The e-learning trends of higher education in Kazakhstan

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Abstract

Development of higher education in Kazakhstan follows the general trends of global education system. In 2011, Kazakhstan has launched the project of the Ministry of Education of Science “E-Learning System”.

The most content-rich, attractive structure of information delivery for organization teaching process are the websites of some higher schools, but by the start of 2012-2013 academic year, there are available higher schools which do not have own websites, or access to their websites is limited, or some websites are being reconstructed. Higher schools of the Republic which do not have their own libraries are connected to the Republican Inter-University E-Library (RIEL), and also they offer access to other electronic libraries presented in the Internet.

In recent years Kazakhstan is conducting works on implementation of technologies of electronic, virtual education. If in 2009 over 28 universities offered distance learning technology, then by September 2012 the distance learning is being offered on websites of about 50 higher schools of Kazakhstan. Today there is a need for collaboration of IT specialists and experts in developing virtual research laboratories at universities. Electronic (virtual) research laboratories contribute to the formation of innovative research and education environment in higher schools.

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1. Introduction

Development of higher education in Kazakhstan follows the general trends of global education system. Active growth and ongoing modernization of education, high speed access to the last achievements of science and technology in the beginning of XXI century have had a radical impact on methods, technology and content of education on all its levels. State program of accelerated industrial and innovative development has outlined the objective of universal integration of e-learning system in education system.

The main goal of the e-learning technology is to ensure an equal access of all participants of learning process to the best available resources and technology. The plan of activities for 2011-2015 has formulated 8 issues directly related to the development of e-learning in Kazakhstan. Among them one can note the following items related to higher education system: 55. Development of Regulatory Foundations of e-learning system, including collection of primary statistics, on the basis of international standards and regulations of use of e-learning system; 62. Development of University-based Internet resources, as per leading foreign higher schools: terms of realization – 2012-2014 (See “Plan of activities for 2011-2015 for realization of the state program of development of education of

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the Republic of Kazakhstan for 2011-2020 (I Stage)”, 2011). Thus, there were outlined in such way the main directions to address the issue of implementation of e-learning in the sphere of higher education.

2. Heading styles

In 2011, Kazakhstan has launched the project of the Ministry of Education of Science “E-Learning System”. Strategic lines of education policy of the Republic of Kazakhstan in the field of informatization of education will be in the following 8 directions (See “Strategy of informatization of education system of the Republic of Kazakhstan till 2020”):

1. Update regulatory foundations of integration of information technology in education;
2. Intensify training of teaching and managerial personnel to work in e-learning area;
3. Develop domestic digital educational resources (DER);
4. Computerize education system and upgrade computer fleet;
5. Modernize hardware and software;
6. Develop Kazakhstani component of Internet environment;
7. Technological and technical support for upgrading the infrastructure of the education system;
8. Implement a uniform information system of management of education (UISME).

The active participants of the project “E-learning System” are the JSC National Center of Informatization and the Association KazRENA. The National Center of Informatization is an operator of activities of the Ministry of Education Science of RK for integration of information technology into education. The Association KazRENA focuses on developing and delivery of online information services to all players of scientific and educational sphere of Kazakhstan; it is an association of users of scientific and education network of our Republic. KazRENA provides high speed Internet access to over 60 research and educational institutions in Almaty. In late 2007 it started expanding its network to towns of Kazakhstan – Astana, Karagandy, Pavlodar, Taraz, Ust-Kamenogorsk and Shymkent under the leading regional higher schools which in general has contributed to forming the basis of e-learning infrastructure in the country. Association of higher schools of Kazakhstan and Association KazRENA, with support of the MES of RK, are undertaking the activities to unite university e-resources and set up a national portal “Bilimger” (Alshanov, R. (2009).

The following are the most notable activities for establishing the e-learning at higher schools of the Republic:
- set up own sites, with a purpose to provide various, including the teaching materials, information to the clients - students, faculty, applicants and employers, to expand number of portals available at the university sites;
- develop and set up digital learning resources for various disciplines and specialties;
- form the base of Internet resources, to develop e-libraries, to hook up to digital libraries available in the Internet;
- organize distance learning, as a start-up for e-learning;
- set up electronic research laboratories at higher schools in basic disciplines and specialties.

Let’s review the interim results of e-learning in higher schools of Kazakhstan by the start of 2012-2013 academic year. The most content-rich, attractive structure of information delivery for organization teaching process are the websites of such higher schools as the Kazakh National Technical University (KazNTU) named after K.I.Satpayev, Eurasian National University named after L.Gumilev, Kazakh Automobile and Road Institute (KazADI) named after L.B.Goncharov, Almaty Technology University (ATU), East Kazakhstan State University (VKGU) named after D.Serikbayev, East Kazakhstan State University (VKGU) named after S.Amanzholov, West Kazakhstan Agricultural and Technical University named after Zhangir Khan, Karagandy State Technical University (KarGTU). At the same time, by the start of 2012-2013 academic year, there are available higher schools which do not have own websites, or access to their websites is limited, or some websites are being reconstructed.

