Realisation of Blended Learning Model Within The Implementation Of Inclusive Education In Kazan (Volga Region) Federal University

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Abstract

The principles of inclusive education, developed in the twenty-first century as the principles of equal and universal access to quality education taking into account the special educational needs of individual, necessitate a significant transformation of educational programs, in particular, in the system of higher education. Noting the importance of substantive aspects of education, the authors focus on the implementation of blended learning models in the framework of the program "Affordable educational environment" in Russia. The development of modern information and communication technologies has become a prerequisite for widespread use of technologies and e-learning at the Kazan (Volga) Federal University. E-learning at KFU consists of the learning management system, Portal of e-learning, software and hardware and software solutions, training and methodological support for authors of e-courses, and for students to work in the learning management system. It is in the form of manuals, methodical recommendations, instructions, and training e-courses. General information about e-learning in KFU and some results of its using in the inclusive and ordinary education are described in the article.

Keywords: teaching, education, student, teacher, learning.

1. Introduction

Improving of higher education covers a wide range of issues, in particular related to the adoption of new educational standards, modernization of the theoretical basis of learning (competence approach), the emergence of new disciplines, change in the current ratio of classroom and self-study, modernization of forms and methods of control of the trainees' activities. E-education today is not just electronic databases, information systems, computer classes, global and local telecommunication networks, but also an important social institution for the support system of inclusive educational environment. This is because since the adoption of the Convention on the rights of persons with disabilities one of the topical issues of realization and protection of the rights of disabled persons and persons with disabilities is the question about the possibilities of implementing the concept of inclusive education at all stages of education. Kazan (Volga region) Federal University is one of the leading universities of Russia, so the priority for it is compliant with the leading international standards of higher education [1], including the practice of introducing e-learning environment and creating an accessible learning environment for students with disabilities. One of the most effective projects in this area is the implementation of models of blended learning.

2. Theoretical base

Depending on the degree of saturation of the educational process by the online technology, content delivery and the interaction of the participants, the experts distinguish [2]:

- traditional classroom (without using online technology);
- traditional learning with web support (1-29 % of the course is implemented in the network: content delivery, minimal interaction via the LMS when performing SES);
- mixed training (Blended-learning, 30-79 % of the course is implemented in the network: combines classroom learning with classes on the network);
- complete online training (more than 80% of the course online, often entirely without full-time interaction).

Blended learning is considered the world's most high quality and promising model of organization of educational process [3]; it is a kind of Terra incognita for Russian education. Being the center of

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education and science of the Volga region the University is greatly responsible for keeping the status of one of a leading higher education institution in Russia [4].

3. Blended learning

The learning process, built through the integration of classroom and extracurricular educational activities using and mutual complementation of traditional technologies and e-learning, called blended learning (BL). BL suggests reducing the number of classroom by moving part of the training in electronic environment. The ratio of classroom (traditional) and virtual (electronic) component can vary and depends on many factors: the subject, age of students, level of training, and technical infrastructure for training. World practice of development blended education confirms that the model can be applied successfully in teaching students with disabilities, that is, when the implementation of inclusive education in higher education [5].

3.1. Designing courses on the model BL

Blended learning is not only the transfer of a number of elements of the educational process in electronic environment and, as a consequence, the reduction of classroom interactions of students with teachers. The key concept is the concept of "flipped classroom", in which special attention is paid to the aspects of the design of electronic courses and aspects of the educational process.

1. Designing electronic courses (EC).

One of the main design principles of E-course for the discipline is the principle of backward design ("backward design") [6]. Development of E-course begins with a content search and development a substantial part in the relevant subject area, and determines the plan for the discipline, learning outcomes and choosing appropriate methods of assessment. Next, define teaching strategies (with the features of discipline): learning activities and scenarios of interaction of participants of educational process with the aim of maximum involvement of students in virtual sphere and classroom interactions. The last step is the selection and structuring of educational materials.

