

E-learning as a modern resource of education

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Abstract. E-learning is becoming increasingly popular today. It is being widely implemented not only in educational institutions but in business and industrial enterprises demanding the fastest and the cheapest means of information exchange and communication. This article is dedicated to eliciting of the background factors of successful implementation and favourable environment to develop e-learning programs. It analyses the e-learning teaching process and methods practiced in several countries, including Russia, and empathizes the major issues and problems the national systems of education have had to face recently.

Introduction

In recent years, e-learning has become quite popular and widely used not only in schools but also in companies, since there is a strong need for the quickest and inexpensive ways of generation and transmission of knowledge due to the rapid development of the modern world. This development is accompanied by the incredibly rapid development of science and technology and leads to the total computerization of society. The increasing popularity of e-learning is explained by the fact that it becomes more attractive to students, providing the same amount of knowledge and more free time for self-development, research, and information search.

In the course of teaching students, now, institutions of higher education, guided by new teaching programs, tend to scale down close contacts between students and teachers. It may provide self-tuition academic improvement, increasing effectiveness of the educational process, and reduction in expenditure for facility support required to professional skill training up to existing standards of modern society. Therefore, the contribution and general significance of electronic learning resources are more substantial than of usual paper-based media [1].

As far as post-industrial world community is the information-technology-based community, the main responsibility of the educational system of modern information-oriented society is the higher quality of educational services delivered to all population groups whenever and wherever wanted.

UNESCO experts and the governments of the advanced nations concur in conclusion that meeting the increasingly stringent requirements of information society for qualified specialists is possible only using internet-based technologies, for these technologies

sensitize students to the new style of teaching and develop their skills for further lifelong education and self-tutoring. In the course of education system reforms many governments, including Russian, place priority on e-learning because it can actually provide training and professional development for the necessary number of specialists in minimum time and at minimum costs to meet social demands.

Materials and methods

The research used a novel combination of traditional humanities approaches: the structural-functional and analytical. Complementing the method of structural-functional analyses with the element of integrative structuring grants the opportunity to generate a uniform distinctive profile of different types of e-learning.

Results and discussion

2.1 Background and progress of e-learning

E-learning - is the transfer of knowledge and control of the learning process using new information and communication technologies. E-learning uses interactive electronic information delivery media, especially the Internet and corporate networks of companies and other ways.

As a result of current e-learning environment analysis we may indicate three progress background groups of e-learning in the world educational environment.

Due to the research analyses of the current e-learning state, we may conclude that the world educational

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environment has generated three basic development factor groups for all existing e-learning methods.

The first group represents the factors deriving from the outburst development of post-industrial information-oriented society:

- Due to the rapid transformation of industrial technologies, companies have a strong need for highly qualified personnel.

- Due to the rapid development of computer systems and networks, which led to information society, the perception of information has been radically changed.

Background factors, making the second group, refer to the development of the international system of education and international educational environment and thus great social demand for new and flexible programs and methods of education:

- The existing part-time form of education has become a platform for the development of electronic technology in learning.

- The role of international integration. Education has become a tool of interrelationship of knowledge and skills, and an instrument of struggle for the market and solution of geopolitical problems.

- The identity of students and conflict-free conditions for their learning and development become the center of the whole educational system.

And the third background factor group stems from primary needs of people for self-actualization, personal growth, realization of personal potential in profession and career, and all these require increasingly comfortable conditions of knowledge acquiring [2]:

- The need for a constant and rapid update of knowledge, the independent acquisition of skills and flexible adaptation to rapidly changing conditions of life.

- The need to overcome the physical distance of a student from a school. Internet and satellite television made it possible to bring the information and reference materials from anywhere in the world.

- Dramatically increasing demand of all layers of society for educational services.

2.2 North American and European approaches to e-learning program management

Two e-learning management strategies are considered to be mainstream in the world: the North American and the European [3]. American e-learning traces back to the 1960s, when several American engineering colleges started to give lessons within their academic courses to the engineering staff of the major corporations via videotapes and satellite. As a result of this academic program development the National Technological University (NTU) was established in 1984. By 1991 the number of participating universities had grown up to 40 to offer engineering courses through the National Technological University (NTU).

