

## Impact of E-Learning on Learning and Realizing Information Society

<sup>1</sup>Mohammad Behrouzian Nejad and <sup>2</sup>Ebrahim Behrouzian Nejad

<sup>1</sup>Young Researchers Club, Dezfoul Branch, Islamic Azad University, Dezfoul, Iran

<sup>2</sup>Department of Computer Engineering Shoushtar Branch, Islamic Azad University, Shoushtar, Iran

**Abstract:** With entering to information age, education is one of the important areas which were heavily influenced by information and information technology. Information and Communication Technology (ICT) can be used as important and powerful tool to improve quality and efficiency of education. By means of e-learning the traditional teaching methods can be changed so that it is not necessary to attend in the classroom physically. In fact e-learning is a new paradigm of remote education. The continuous evolution of ICT requires that all citizens have the necessary skills to use these technologies and to access information for efficient individual functioning in the information society. This study will introduce main concepts of e-learning, information technology and information society. This study show that e-learning is a major and primary issue, so it is can be an alternative or replacement for traditional learning methods. Also this study examines the issues surrounding the implementation and impact of e-learning to achieve information society.

**Keywords:** E-university, electronic learning, information society, information technology

### INTRODUCTION

Nowadays, using computers has changed human life in all aspects (Asgharkia, 2010). Today's world has entered a new era of his life which is known as information society. Information society has received a major concern from scholars and specialists in social and economic area in recent decade. Also it became an important issue in political relations, international relations, regional relations and the national life of countries (Saravani *et al.*, 2012; Sanaee, 2011). We're in transition from industrial-society to the information society, or in other words, transition from the physical world to virtual world. To enter information age and have better and effective life in the information society, we should know and recognize its characteristics. According to information society, the modern life needs to phenomenon such as e-city, e-economy, e-banking, e-learning. One of the social institutions which need to extensive changes in this era is teaching and learning in general and higher levels. In transition to information society, graduates have a major role in society and teaching and learning should adjust based on new approaches. Prerequisite for getting into this zone is rapid and extensive development of e-learning from the lowest to the highest level of education in countries (Esfahani *et al.*, 2010). ICT can be used as strong and powerful tool for improving quality and efficiency of education, so that it can change the traditional teaching methods. By means

of e-learning there is no need to attend in the classroom physically. The purpose of education is to make rapid changes in dynamic organizations via collecting, sharing and rapid application of knowledge using two elements; technology and information society (knowledge based) (Rashidi *et al.*, 2004). The term of e-learning include a wide range of applications such as Web-based training, computer-based training, virtual classroom, electronically collaboration. Internet, intranets, extranets, satellite distribution, video or voice tapes and CDs are some of tools which are used in this education method. With advent of Internet and e-learning many of training limitations such as location and time are eliminated. Traditional education system with expense for training location, equipment, teacher force, bureaucratic process and greater emphasis on training quantity (number of hours and sessions in a given time) causing loss of good times. Presence on specified time at physical educational classes, traffic problems in big cities, overlapping of work and study, presence of individuals with different learning styles and levels on the same class and many other issues, will open the way for the expansion of e-learning soon. Despite of having other restrictions, e-learning eliminates many of problems. So it has led many institutions to pay attention to this type of training and teach (Behrouzian and Nejad, 2011; Behrouzian *et al.*, 2011).

In this study we review some major issues, as e-learning, information technology and information society. Also some of the issues about implementation and impact

of e-learning to achieve information society has been presented in this study.

### E-LEARNING DOMAIN

E-learning has a wide domain. Depending on its usage and features is divided into several categories: (Farhadi, 2005).

**Web-based training:** This type of training is Internet-based. In most cases the tests and document delivery are down through email and web. Classrooms, lecture notes, pamphlets, discussion rooms, e-mail and ... are among the features of this method and all are stored on the Web. However, due to the extra flexibility of e-learning you can design and implement the training method so that customized to fit with your work, existing conditions and facilities.

