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Challenges of eLearning Implementation in Russian Education

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Abstract

Implementation of e-learning into educational system of is a complex and challenging process. New informational technologies enhance education but there are some issues that slow down their integration in universities. The paper presents the description of the informatization of Russian education from the point of view of the history, e-learning classification, comparison of efficiency of various e-learning means, the problems of their integration into Russian education. The purpose of this paper is to present the results of the research in the field of e-learning. The outcomes of Learning Management System project are given in the article.

Keywords

Blended Learning, LMS Project, Russian Informatization Steps, ICT Implementation Problems, Forms of e-Learning

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1. Introduction

In the era of information society when new technologies are embedded in our every day life people have to be quicker to absorb information and better adapt to ever changing conditions. Innovations and information and communicative technologies are used in educational practices. It arises the necessity to equip the learners with computer skills and ICT competences to succeed in teaching and learning. According to the European 2020 strategy education and training system needs «to be modernized to face up the current and future challenges, bearing in mind the increasing importance and disrupting impact of technology on learning» (Education and Training 2020: strategic framework for European cooperation in education and training (ET 2020)).

Implementation of e-learning into educational system of is time consuming and takes lots of efforts. New informational technologies accelerate this process but there are some obstacles that hinder its implementation in universities. Considering historic overview and its background in the article we will single out the roots of the problems of the informatization of Russian education.

2. Russian Scheme of Informatization of Education

In Russia the process of integration of ICT was known as informatization of education. "Informatization" denotes not only technology implementation but the activities to be carried on in any sectors of society or to ensure the efficiency thereof through production, distribution or utilization of information (Act No. 5669, Jan. 21, 1999).

Though in 1960 the first groups of students graduated from the institutes with qualifications "programmer" the technical supply of educational institutions left much to be designed at that time. The situation began to change for the better only in the beginning of XXI century. The government and educational bodies have been implementing IT tools the educational process for some decades. And the historic overview is given in the table №1.

The last step can be regarded as the beginning of a wide

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range of inputs on the introduction of new information technologies in education. To develop it further Russian Ministry of Education prepared a federal target program (FTP) "Development of common educational electronic environment, for 2001-2005 years."

This stage can be called digital and it signals the beginning of active use of information and communication technologies (ICT) and multimedia technologies, various forms of distance and e-learning (2005 – up to now).

At present different forms of e learning are widely used in secondary and high education in Russia.

Table № 1. The main steps of informatization of Russian education.

Year	Implementation issue
1985	The introduction of a science “Informatics” (textbook by A.P. Yershov) in the curricular in all secondary schools
1986	The start up of the publishing of Russian periodic methodical journal " Science and Education" (INFO)
1987	The launch of mass production of domestic PC "Electronics"
1988	The competitive approach to the choice of textbooks on the subject " Fundamentals of Computer Science "; computer-supported information technology tools; the creation of the first council for PhD theses on the theory and methods of teaching science with ITC
1990	The start up of the "Pilot Project" with an IBM for schools (Kudits) and children with disabilities (INVALTECH)
1992	Differentiation of the forms of software for ITC and content of the disciplines
1994	The first edition of the journal "Educational Informatics" was published
1996	Adoption of regional educational standards for schools "Computer Science and Engineering " and integration of regional programs of informatization of all levels in the education with the participation of regional education centers; the organization of II International Congress of UNESCO's "Education and Science" with technology and telecommunications basis in educational programs, the introduction of new sanitary rules and regulations for video display terminal to work ergonomically
1997	Integration of information technology in the educational process
1998	Creation of a new basic plan of Russian educational system with context switching of disciplines of computer science in "Mathematics", as well as in the section " Information Technology " and "Technology "
2000	The analysis of statistics of computerization of Russian schools (at average). It said that only about 70 % of the total population and 40 % of all secondary schools have a computer lab and computer park enlisted only 25 % units of IBM compatible and 1 % of Macintosh
2001	The beginning of the national project " Computerization of rural schools - 2001"

3. Contemporary forms of e-Learning

E-learning is defined as the third learning system that uses various electronic techniques as its primary medium for learning (Rosenberg, 2001; Snyder, 1998; Swan, Bowman, & Holmes,2003). It implies that educational information is transferred by means of information communication technologies. There is the classification given below according to the amount of time the students spend on line (in percentage) for educational purposes.

