quality assurance of teaching and learning process, justifying the performance of e-learning plans, and the necessity to meet the requirement and standards for designing , development, and implementation of e-learning in higher education because measurement and evaluation is the constant and integral part of any education systems and it is considered as important and effective activities in education process (Zarei, 2008).

Attwell and Hughes provided a framework for e-learning evaluation that is based on the effect of five groups of variable on the effectiveness of e-learning plans including learners' variables, environment's variables, technology's variables, background's variables, and educational variables (Attwell and Hughes, 2007). The model proposed by Roderick Sims is also used for evaluating all important components of e-learning structure. The main elements and dimension of this model includes goals and objectives of plan, course content, the design of the course setting, the amount of interaction, assessment and evaluation of students' learning, the degree of supporting the students, and outcomes (Zarei and Safaei, 2005).

As a result of the application of electronic systems in the educational process and collaborative learning Noohi *et al.*, concluded that there was a significant relationship between the necessity and the application of electronic equipment from the students' point of view (Noohi *et al.*, 2011).

In a research by the title of evaluating the quality of e-learning in Iran's universities based on the curriculum orientations and the instructors' experience Boorang *et al.*, also concluded that students who participated in virtual courses evaluated e-learning quality at the average level or above (Boorang *et al.*, 2013).

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Khademloo *et al.*, carried out a research by the title of health and pharmacy students' perspective on the application of e-learning system. Results indicated that students had positive perspective related to all dimensions of e-learning (Access to technology, continuous communication, motivation, learning through media, online discussion groups and success in e- learning) (Khademloo *et al.*, 2013).

Elissavet and Economides (2003) consider the quality of technological tools and learning important in the content formation of the course and the interactions between teacher and learners. In their opinion, the quality of e-learning environments is the subject of the quality of four elements including content, design factors, updating and technical support, and technological tools.

National Education Association of America (2006) set quality standards of e-learning courses around three pivot points of technology, content, and services to encourage the development of e-learning in secondary schools. Technological standards point to the capabilities of learning management system, its compatibility with international standards of content such as Scrum Standard and assisting to manage functions such as learner's profile analysis, providing individual learning paths, designing learning activities, facilitating access to instructional materials, using forum tools, chat room, virtual classroom, and the relationship between learners. Content criteria implies Instructional design used in it, ease of searching in the resources, providing feedback and the possibility of extending the interaction. Services imply assistance that is provided to facilitate the interaction between learner and teacher, learner and learner, and to provide answers or proposing questions (National Education Association of America, 2006)

Southern Regional Education Board of America (2010) set a framework for evaluating the quality of e-learning courses in order to aid in the development of e-learning and its continuous accreditation. In this framework, the role of technological tools is considered important in forming the quality of other elements of the course. Based on the proposed framework from Southern Regional Education Board of America the prerequisite for quality improvement of other elements of instructional course includes the technical architecture design of the course, user interaction, responding to the learners' technological needs, availability and technical support.

Seok and Meyen conducted a research with the purpose of identifying and validating the criteria indicating the main dimensions of e-learning that contained compiling an inventory and evaluation tools of e-learning as well as the effectiveness of teaching. They identified seven fundamental elements of learning, interaction, and instructional design, informational resources that evaluation and technological support should take them into consideration as indicators when evaluating e-learning (Seok and Meyen, 2006).

Mirzaee and Sepasi carried out a research on the development and the validation of a scale to measure attitudes of faculty members towards virtual education (Mirzaie and Sepasi, 2007).

Therefore, after investigating the review of related literature we will understand that e-learning has its own unique dimensions in the following which influences the education process.

Communication tools: these tools are divided into Synchronous and asynchronous tools. Chat rooms, visual and aural conferences are of synchronous tools and e-mail facilities and newsgroups are of asynchronous ones. This set of features provides a rich communication environment by creating conditions such as the ability to communicate simultaneously with several people, flexible connection in time and place, and creating a face to face communication (Wang & Song, 2008).

Informational tools: having access to diverse sources of information such as websites, publications, individuals, groups are of important features of e- learning. By making use of this possibility, educational system can have access to some information and based on those activities it controls and manages learners' instructional activities (Nieto *et al.*, 2006).

Having access at any time and in any place: In this environment, students by having access to computers and the network at any time and in any place have access to the e-learning environment. Having access at any time helps learners participate in instructional programs in the desirable and appropriate places according to their job and family condition and have more time for interaction, asking questions, and providing answer (Frank, 2008).