**Computer-based training:** In this method there is no need to an internet or network connection, except in special cases. In this manner information stored on an electronic interface (media) and then user can make use of it via a computer or reader device of this interface. A typical example is educational CD's.

**Education through mobile devices and digital tools:** In this method training is offered through mobile devices and digital tools, including tablets and PDAs.

**Education through mobile phones:** This training method is completely new and can be placed almost in the above mentioned group. But due to the increasing number of mobile phone users and focus on this method, which has been known as m-learning, is considered a separate group. This method can be implemented well, but it is necessary to provide a telecommunications infrastructure.

**Classification of e-learning types:** E-learning can be classified as three categories including personal learning, collective learning and virtual classroom (Asgharkia, 2010; Behrouzian and Nejad, 2010).

**Personal learning:** In this category, a person will choose his favorite areas of study. Then in their environment, especially Internet, will looking for related information and research in that field and then asks questions from teachers via offline relationship.

**Collective learning:** In this category, some conditions will be provided for people to communicate with each other and their teachers. Some of these tools are Forums, Chat and etc. In this method the time of beginning and

finishing of the courses and exams are same for all members of the groups.

**Virtual classroom:** In this category, conditions are similar to classroom (and even in some cases attendance in the physical classroom is necessary). Here, video conferencing is used. Also often video projector devices are used instead of blackboard. Sometimes, it is considered a computer for each person and will be video link through the screen and camera or webcam, so that everyone is able to communicate via computer with instructor. This method can especially useful for classes which there are not available enough teachers and the teacher's mobility is not possible, especially for universities. A branch of this group is used in medical telemedicine

### E-LEARNING BENEFITS

E-learning has some benefits rather than traditional teaching methods. The flexibility and elimination of unnecessary and costly travel to attending at classrooms are main benefits of e-learning. E-learning has many other benefits: (Elearnever Internet Academy, 2012; Behrouzian and Nejad, 2010; Behrouzian and Nejad, 2011; Behrouzian *et al.*, 2011):

- We can decrease training courses cost using e-learning methods. Because using the relevant software and tools, we can try to produce e-learning courses.
- Learners will be able to adjust of learning. Most e-learning programs can be used when they are needed.
- Learning speed of e-learning is more than traditional teaching. Learners who use E-learning can focus on new and favorite issues, so they can ignore previously known and unnecessary issues.
- E-learning methods are independent of time and space parameters. So they can be used at any time and any place.
- Updating courses which are based on e-learning is down quickly and easily. In this way subjects and contents modified rapidly on the server and then learners will benefit immediately from the results.
- Management of e-learning programs will be done easily for large numbers groups of students.

**Necessity infrastructures for e-learning:** Some of infrastructures required to E-learning are: (Saravani *et al.*, 2012; Niknia, 2008):

- Developing ICT skills at all levels of society.
- Encourage and promote educational research in the field of information technology.

- Qualitative and quantitative expansion in the production process of educational software.
- Equip schools and universities with computer and accessing to global network.
- Development of information and communication technology collages.
- Strengthening the Internet infrastructures in countries.
- Increase computer application and worldwide networks accessibility for all of the people in country.
- Development of IT a daily requirement.

**E-learning potential to improve quality of learning:** In the current era, some concepts like "education for all" and "lifelong learning" has been accepted as a principle which negates traditional viewpoint to the short-term and transient training. One of the most fundamental reasons to use information and communication technologies in educational system is that they facilitate the process of learning. These technologies allow learners to determine the speed of their learning and developing information resources. Also ICT can enhance active learning and makes the interaction between learners and teachers possible in a flexible and constantly changing environment. Dynamic and challenging environment increases the quality and affectivity of learning (Singh *et al.*, 2005; Jorge *et al.*, 2006; Ebrahimzadeh and Hasangholi, 2012).