1. Applying Web Technology only fragmentary (ads, letters, etc.)

2. Blended learning involves 45% of e-learning and 55% of individual learning of face to face one.

3. Hybrid learning in which real communication of a teacher with the student is almost replaced by on-line learning activities (45-80%).

4. E-learning, in which more than 80% of educational information in real time on the network. (Smith and Kurthen2007, in Gruba and Hinkelman 2012)

Listed in Table № 2 examples of Internet resources can be used in different types of e-learning. The choice depends on the goals, objectives and duration of the course according to the curricular of a definite university. Furthermore it is essential for a person to have a psychological readiness, computer literacy to work with these kinds of ICT.

Table № 2. Classification of e-learning and related on-line resources.

Web Technology	Blended learning	Hybrid learning	E-learning
Wiki sites, Dim Dim, Concordance, Vocabgrabber, Quizlet, Webinars, Search engines (google, rambler etc).	LMS, podcasts, Delicious, PowerPoint, MindMeister, YouTube, ICQ, Webinars, Skype.	Google Sites, podcasts, Social bookmarking, PuzzleMaker, Slideshare, LMS, YouTube, ICQ, Webinars, Skype.	SurveyMonkey, DropBox, Edmodo eFront , Schoology, LMS, YouTube, ICQ, Webinars, Skype.

Education used to denote the process of transferring knowledge and shaping a specific set of skills. It resembled some pipelining scheme, in which the formation of the future specialist occurs without proper critical control based on personality centered concept.

At present time the educational process focuses on acquiring knowledge and developing student abilities, giving students and teachers the freedom to choose learning tools, using innovative forms of learning. Competence-based approach to education integrates traditional forms and methods of education with innovative ones.

The revolutionary impact of e-learning lies not simply in having a multimedia platform on a single desktop. It is the combined power of a world-wide network of such computers — that connects authors, instructors and learners globally — with the immediacy of text, graphics, audio and video, as well as interactivity and collaborative sharing (Cognitive design solutions).

4. LMS Project Challenges

As an example of a collaborative platform we can take Learning Management System (LMS) project. It is beneficial from the point of view of ICT enhancing and asynchronous communication while learning.

In National Research University Higher school of economics LMS platform is used to create an educational environment for students and teachers. The author of the article has practiced to implement the project where the LMS is a means of collaboration while e-learning and for intergenerational interaction. LMS is aimed at supporting the educational needs of different age groups from different layers (from students to professors) within the university structure.

Therefore, it is imperative to bring the junior and the senior together through a collaborative space created with the help of ICT. LMS can be used as a virtual platform for intergenerational collaboration and an effective instrument for human development and increased social involvement. LMS addresses the following strategic goals of Education and training strategy 2020 such as:

1. makes lifelong learning a reality

2. improves the quality and efficiency of learning and education

3. promotes equity and social cohesion

4. enhances creativity, innovation, critical thinking , problem solving skills at all levels and learning cycles

In Higher School of Economics a special programme has been launched to help the adults (university professors, assistant professors, teachers and scholars) develop and update key competences (mainly digital competence) and link education and work. The objectives of the project are to explore and develop an innovative educational product which will help create learning opportunities for all ages particularly by encouraging older teachers who are afraid or reluctant to use ICT in teaching. One of the aims was to promote motivation to acquire basic understanding of ICT benefits through the intergenerational transfer of skills (younger trainers and older adults). The programme responds to the state policy on e-inclusion and trains adult educators to use new technologies in their regular teaching practices.