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Multiple presentation of the content: E-learning is composed of multimedia tools. These tools will allow curricula developers to offer specific learning sections to students in different formats (Clark, 2004).

Personalization capability: having access to the vast information of multimedia tools and the flexibility of e-learning allow students to participate in instructional courses according to the individual differences, needs, interests, and their learning methods.

In Iran, during the last few years, a number of universities and higher education institutions also started making an investment in the field of e-learning and thus new opportunities to participate in the instructional process are provided.

However, it should be noted that e-learning is a new and emerging phenomenon in most countries and, as it is so much expected to be, it is not performed scientifically and extensively yet. The application of this type of learning like any other emerging phenomenon, regardless of the benefits and opportunities that are provided, has been with some hesitations and challenges. It is only through a careful and regular evaluation system that the complicated problems of this kind of learning system can be identified (Montazer, 2007).

Islamic Azad Universities of Tehran province have undergone a lot of financial and non-financial losses annually due to lack of validation at their different levels. Thus, we have dealt with this problem as a fundamental weakness and a challenge in strategic document of education development and decided to conduct a scientific and educational research for the pathology of the above matter and offering a scientific strategy to solve this organizational challenge by using e-learning dimensions. Thus, in this paper after a review of related literature we are investigating this issue that whether e-learning and its dimensions have any effects on universities validation? In this regard, the main and secondary research hypotheses are proposed as follows:

Main hypothesis: E-learning plays a role in the validation of Islamic Azad Universities of Tehran province.

The first secondary hypothesis: Communication tools play a role in the validation of Islamic Azad Universities of Tehran province.

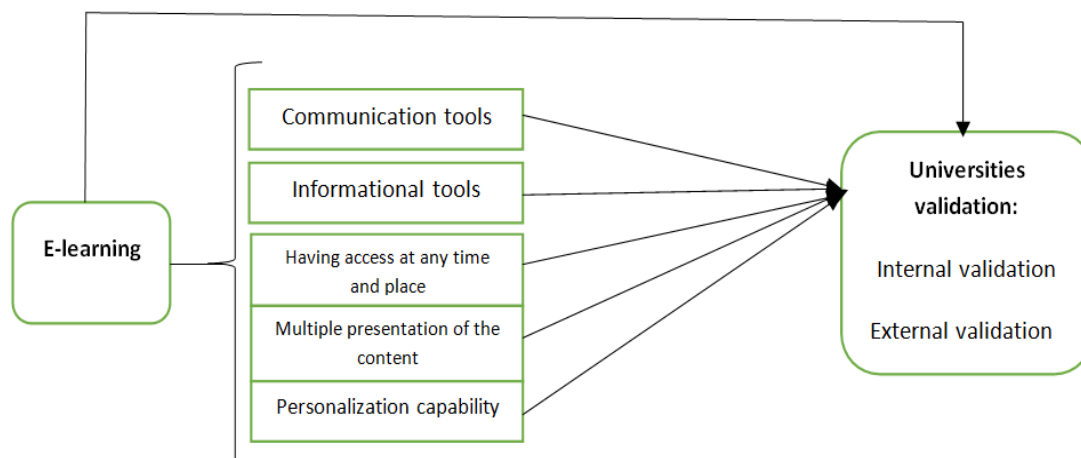
The second secondary hypothesis: informational tools play a role in the validation of Islamic Azad Universities of Tehran province.

The third secondary hypothesis: Having access at any time and in any place plays a role in the validation of Islamic Azad Universities of Tehran province.

The fourth secondary hypothesis: multiple presentation of the content plays a role in the validation of Islamic Azad Universities of Tehran province.

The fifth secondary hypothesis: personalization capability plays a role in the validation of Islamic Azad Universities of Tehran province.

Finally, the conceptual model of research is given in the following:



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MATERIALS AND METHODS

Methodology

The methodology of this research is practical according to its objective, and it is a causal- descriptive one according to its data collection method. Moreover, this is a quantitative research with regard to the type of its collected data. Accordingly, we planned and distributed a series of questionnaires in order to collect the opinions of the managers and faculty members of Islamic Azad University in Tehran province in the academic year of 2013-2014, and the collected results were recorded. Since in this research the causal relationship was going to be studied, the methodology of the research is causal with regard to the relationship between the variables; and we have used the Structural Equation Modeling (SEM) to come to a comprehensive analysis of our conceptual model. This model is the best one for analyzing the researches in which the observed variables have some measurement errors and the relationship between their variables is complicated. Using this method, one can measure the precise of the factors or observed variables on one hand, and study the causal relationship between the latent variables and the scale of explained variance on the other hand. Structural equation modeling encompasses two models: measurement model and the structural model; and the variables of the model are divided into two groups: latent variables and observed variables. In this research, electronic learning and validation of universities are latent variables and the dimensions of each of the variables are observed variables.