As for the setting up digital learning resources, to date almost all higher schools have developed teaching and methodical sets of disciplines, however, not every school provides access to them through Internet or Intranet. Many higher schools have deployed their available electronic teaching materials (work programs, syllabi, lectures, methodology recommendations on disciplines) in portals of their libraries. Teaching materials are mostly available in Microsoft Word format.
Alshanov (2009) has reported that Higher schools of the Republic which do not have their own libraries are connected to the Republican Inter-University E-Library (RIEL), and also they offer access to other electronic libraries presented in the Internet. Republican Inter-University E-Library (RIEL) is set up by the Association KazRENA together with the Association of Universities of RK in 2009. Over 50 universities are using its services. RIEL is a repository uniting the electronic educational resources of higher schools of Kazakhstan in common information system to provide the faculty, bachelor, master and PhD students with modern informational and educational resources, interactive multi-media resources of teaching (Alshanov, R. (2009).

As e-learning materials, hardware and software, material base of universities grew up, there is being set up the prerequisites for integration of distance learning through Internet-based technology. In recent years Kazakhstan is conducting works on implementation of technologies of electronic, virtual education. It is being conducted in several, relatively autonomous directions. It includes implementation of technology of distance education, testing system, setting up internal local networks, sites, provision of access to Internet.

The pioneers of distance education among the universities are the Kyzyl-Orda State University named after Korkyt Ata (2003), Almaty Academy of Economics and Statistics (AESA)(2004), Kazakhstan-American Free University (KASU)(2006), Kazakh Engineering and Technical Academy (KETA)(2007). Activation of setting up the information and technical environment for distance learning, as a variety of e-learning, is taking place in universities of RK since 2010-2011. If in 2009 over 28 universities offered distance learning technology, then by September 2012 the distance learning is being offered on websites of about 50 higher schools of Kazakhstan. Distance education in higher education system of Kazakhstan is presented mostly by online and case study system, setting up internal local networks, sites, provision of access to Internet.

Today there is a need for collaboration of IT specialists and experts in developing virtual research laboratories at universities. Electronic (virtual) research laboratories contribute to the formation of innovative research and education environment in higher schools. At the 5th International Forum “Informatization of Education” (Astana, Republic of Kazakhstan, 3 November, 2011), the Pavlodar State University named after S.Toraygyrov presented electronic learning courses with highly interactive, virtual characteristics and Web-oriented teaching content (Informatization of the Republic of Kazakhstan, 2011: 71).

Candidate of Pedagogy Sciences (PhD), Tukenova N.I., presented her vision of the issue of setting up the virtual research laboratories on 29 February, 2012. She said: “Virtual laboratories are divided into two categories depending on the methodology of presenting the knowledge on the subject area. Virtual laboratories where presentation of knowledge on subject area is based on individual facts, are limited with the set of pre-programmed experiments (this approach is more popular due its less complicated methodology). Another approach gives the learners an opportunity to conduct any experiment, not being limited by the pre-programmed set of outcomes. This is achieved by using the mathematic models allowing defining the result of any experiment and proper visual presentation. Unfortunately, such models are available so far just for a limited set of experiments” (Tukenova, N.
Thus, currently the higher schools of Kazakhstan face a complex challenge of development and generation of electronic (virtual) research laboratories.

One of essential technical conditions for organization of e-learning is an access to broad-band Internet, therefore, it is planned to ensure 100% access of higher schools of Kazakhstan to broad-band Internet by 2020. Starting January 1, 2012, collaboration between the Kazakhstani researchers and their European colleagues has been raised up to a new technical level due to establishing a new high speed communication between the Kazakhstani research and education network KazRENA and all-European multi-gigabyte research and education network GEANT in the framework of the project “CAREN” (KazRENA Association).

The Concept of e-Learning in Kazakhstan developed by JSC “National Center of Informatization” says: “Principal goal of e-learning in the system of higher professional education is to increase access to basic knowledge, opportunities for professional growth and competitiveness of a specialist ready to communicate to specialists around the world, oriented towards global achievements in the field of science, economy and technology, formation of information communication culture of students and faculty on the basis of common humane and national values” (National Center of Informatization. (2011).

Currently the e-learning technology is defined as the most effective one for developing the competences of socialization and self-realization of learners for the rest of their life.

References