The project was called “The basis of creating and implementing educational courses in the system LMS eFront”. The target group of the project listed 45 educators (aged from 25 to 60) from the Higher school of Economics in Nizhny Novgorod who participated in training sessions for the period of learning session that took place from 18.09.11 till 9.12.11. The form of education was off line (evening sessions). The course comprised the following training sessions which covered 24 hours in total:

1 LMS is educational environment: its functions 1 hour.

2 Lesson administration (user interface, personal page of a teacher) 3 hours.

3 Construction of a lesson (Structure and editing elements: theory, video, text, glossary) 6 hours.

4 Tests creation (Kinds of test masters in LMS, test bank using) 6 hours.

5 Arranging the requirements to the lesson description (rules, requirements, timetable etc.) 1 hour.

6 Monitoring students’ marks (projects, grade book, reports, frequency of visits) 2 hours.

7 Intergenerational interaction of members of the course (aim and types of interaction: forum, chat, e mail, announcements) 1 hour.

8 Filling in the content of the lesson and the analysis of the materials 4 hours.

The training sessions were aimed at supporting and motivating teachers to improve their knowledge and competences in ICT and increase participation in lifelong learning. On the one hand the programme meets the needs of those who want to update their ICT skills. On the other hand teachers are trained to bring anew approach and media competence into their regular work (Lyashenko, Frolova 2014).

While working under LMS project fourth generation evaluation principles were used. In the process of e-learning all age groups teach and learn from one another. It is evaluation of a peer learning that takes place. Being the tutor for the colleagues and evaluator, the author of this article collected and interpreted data. Besides the author used observation and interviewing in the process of arranging the LMS projects. Qualitative Approach (Mason, J. (2006) with thorough analysis allowed to get the final results and compare them with the initial ones.

80% of the respondents underwent the LMS sessions with pleasure though before the launch of the project some respondents had not believed in the use of the course and were almost forced by the authority of the university as LMS

is seen as a compulsory part of the curriculum in HSE.

Table №3. The results of the questionnaire

The age group	Technical problems	Psychological problems	Feedback
20-29	– Almost no problems – The problem with producing flash cards	– Irritation – Distrust – Impatience	Wow it was cool!!!
30-38	– Almost no problems – Breakdown in the LMS system – Problems with downloading personal tests and uploading the material	The feeling of superiority	It is a well structured course the results are successful!
45-60	– Problems with entering personal data into the platform of LMS – Lack of detailed manuals on the computer – No French alphabet in LMS – No mathematical symbols – No protection of intellectual property	The feeling of inferiority No self confidence in applying ICT Lack of care from the younger colleagues Discomfort No status differentiation No subordination Too young tutor	This is a useful course for my career

We can divide all the answers of the respondents into proponents and opponents as the feedback was various from extremely positive to neutral or even negative. Only 4 respondents did not see any practical value of such training. Irina, 57 years old English language teacher was convinced that it is no use in teaching an old dog new tricks. "I think that without ICT we can effectively teach English as well. The talented teacher needs only a piece of chalk and a board." The analysis of the answers to the questions made it possible to divide the complaints and the suggestions into several groups (Table №3)

According to the findings the main complaints about the system center around the following problems:

- Problems with interface (no navigation or help desk, difficulty to find the necessary information, too many functions) - design and visual presentation.
- Technical breakdown (inability to get an access from home, difficulty to attach or delete files, inconvenient message delivery system).
- Openness of knowledge that simplifies cheating, plagiarism, assessment and control system, teacher-student interaction- pedagogical aspect.

The fact is that 50% of students think that not more than 25% of the material for studies can be shared through the LMS. More than one third of the learners (32,5 %) think mail services or social networks to be more convenient and less consuming to share the information. Students consider the LMS as an academic environment imposed from above. That is why they prefer less formal ways to exchange and interact (Kern and Baldissera 2012). One of the most cited advantages that the system offers is material media storage, or document repository (lectures, tests, texts, presentations, video, flashcards, etc.). One student responded: *"It is convenient to have all materials in one place"*. As for the point concerning effectiveness of student-teacher collaboration in the LMS more than a half of the respondents (57,5%) believe the LMS to improve and facilitate the interaction.