**Improve the quality of teaching and learning with e-learning:** Online learning environment at the university plays an important role in distance education, so that it can improve the quality of education (Molasalehi *et al.*, 2004). Some ways to improve the quality of education, by means of internet learning environment, can be stated as below:

- **Browse the courses:** Students can take offered courses through the Internet and they can read courses at your speed.
- **Students will not ever lose your classroom:** In traditional education, some of students may lose your classroom due to disease, job obligations or family obligations. But, by mean of e-learning methods they will not lose your classroom.
- **Traffic problems:** In traditional education some of students should traverse long distances and spend much time to attend in the classroom. But by use of e-learning this problems can be solved and removed.
- **Easy access:** All students can access to necessary information and resources through World Wide Web. For example, access to frequently asked questions, newsgroups, online libraries, catalogs and products information.

- **Increase internet literacy:** Internet literacy is a necessity in today's Internet, just as 10 years ago computer literacy was a necessity.

**World-wide development of e-learning and establishment of virtual universities:** Specialization of current world causes to needs higher education levels in today's world which more than 50% of their populations are under 25 years of age. According to studies in (Amirsoofi *et al.*, 2012), there are more than 48 millions students in universities in the world. It is predicted this number will be to 160 millions in the 2025 (Rashidi *et al.*, 2004; Amirsoofi *et al.*, 2012). It is clear that development of education is a global necessity and e-learning and virtual education is the best solutions. Also, information technology is the most important factor in e-learning development. Activists in this field of e-learning believe that e-learning is not limited to any specialty, grade, age and special courses.

**Information society:** Several definitions of the information society has been presented William Martin was the first person who introduced the issue of information society. In his view, the information society is a society which the quality of life is largely depending on information and exploit from it. In this society, living standards, patterns of work and leisure, education and labor market have been quite impressed with the progresses which have occurred in information and knowledge (Fathian, 2004).

There are several common elements in all definitions of information society which include: (Yadegarzadeh and Rahimi, 2002):

- Information society is an era which has occurred after industrial era in the world.
- Development prospects, quality of life, economy, science, education and other pillars of society have a direct dependency on information.
- Communication media plays a major role in realization of the information society.
- Communication and information technologies are main development platforms in the information society.
- Defined indices in the information society are very different from which were experienced in prior periods for human life.

**Characteristics of information society:** Although obtain an accurate and complete list of diagnostic standard for information society is practically, but according to the literature we can considered the following characteristics for information society: Amirsoofi *et al.* (2012) and Zare'ian (2004):

- Dependence of economic growth on technological developments in the information age.
- Replacing communication technologies (as economic-information tools) instead of machines (that are economic-industrial tools).
- Consideration of production, distribution, technology and information services parts as main part of industry.
- Industry reconstruction using information technology.
- Freedom to access information (free access of all people to the free flow of information through ICT).
- Necessity to create legal environment.
- Reduce the geographical distance and time to do works.
- Changing in the structure and nature of employment and Occupation via continuous learning with aid of information technology.
- Disseminating the best methods in less developed regions.
- In this era decreasing the gap between people and government is the most important thing for stability, growth and development authority.
- Changing traditional economic resources (raw materials and physical resources) to intelligence and human skills.
- Changes in the concepts and economic, social, management and Organizing indices.

### CONCLUSION

There are different concepts which without them the information society can't be realized. One of these concepts is education. Today, with the advent of virtual environments, very physical limitations in human life are eliminated. Traditional universities are forced to adapt to new changes and developments. In this new environment the roles of teachers and professors are changed. They will play a facilitating role. In fact they are as instructors or instructional designers. So, it is necessary change or design and commissioning appropriate educational management systems. Remote education systems are considered as tools to continuing education. This systems are include training teachers and students in the any age, any location, any social and political situation, with any educational. With advent of information technology the time and place constraints are eliminated. We now can use the powerful computers and networks to provide educational services to anyone at any time and any place. One of the key requirements of information society is that every person be able to educate and initiate the learning at any time and place, with his own facilities. So,

e-learning can be considered as an important and key issue to achieve such a goal.