In the early 1990s, more than a thousand students taking NTU remote online courses became the recipients of Master's and Bachelor's degrees. Most of the NTU Master's recipients stated that they could not have achieved this via any other available courses. NTU experience and strategies were studied well and later

recommended as a basic project for an international e-learning university.

Of all the USA universities, over 80% provide at least one academic program for e-learning, 67% recognize online learning one of the most important. More than 50% of the USA corporations use long distance education to train their specialists. Since 1989 over a million students have been taking online courses in the USA. E-learning programs encompass courses on human, engineering and natural sciences, as well as on business and management. Online academic courses are available both within the country and abroad. The signature of the North American approach is that it is based on immediate implementation of all emerging advanced digital technologies to support their distance learning [4].

European e-learning system has been developed mainly by universities which are funded through governments. The first European institution of long-distance learning appeared in Great Britain in the late 1960s and, in fact, had much in common with the Soviet university system of extramural studies. The only difference it made from the Soviet system was that the European students subscribed for the distant courses were to have the place of their residence as close to the institution of higher education as possible and to study individually through the program from the special tutorials and instructional media. One of the priorities of the British policy is to promote the country's image to make it known as the world centre of the advanced educational projects. Now, about 1300 of British university colleges are offering long-distance courses. Great Britain provides online learning to more than a million foreign students who never leave their countries to receive the degree of British university.

Initially, the system of European distance learning gave one of the most important functions to the assisting teachers, or tutors, who used to live not far from students and advise their students on their subjects, taught seminar classes, workshops and led other necessary activities. Not all the courses within one program used videos, TV and radio broadcasting. The intensive development of e-learning in Europe started only in the mid-1970s when several Open universities, - public distance learning and research universities, - were established. Currently, over 50% of all Master Degree programs in Management include e-learning courses. The Open University Business School represents the classical European e-learning approach and now is a leader in modern flexible learning and the new teaching methods.

In the modern international environment, the technological difference between European and American e-learning is gradually disappearing, for Europe tends to increasingly involve the latest digital computer and communication technologies.

2.3 Modern environment for long-distance studies

E-learning is generally perceived as an educational form of extramural studies. State Committee of the Russian Federation for Higher Education defines e-learning as an

educational service package delivered to all segments of the population at any distance from the institution of education via technical information-based educational media. Information-based educational media is a system-structured aggregate of data transmission media, information sources, intermediate system protocols, hard- and software support and managerial maintenance aimed at meeting educational requirements of the consumers.

In other words, distance learning is the most widely-used form of the electronic educational process, which is based on the principle of self-study. The learning environment is characterized by the fact that students are distant from the teacher in space and time, but they have the opportunity at any time to maintain a dialogue using telecommunication media. One major characteristic of this type of learning is its flexibility. Students generally do not attend regular classes in the form of lectures and seminars, but work at a convenient time in a convenient location and at a comfortable pace, which is a great advantage for those who cannot or do not want to change the habitual way of life.

Canada and Iceland were the leading countries for e-learning until 2005. Educational e-learning systems of these countries are among 31 universities which make an international cooperative network of the University of the Arctic (UArctic) uniting universities, colleges and other organizations with an interest in promoting education and research in the coldest world countries, situated around the North Pole. Currently, the e-learning and distant studies leading universities in Canada are the Athabasca University – the northernmost of Canadian university founded in 1970 and Télé-université founded by the Ministry of Education of Quebec province in 1972. Twenty thousand students are annually enrolled for their online courses, and 80% of all e-students are self-reliant adults.

The USA, China and South Korea represent the most well-shaped and developed e-learning markets. They have the highest online learning expansion rate. Only South Korean e-learning facilities include 20 universities of e-learning.

Spain is successfully developing their National University of Distance Learning (Universidad Nacional de Educación a Distancia – UNED), and they started this project as early as in the mid-1980s. Now the University encompasses sixty-seven departments, some of them situated abroad, and is currently teaching over 120 thousand students. Spanish National radio stations broadcast academic radio programs during the evening, while the discs with their audio and video records stay the educational informative media of not less importance [5].

The management and organization of online courses and obtaining degrees in France is under the responsibility of the National Centre for Distance-Learning (NCDO), which initially was created by the government in 1939 to provide proper education to ill and disabled children incapable of attending classes during the World War II [6].