To add some criticism on LMS platforms to contemporary research we can provide the attitude of the teachers. Many teachers (60 % of the respondents) think the advantages outnumber the disadvantages but about one forth of the teachers (25 % of the respondents) do not care about the necessity to use the LMS for teaching purposes. If they are strongly advised by the authority to implement the LMS they are sure to do it. And about 15 % of the respondents believe that it is no use in introducing LMS into teaching practice. The system is not perfect. There are many technical, psychological, organizational problems that hinder the LMS usage. So they are reluctant to the system and consider it to be too time consuming and effort taking.

The findings show that in general, the LMS is considered to be an effective platform for collaboration despite the difficulties and problems the users experience when working in the LMS. The teachers must play a critical role in successful implementation of the system. The positive attitude of the teachers to the system and awareness of its possibilities as a whole can be a critical factor to successful LMS integration into the university structure (Whelan and Bhartu 2007).

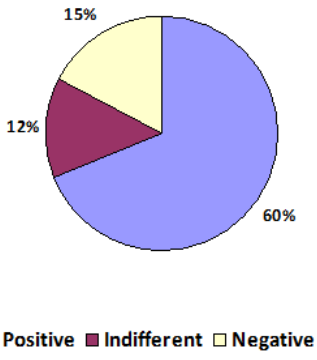

Diagram 1. Teachers' attitude to the LMS

The author believes that the results of the program researched and reported in this paper will be useful for further investigation and active implementation of the IGL principles into practice. As the results of the project, the author carried out analysis of the mythology, created innovative LMS products and sites to assist, made up their own algorithm to introduce LMS into practice and several questioners to provide evidence of efficiency of LMS as a means of successful educational collaboration.

5. Conclusions

Conclusions of our research are presented below:

1 The LMS system has proved to create effective opportunities for learning and teaching. The teachers being representatives of learners' group are motivated once they have discovered the advantages of ICT implementation and take the elective course of LMS seriously wishing to share knowledge and expertise. The majority of the participants of LMS course has a positive attitude to ICT in language learning in particular and the LMS in general. It can be considered as a critical successful factor in effective LMS integration.

2 Using the ICT is not a panacea. Brining IT tools in the classroom does not improve the educational process by itself. The tutor has to implement the methodical and pedagogical issues to make them work efficiently. As the users may face a lot of challenges to overcome (technical, organizational, psychological, pedagogical).Individual approach, various formats of personal relations, a participative approach are likely to remove all barriers.

3 The tutor of the course who must be mature, flexible and competent to be able to cope with different psychological and technical problems. The scholars and teachers who make up the group have much difference in professional, social and everyday experience. So it is preferable for the tutor to be neither old nor young, but rather experienced and highly qualified. He should be able to inspire and lead learners of various age and background. It is necessary to adapt to personal, professional and social requirements of every learner. Elder learners tend to be less alert. They are occupied with job, family and social roles and health problems while younger learners could have a more work and life balance.

4 The role of the teacher in deployment of the system should not be underestimated. Result-oriented and ambitious learners need self actualization and assistance of a tutor who is ready to provide motivating feedback or rational criticism. The positive environment and easy-going atmosphere add to the commitment and creation of strong emotional bonds that will contribute to the personal links and reciprocal alliances of representatives of different age groups.

5 The results of the research prove the idea that there is a constant professional growth and desire to excel for the teachers who have become learners for the period of LMS project. Thus our university catches up with the leaders as the idea of incorporating special training modules into university curricular is gaining popularity nowadays (MATES 2012).

6 In further research the perspectives of ITC development and new ways of their incorporation into the system of education could be covered. «An Internet-enabled revolution in education will spread more opportunities, with less money spent on real estate and teachers». It is a controversial point of view, isn't it?

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