### REFERENCES

- Amirsoofi, R.A., H. Shirazi and H. Shahbazi, 2012. The Place and Role of a Virtual University in the Global Information Society. Retrieved from: [http://www.ahooeg.com/Articel/it9/.../IT\\_Learning\\_03.pdf](http://www.ahooeg.com/Articel/it9/.../IT_Learning_03.pdf), (Accessed on: February 20, 2012).
- Asgharkia, A., 2010. Look at to virtual education (electronic). Month Book Soc. Sci., 24: 82-89.
- Behrouzian, N. and E.B. Nejad, 2010. Effect of education and e-learning in improve the quality of teaching and learning and reduce costs. Proceedings of the 2010 13th Iranian Student Conference on Electrical Engineering, Tarbiat Modares University, Iran.
- Behrouzian, N. and E.B. Nejad, 2011. Virtual education and its importance as a new method in educational system. Int. J. Comput. Sci. Inform. Secur., 9(9): 8-12.
- Behrouzian, N., E.B. Nejad and A. Ansariasl, 2011. Survey on Barriers, constraints and infrastructure need to implementation of E-learning in Iran. Proceedings of the 3rd Iranian Conference on Electrical and Electronic Engineering, Islamic Azad University, Gonabad Branch, Iran.
- Ebrahimzadeh, E. and H. Hasangholi, 2012. Considerations in E-Learning. Retrieved from: [http://www.ahooeg.com/Articel/it9/.../IT\\_Learning\\_02.pdf](http://www.ahooeg.com/Articel/it9/.../IT_Learning_02.pdf), (Accessed on: February 20, 2012).
- Elearnever Internet Academy, 2012. What Do You Know the E-Learning. Retrieved from: [http://www.elearnever.com/index.php/what\\_is\\_elearning.html](http://www.elearnever.com/index.php/what_is_elearning.html), (Accessed on: February 20, 2012).
- Esfahani, S.S.H., L.M. Nejad and S. Sobhanian, 2010. Comparing effect of virtual and traditional learning methods on abilities skills of students. Hormozgan Med. J., 14(3): 184-190.
- Farhadi, R., 2005. E-learning a new paradigm in the information age. J. Sci. Inform. Techn., 21(1): 49-66.
- Fathian, M., 2004. Information society and ways to achieve it in Iran. Proceedings of 2nd International Conference on Information Communication and Technology Management, Iran.
- Jorge, G.R., M.D., Michael J. Mintzer, M.D. Rosanne and M. Leipzig, 2006. The impact of e-learning in medical education. Acad. Med., 81(3): 207-212.
- Molasalehi, L., R. Khalili, N. Jangjou, A. Khojastehband, A. Shahidi and A. Khalili, 2004. Electronical University. Information Technology, Section 11.
- Niknia, B., 2008. Necessary e-learning in today's world. J. Electr. Educ., 15(128): 54-56.

- Rashidi, M.M., A. Ghadirian and GH. Asili, 2004. Information Society (Knowledge Based) and Modern Education. Oil Industry Research, Iran.
- Sanaee, N.Z., 2011. Assessing the criteria for the quality and effectiveness of e-Learning in higher education. *Media J.*, 3: 24-32.
- Saravani, S., H.B. Ghafoori and F. Shokraneh, 2012. Feasibility of medical education through email: Case study of darsnameh e-learning system. Proceedings of the 2012 5th Electronic Learning Congress in Medical Education, Iran.
- Singh, G., J. O'Donoghue and H. Worton, 2005. A study into the effects of e-learning on higher education. *J. U. Teach. Learn. Pract.*, 2(1): 13-24.
- Yadegarzadeh, G.H. and H. Rahimi, 2002. Higher education in the information society challenges, developments, opportunities and threats. Proceedings of the 2002 Conference on Development based on Knowledge, Iran.
- Zare'ian, D., 2004. Information Society in Countries of the South and Southwest Asia. Retrieved from: <http://iritn.com/ITshow-news-1807.htm>, (Accessed on: February 02, 2012).