

Information Technology and its Impact on Education and the Challenges Ahead

Dr. Mohammad Ebrahim Maddahi

Shahed University, Department of Psychology, Tehran, Iran

Dr. Javad Khalatbari

Department of Psychology, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran
E. mail: j.khalatbari@toniau.ac.ir

Mohammad Mojtaba Keikhayfarzaneh

Department of Psychology, Zahedan Branch, Islamic Azad University, Zahedan, Iran
E.mail:farzaneh_mojtaba@yahoo.com

Mohammad Sourizaei

Department of Electronics, Zahedan Branch, Islamic Azad University, Zahedan, Iran
E.mail:msoorizaei@yahoo.com

Abstract— Information and communication technology, as one of the new technologies, has had a significant role in developing communities. The process of high education is so important in every society. The universities are affected to main changes in current age. The shortage of budgets, increased number of students, various and new educational needs in society are needed to the organizational changes, the changes that are compatible with the new requirements. The possible situation for learning is provided for according to the student's needs without the constraints of time and place through information and communication-based education. The impact of information technology on education and also the challenges faced with in its developing have been examined in this article, and finally the ways of overcoming these challenges is proposed.

Keywords- information technology; education; educational system; challenges

I. INTRODUCTION

Appearing the new technologies, especially information and communication technology, globalization, the rapid flow of information and knowledge, the intense competition in national and international dimensions, increased economical complexities and many other changes can be named as the features of this age. Today, knowledge has been recognized as the most fundamental aspect of

development and it is considered as the most significant source of power and a cause for being progressed [1].

As a result, these changes and evolutions was made people dependent on science and technology day by day, to the extent that it can be claimed that most of human's aspects of have been directly and indirectly influenced by science and technology. The developing of science and technology has been changed from a marginal role into a necessity for a comprehensive progress.

It has been attempted in this article that the role of information technology in education be considered concerning the challenges faced with education.

II. THE ROLE OF INFORMATION TECHNOLOGY IN EDUCATION

Information, as a general concept and the dominant energy of the new century, is replaced to perishable energies with a rapid speed, and made humans familiar with a new experience of development course of communities in which all the aspects of life have been influenced to this process. The experience that revolutionized the human life by inventing steam engine in the late 18th century in an another way.

The invention of steam engine by James watt caused a fundamental evolution in how humans percept and deduce the natural phenomena and their applications in life, and made a new concept created as “technology”, which can be defined as “ being actualized of the knowledge” in the most concise expression [2].

The rapid evolutions resulted from applying technology in human life is created main changes in industrial, economical, political and public structures of the communities, as most social revolutions in the 19th and 20th century are deeply rooted in the social changes resulted from developing the various aspects of technology in human life [3].

A new era was opened in using the computer in various areas of industry through inventing this device as one of the products of technology from the mid 20th century, in which information processing is one of them in this field. Increasing the needs for information and the requirement of various information processing in different fields in one side and the rapid increase of electronic devices and developing the communication contexts and increasing the information on the other side are gradually caused a new social system to be created that its main origin is information and information processing. The increasing development of this system and its influence in different contexts of the society and also its effectiveness in all the social relations caused the new era to be named as “ information age”[4].

The appearance of this period caused another form of technology named “information technology” to be formed observing the devices to be actualized that are based on information knowledge [5].

There are various branches and processes in the field of education that are responsible for educating people. Curriculum planning was formed as one of the courses of educational planning with educational engineering motivation amongst these fields which the advent of curriculum as a field of study was believed by many educationalists as the history of publishing the curriculum books namely Franklin Babite in 1918 [6]. Curriculum planning is a multi-dimensional and cumulative issue for having relationship with different cultural, social and political factors which is conducted by other’s cooperation. In addition, its content has been affected many changes for various transformations and it was constantly under the service of systems and governments to obtain their aims and desires. The course of curriculum planning is theoretically divided into two major areas named “curriculum designing” and “curriculum planning”. The constituent elements of a curriculum design is proposed in the field of curriculum designing, and the way of

application and implementing of these components are expressed in the field of curriculum planning” [7].