The population consisted of 850 managers and faculty members of Islamic Azad University in Tehran province, which the sample size was chosen using Cronbach’s formula. To use the Cochran formula it is necessary to consider its assumptions. The assumptions of the Cochran formula include: p=q=50% (on the basis of probabilistic method); z is the standard statistic for normal distribution that is equal to 1.96 at the confidence level of 95%; d is the maximum allowable error (equal to 5% for this research); and N is the number of the employees in all relevant companies. The sample size (n) is calculated according to equation 1 on the basis of the Cochran formula (Sarai, 2000):

$$n = \frac{z^2 pqN}{Nd^2 + z^2 pq} \quad \text{(equation 1)}$$

Therefore, using formula 1 and according to the population, 168 individuals were chosen as a sample size using simple random sampling method. An e-learning system evaluation questionnaire (researcher-made) was used to collect data, which some of the questions were from standard questionnaire of Levy assessing the value of e-learning systems (2006) and the rest of them were designed according to the existing components.

The researcher-made questionnaire of e-learning system evaluation, which was based on key components such as communication tools, information tools, and access at any time and in any place, multiple presentations of content, and personalization feature, was designed in 35 questions. Hence, 7 questions were allocated to information tools and communication tools, and there were 6 questions for access at any time and in any place. Moreover, there were 8 and 7 questions for the components of multiple presentation of content and personalization feature, respectively. The questionnaire was based on a 5-point Likert Scale from totally disagree to totally agree.

Table 1: Cronbach’s alpha and Composite Reliability values

Validity of universities	E-learning	Variable
External validation	Internal validation	Variable’s dimension
0.832	0.849	Cronbach’s alpha
0.841	0.851	CR

According to the collected data and using Smart PLS 2.0 software, the reliability of the questionnaires was calculated. In the PLS method, the reliability is measured using Cronbach’s alpha and Composite Reliability (CR), which the reliability is acceptable when the values are more than 0.7 (Hulland, 1999).

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The results are reported in table 1. As it is obvious, all the values are more than 0.7 and this demonstrates a good reliability of the questionnaires.

The validity of the questionnaire was checked through two criteria of divergent and convergent validity, which are specifically for structural equation modelling. The Average Variance Extracted (AVE) was used in convergent validity. The criterion for acceptable level of AVE is 0.5 (Hulland, 1999). According to the findings, all the values of AVE for the constructs are more than 0.5 and this depicts the acceptable convergent validity for the research questionnaires. The differences between the indices of a construct and the indices of the other constructs are compared in the divergent validity. This is done by comparing the square root of AVE for each construct with the values of correlation coefficients between the constructs. A matrix should be formed for this reason, which the values of the main diagonal of the matrix are the square root of AVE for each construct and the bottom and top values of the main diagonal are the correlation coefficients between each construct with other constructs. The findings showed that the square root of the AVE for each construct is more than the correlation coefficient of the construct with other constructs. This indicates the acceptability of divergent validity in the constructs.

RESULTS AND DISCUSSION

Findings

In this section, the causal relationship between e-learning together with its dimensions and validation of universities in the form of structural model is measured. As it is obvious from figure 2, the impact of e-learning and its dimensions on validation of universities are positive and significant.