Long-distance learning has become widespread in Germany. The University of Hagen is a public research

university primarily focused on distance teaching mostly for professional qualifications annually provides its services to more than fifty thousand people [7].

In the Middle East and North Africa region, both implementation and development of distance learning have been evidently behind the world especially in the technical provision aspect. It might be referred to the general educational background of the population as traditionally less fundamental in these regions, although the lack of technical equipment and facilities aggravates the problem [8].

The giants of the world educational environment mastering long distance programs and e-learning technologies are China Teleuniversity, Indira Gandhi National Open University in India, South African University in RSA, Sukhothai Thammathirat Open University in Thailand and Anadolu University in Turkey.

Generally, China claims to be one of the pioneers to intensively integrate television and radio broadcasting systems into their system of higher education. Beijing and several other cities throughout the country established the first Regional television universities (RTVU) in the early 1960s [9].

To provide students with the vast variety of distance courses and programs to obtain the wider spectre of professions many countries go through the process of integration of several universities into one e-learning corporation. The United States of America, for instance, created United States Distance Learning Association – USDLA in 1987. This organization has combined all the levels of education, from the preschool to the post-doctoral, including retraining, rehabilitation and advanced training [10].

It should be noted that the post-industrial society is a society based on information technologies. The main task of the Information Society's educational system is to provide the necessary high-quality education to all groups of people at any time and in any place. Attempts to achieve this goal have led to the creation of e-learning systems in many countries, including Russia.

Conclusion

Implementation of e-learning programs into the system of long-distance studies positively affected both economic activity of the countries-participants, and the increasing percentage of educated people in these regions.

Russia is expected to go the tried and tested way, though it is not going to be an easy ride toward the countrywide implementation of e-learning. Successful implementation of online learning in the institutions of higher education implicates strong interest of all participants involved, and those are the upper level managerial staff, teachers and students.

Teachers should be able to interact not only with the tools providing their communication with the students, but to obtain all the skills of activity management.

To deliver e-learning projects one more aspect of tremendous importance should be successfully implemented – programs must be provided with well-

balanced, proper developed high quality content of each course. E-learning content encompasses all the information necessary for educatory process: electronic textbooks, presentations, tests, video classes practical and laboratory courses and workshops, etc. Therefore developing online courses requires much time and effort. Summit conferences are organized to provide the program designers the opportunity to discuss the most important problems in program development, to try the various methods and strategies of the program elaboration, new approaches to make the certain institutions of higher education interested, to help the teachers and to attract the students. In compiling tasks one should strive to ensure that they are consisted of several interconnected and isolated parts. This will help to establish a stronger link between the teacher and the student, as the student will perform the first part of the task and immediately send it to the teacher to check, and the teacher checks and immediately writes his/her feedback. Therefore, a student receives an immediate assessment of his/her knowledge. Due to the fact that tasks are fractional, the check-up takes less time, and the teacher can quickly provide feedback.

By all means, students are the most important elements of the e-learning process. Initially colleges and universities used testing to assess their current knowledge. But information-based technologies used during e-learning are not capable to assure the fact that the student passed the test building on his or her attainment. The system itself gives higher chances to a student to cheat and gain good results fraudulently. The risk of deceit affects the quality of obtained professional skills. Thus, the modern system of online knowledge assessment is designed for Skype or the other visual means of communication [11].

The survey of specific problems of e-learning development arising in certain regions of the Russian Federation has indicated the most critical issues to deal with on short notice, such as development of explicit executive legislation, elaboration of distance learning program software, teaching staff training, commonly used system of education quality assessment and maintenance of constant implementation of new technologies [12].

Russia's lag in e-learning program development may entail grave consequences. It stems from the fact that the Russian e-learning market is now being in progress, and it vitally needs a regulatory framework, facilities and technical resources as well as program guidance provisions. There is a strong need to train staff to effectively utilize knowledge gained [13]. Western countries, armed with all their vast experience on implementation and processing, actively use this opportunity to find way into the market, they are ready to guarantee the quality of their service, provide International Recognized Diploma and financially available education. Many experts agree that there is a risk of Russian distance-learning market capture, and although it is quite possible to avoid such outcome, it requires much attention to this problem from the part of Russian institutions of higher education [14].

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