III. THE IMPACT OF INFORMATION TECHNOLOGY IN EDUCATIONAL SYSTEM

The main task of educational system is a comprehensive training and education of the learners to achieving their role in society to enhance it in the society. Although this definition can be reviewed in various dimensions and the roles of educational, experimental and research processes and also their performances in developing the learner’s characteristics can be considered, generally speaking, the effective achievements and the above-mentioned tasks can be interpreted as having the “knowledge” of the learner. In a simple form, knowledge can be defined as the ability to read and write; however, in a broader context, it is considered as the ability to comprehend and understand [8]. However, appearing the new evolutions in the field of information technology and the amount of how the societies are influenced from, a heavier load of meaning is considered to this item, which is generally called as the information knowledge [9].

Accordingly, not only the “the talent for identifying the information”, but “the capability to analyze and effective use of it” is involved in the field of information knowledge.

IV. THE CHALLENGES OCCURRED IN DEVELOPING THE INFORMATION TECHNOLOGY IN EDUCATION

Meeting the world-wide needs caused high education as a key factor in developed and developing countries and influenced the rapid economical, social and technological change, nature of life and people’s employment. To deal with these changes, people must continually be learning and re-learning, and these features caused that the numbers of volunteers are perpetually increasing in entering high education in the new era [10].

The number of students entered universities is more than the capacity determined in most countries. The fundamental changes are occurred in the processes and products of high education in early 21th century. Information explosion, developing in communications, the changes made in governmental systems, cultural evolutions and the coherence in international communities have substantially changed the views and needs to high education. The most significant phenomenon of

these changes and evolutions are the challenges occurred in high education system in the new century. These challenges are as follows:

- The speed of knowledge production and the need of perpetual and lifetime educational system for getting along with the dramatic changes in international educational system.
- The increasing demand in entering the university system to achieve information knowledge and establishing an appropriate and convergent station with the phenomenon of globalization.
- 3. The necessity of responding to the increasing demands for a different education being the educational and user-centered justice as its main core that educates talented domestic and foreign students within.

There are many approaches to deal with these challenges. The most significant approach has been proposed in World Declaration of High Education in Ionesco World Summit in Paris in 1998. In this declaration, it is indicated that , “ high education institutes must be the first institutes that are benefitted with the potential privileges and facilities of information and communication technology, and creating new educational atmospheres for cooperating with the information age and indicating the virtual systems are the measures taken place here [11].

Although the universities were successful in achieving to the sources of technology, they did not obtain much success in synthesizing the new educational technologies [12].

V. CONCLUSION

The paradigms of high education have been changed and new models with different features are arising. These concepts share the technological-based education features.

REFERENCES

- [1] Alee, V. (2002); *The Future of Knowledge: Increasing Prosperity through Value Networks*; New York: Elsevier Science and Technology.
- [2] Hayati, Z, “ using internet in education”, Internet, its theoretical and practical aspects: Ketabdar Press, 1999. PP: 67-95.
- [3] Electronic government, Haayte Nou, yejr 1, No. 143, November 23, 2000, P 8.
- [4] Rousseau, P, “ the history of industries and inventions”, translated by Hassan Safari, Sepehr Press, 1979.
- [5] Abdosalam, M, “ Ideals and the Realities”, Iranian Physics Institute Publication, 1991, P. 56.
- [6] Qaderi, Mostafa (2004), *The contexts of understanding curriculum program*, Yadvareye Ketab. Tehran.
- [7] Ghourchian, Naderghouli and Tansaz, F (1995), “ the changes trend of curriculum program as a specialized field from the ancient world to today”, the institute of experiment and planning of high education, Tehran.
- [8] Rancy, R.F. ; *Political Laughs for Internet Users*; New York Times; Dec. 4; 2000; P. 4.
- [9] TEO, T.S.H. et al; *Users and Uses of the Internet*, Int'l Journal of Information Management; 17(5); 1997; PP. 325-336.
- [10] Groof, J, Mouza, C. “ A framework for addressing challenges to classroom technology use. *AACE J.* 2008; 16 (1): 21-46.
- [11] Montazer, Gholamali; Diani, Muhammad Hussein. “ Virtual University”, *Journal of Library and Information.*
- [12] Goodman P. *Technology enhanced learning: Opportunities for learning . USA, Lawrence Erlbaum ASociates, Inc; 2001.*