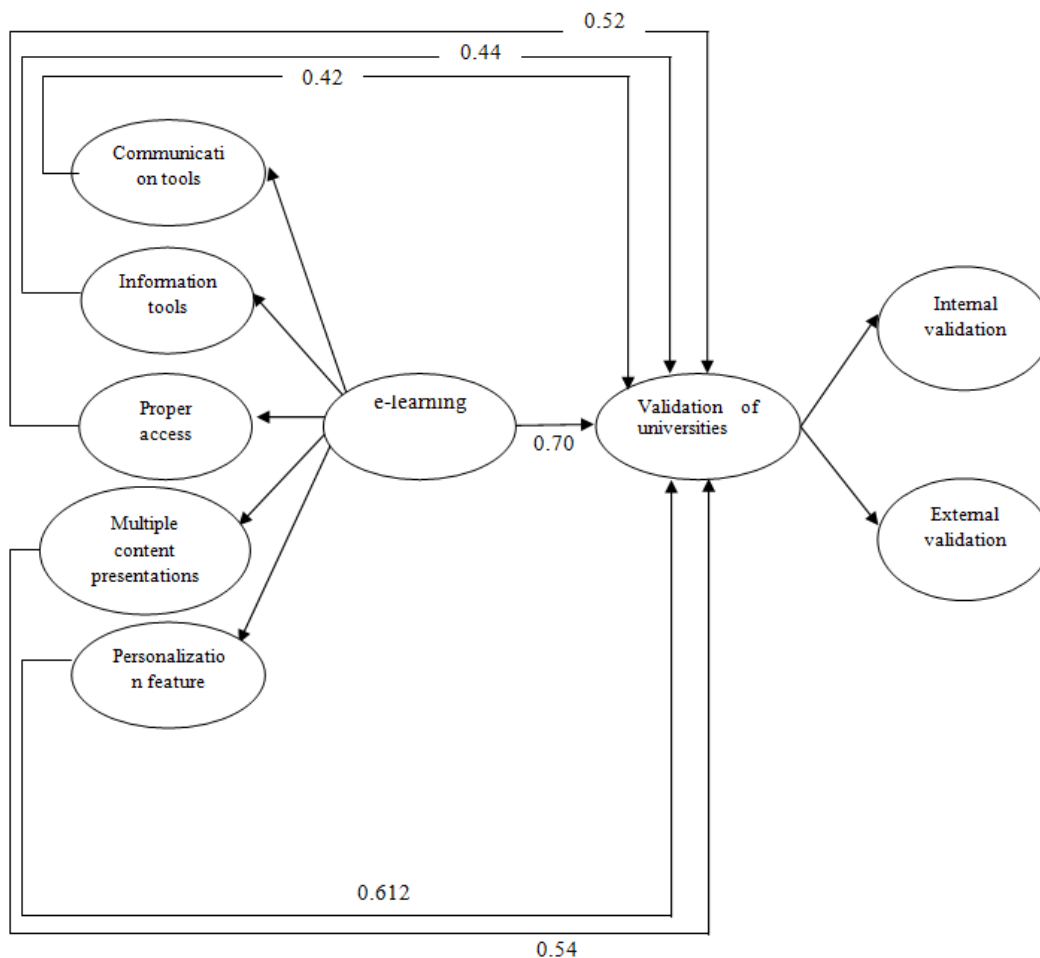


Figure 2: Standard coefficients of the model

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The causal impact factor of the model and the role of the main variable (e-learning) and its dimensions in validation of universities are shown in figure 2.

The output of the PLS proved the research hypotheses and are shown in table 2. Since all the t-values are more than 1.96, all the hypotheses are confirmed.

Table 2: The results of the research hypotheses

Results	t-value	Standardized coefficients	Hypotheses
Confirmed	17,98	0.70	e-learning → validation of universities
Confirmed	13.46	0.44	Communication tools → validation of universities
Confirmed	13,05	0.42	Information tool → validation of universities
Confirmed	16,11	0.51	Access at any time and in any place → validation of universities
Confirmed	15.67	0.54	Multiple presentation of content → validation of universities
Confirmed	16.98	0.612	Personalization feature → validation of universities

Generally, today’s world is full of complications, and higher education system and educational organizations and schools are faced with variety of problems in the context of development and evolution. This problem is much clearer in our society due to specific limitations and problems, which using electronic learning could be a key to this problem. In the next section, results obtained from data analysis of the present research are mentioned. Each of the hypotheses are brought in the following and compared with the previous researches, which it has been tried to present an accurate and precise interpretation.

The first secondary hypothesis: Communication tools play a role in the validation of Islamic Azad Universities of Tehran province. The findings confirmed the role of communication tools in validation of universities in Islamic Azad Universities in Tehran. The set of facilities of communication tools plays an important role in universities by establishment of different situations such as ability to communicate simultaneously with multiple people, flexible communication in terms of time and location, and development of face to face communication in an enriched communicational environment in universities, so required infrastructures should be provided for communication tools in universities.

The second secondary hypothesis: informational tools play a role in the validation of Islamic Azad Universities of Tehran province. The findings confirmed the role of informational tools in validation of universities in Islamic Azad Universities in Tehran. Since informational tools make access to different resources possible, its role is vital in validation of universities and it is of necessities for validation in any universities.

The third secondary hypothesis: Having access at any time and in any place plays a role in the validation of Islamic Azad Universities of Tehran province. The findings confirmed the role of access at any time and in any place in validation of universities in Islamic Azad Universities in Tehran. In this component, participants have access to computer and network at any time and in any place, and accessibility helps the learners to take part in educational programs at any time and in any place they feel comfortable, so the role of access at any time and in any place is significant in today’s world of speed and has impact on validation of universities.

The fourth secondary hypothesis: multiple presentation of the content plays a role in the validation of Islamic Azad Universities of Tehran province. Having multiple presentation of the content plays a role in the validation of Islamic Azad Universities of Tehran province. The tool makes the curriculum developers capable of presenting specific learning sections to the students in variety of forms. In fact, leads to presentation of information based on the needs of learners and helps to the validation of universities.

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The fifth secondary hypothesis: personalization capability plays a role in the validation of Islamic Azad Universities of Tehran province. Having personalization capability plays a role in the validation of Islamic Azad Universities of Tehran province. Undoubtedly, having access to sets of multimedia tools information, and flexibility of e-learning helps the students to take part in training courses appropriate to their individual differences, demands, interests and learning styles, and to play an important role in validation of universities. Therefore, the component can be used in validation of universities.

Main hypothesis: The findings demonstrated that e-learning plays a role in the validation of Islamic Azad Universities of Tehran province. According to the fact that scientific communities nowadays move towards use of new generations of technologies, utilization of electronic tools are useful in better learning of participants and enhances university validation. Therefore, it is considered as an important criterion in validation of universities.

In general, investigating experiences of different countries in the field of validation and being welcomed by different educational groups in our country make it necessary to develop and agree on standards that were developed according to the requirements of national and transnational conditions. Hence, it is highly recommended to be sensitive to this important fact and to develop and design quality standards by establishment of logical mechanism in order to provide requirements for promotion and improvement of higher education systems through application of validation pattern.

Recommendations Based on the Findings

According to the results obtained from the present research and similar researches, electronic learning is capable of providing the proper validation of universities. Higher education should use electronic learning and the culture of electronic learning in the structure of universities and among educational groups, and institutionalizes efficiency and good performance in universities through selection of validation proportional to universities' structure and educational system. Since e-learning plays an important role in validation of universities, it is proposed to employ the following recommendations.

- To hold justification sessions for university headquarter in order to make them familiar with the importance of e-learning and its objectives and validation of universities. Therefore, they would be aware of the issue and the commitment of senior managers would be guaranteed. This leads to allocation of adequate resources and elimination of organizational obstacles in electronic learning.
- To hold groups consisted of key faculty members in order to take part in the project of validation of universities. This leads to ease of implementation, lack of resistance to changes in the program and comprehensiveness of the program in terms of involving the various units.
- To provide the groundwork for necessary trainings for those involved in e-learning on operations validation and domestic procedures of the education system.
- To reform the structure of the university system in order to coordinate with validation.
- To hold justification sessions for the faculty members and students to make them familiar with the importance of e-learning and its objectives.

REFERENCES

- Bazargani A (2001).** *Educational Assessment* (SAMT Publication) Tehran.
- Zareie Zavareki I (2008).** *Electronic Education Assessment and Evaluation, The 3rd e-learning conference, Khaje Nasir Al-Din Tousi, Tehran.*
- Zareie Zavareki I and Safaie Movahed S (2005).** *Electronic Learning in 21st Century (Theoretical and Practical Foundations)* (Oloum-o-Fonoun Publication) Tehran.
- Saraie H (2010).** *Introduction to Sampling in Research*, 6th edition (SAMT Publication) Tehran.
- Saraie F (2009).** New perspective to the design of e-learning environment, *Journal of Curriculum Studies* 3(12) 101.
- Eidi A and Amin Bidokhti AA (2006).** Standardization of necessary prerequisite for validation in the promotion of higher education system quality, *National Congress of Human Sciences.*
- Ghourchian NGh (2003).** Anatomy of standardization in education in the third millennium, *the first Scientific Conference of Standards and Standardization in Education, Tehran.*

Research Article

- Keshavarz M, Rahimi M and Ismailie Z (2013).** Study of the impact of electronic learning on educational attainment of students in Isfahan University of Medical Sciences, *Journal of University of Medical Sciences of TorbarHeidarie* **1**(2).
- Kamali AR and Fazel A (2009).** Study of prerequisites and probabilities of electronic learning system, *Journal of Educational Technology* **4**(1) 13.
- Montazer Gh A (2007).** Strategic study of information development of higher education system in Iran, *Journal of Research and Planning in Higher Education* **13**(1) 1-25.
- Mirzaie Sh and Sepasi H (2007).** Construction and validation of a scale to measure attitudes of faculty members towards virtual learning, Thesis, M.A., Shahid Chamran University.
- Betts K (2009).** Online Human Touch (OHT) Training & Support: A Conceptual Framework to Increase Faculty Engagement, Connectivity, and Retention in Online Education, Part 2. *Journal of Online Learning and Teaching* **5**(1).
- Boorang AM, Afarisani JH, Ahanchian D and Kareshki H (2013).** The Evaluation of E-learning Quality of Iran's Universities Based on Curriculum Orientations and Faculty Members' Experiences. *Journal of Research and Planning in Higher Education* **18**(4) 75-97.
- Boticario J and Gaudio E (2000).** Adaptive website for distance learning, *Campus-Wide Information Systems* **17**(4) 120-128.
- Chen MP (2009).** An evaluation of the ELNP, E-learning quality assurance program: Perspectives of gap analysis and innovation Diffusion, *Educational Technology & Society* **12**(1) 31.
- Clark CR (2004).** *E-learning and the Science of Instruction* (Josseybass Pfeiffer) Sanfrancisco 60
- Elissavet G and Economides AA (2003).** An Evaluation Instrument for Hypermedia Courseware. *Educational Technology & Society* **6**(2) 31-44.
- Fallah Nejad A and Janali A (2011).** Medical examination to improve the performance of themedical skills using of information technologyand e-learning. *First International Congress on Health Information Technology and the Second Congress Managers, Medical Universities throughout the Country.*
- Frank M (2008).** Synchronoud and asynchronous learning environments, In: *Encyclopedia of Information Technology Curriculum Integration*, edited by Lawrence A Tomei, *Information Science Reference*, Hershey 815.
- Geogieva G, Todorov G and Smrikarov A (2003).** A model of virtual university some problems during its development, *Proceeding of the 4th International Conference on Computer Systems and Technologies: E-Learning, Bulgaria* (ACM Press) 92.
- Hughes J and Attwell G (2007).** *A Framework for the Evaluation of E-learning: Exploring Models and Partnerships for E-learning in SMEs*, 2003, Viewed 14 February.
- Hulland J (1999).** *Use of Partial Least Squares (PLS) in Strategic Management Research: A review of Four Recent.*
- Khadmlu A, Alizadeh A, Hosseini H, Mohammadi A and Fakhar M (2013).** Health and pharmacystudents' views about the use of e-learning systems and its related factors. *Journal of Mazand University of Medical Science* **23**(2) 117-120.
- Khan BH (2000).** *A Framework for Web-Based Learning*. Englewood Cliffs (Educational Technology Publications) NJ.
- Levy Y (2006).** *Assessing the Value of E-Learning Systems* (Infancy) USA.
- National Education Association (2006).** *Guide to Teaching Online Courses*. Washington, DC (Author).
- Nieto AL, Guijarro E and Berjano E (2006).** Critical assessment of the World Wide Web as an information resource in higher education: benefits: threats and recommendation, *Journal of Online Learning and Teaching* **2**(1).
- Nouhi E, Abas Zadeh A and Madah B (2011).** The Role of implementing e-learning systems in the process of learning and collaborative. *Fifth National Conference on E-Learning in Medical Education.*
- Southern Regional Education Board (2006a).** Standards for quality online courses. Atlanta, GA: Author. Retrieved August 15, 2010, from http://ww.sreb.org/programs/edtech/pubs/2006Pubs/06T05_Standards_quality_online_courses.pdf.

Research Article

Seok S and Meyen E (2006). Three Dimensions of the Online Course Evaluation Instrument in Postsecondary Education, *Proceedings of the Ninth LASTED International Conference Computers and Advanced Technology in Education, Lima, Peru, October 4- 6,*.

Shih H (2008). Using a cognitive-motivation-control view to assess the adoption intention for web based learning, *Computer & Education* **50**(4) 329.

Thomas Pete (1997). Teaching over the internet: the future, computing & control, *Engineering Journal* **8**(3) 43.

University of Washington (2002). Decennial accreditation 2003 accreditation evaluation Agenda, Available: www.washington.edu.

Wang S and Song H (2008). *Learning Community and Networked Technology Curriculum Integration* (Information Science Reference) Hershey 511.

Wanting TL, Weight C, Gallaher J, La Fleur J, Wang C and Confer A (2000). *E-Learning-a Review of Literature.* Urbana Champaign University of Illinois.