2. Organization of the educational process.

The essence of the "inverted" technology is in the permutation of key components of the educational process through active use of electronic learning environments. In the traditional model the learning process begins with the presentation and explanation of material in a classroom face-to-face classroom (lecture), assignments and posting of material is carried mainly in the extracurricular students' self-working, and then control again takes place in the classroom. Diagram of traditional teaching: *in-class activity (lecture) –> self-working of students –> classroom session (practical lesson)*. In this technique, the emphasis is on the primary understanding of the material in the course lectures.

"Upside-down" educational process starts with the problem of the task for which the student is forced to read the material posted in environment of E-course. At this stage in the electronic environment is self-control understanding of the material. Thus, the educational process starts from the self-working. Students with disabilities and students of the main group are put in equal conditions, in which success depends on subjective factors. The next stage is examination of students ' answers, which they have already found during their self-working, clarifying obscure points, and offering of additional solution options. Diagram of "Upside-down" teaching: *self-working of students –> classroom session (practical lesson) –> self-working of students.*

3.2 Piloting blended learning in the discipline "Foreign language" at the Kazan (Volga region) Federal University

To pilot blended learning models at the Kazan (Volga) Federal University was selected discipline "Foreign language (English)", the learning process which selectively implemented according to the technology of blended learning in an experimental mode during the fall semester of 2016. In the framework of this experiment 1 lecture was excluded from the classroom and replaced by a load of independent work of students in e-learning environment LMS Moodle. A course of "English for Physics and Modern Technologies" provides the opportunity to cover 70% of the training load, thus the ordinary students and students with disabilities had the opportunity to learn remotely the skills of grammar, reading, listening, writing.

The course consists of 8 units and end-of-course test. Introduction describes the contents of the course: course information, curriculum, instructions for Tutors and students, a brief outline of the course; the main part contains learning units with lectures, texts, different tasks, quizzes. Each individual unit contains material for the intermediate control (test) and interactive forum "Let's discuss"

where students have the opportunity to discuss the topic rose in the unit. The final unit contains materials for final control for each area of training. The course contains 2 units for professional English on the basics of mechanics and molecular physics.

4. Results

During intermediate stage of piloting models of blended learning the effectiveness of the educational process was conducted by questioning students and teachers, and evaluated the academic performance of students with disabilities. Comparative indicators of students, who were studying according to the blended model and in the traditional form, are shown in the table 1.

Table 1. The results of the experiment

Comparison options	Before	After
Students attendance	32 %	97 %
The academic performance of students with disabilities	42 %	54 %
The number of unsatisfactory ratings	15 %	10 %
The number of worked modules of students with poor health	45 %	98 %
The number of scientific publications and research projects	27 %	62 %

The overall effect of the incorporation of blended learning model within the implementation of inclusive education in Kazan (Volga region) Federal University on set of the indicators was: the increase in the quality of the educational process at 8.8 times.

5. Conclusion

Due to continuous informational exposure [7] almost no area of human life cannot do without modern information technology, especially education. Such realities of modern higher education as E-learning, distance educational technologies, inclusive education got the legislative status and the momentum with the release of the new "Education Act". Thus, properly designed e-course for blended learning contributes to the individualization of the learning process (allows to take into account the individual learning styles of students: the level, type, cognitive abilities, speed of learning), focused on the learning outcomes for the discipline, provides involving students in learning activities with disabilities, improves the academic performance of students in General.

It is worth noted, that earlier the inclusive education in the universities was often regarded as a right. Today we can safely say that the implementation of the concept of inclusive education is the responsibility of any educational organization and is, in particular, one of the criteria for determining the effectiveness and quality of educational activities of organizations.

There is no doubt, the blended learning model not only contributes to the development of inclusive education in high school, but is one of the effective ways to improve the overall level of the students education. In the future we plan to expand the range of disciplines and specialties involved in the pilot project of implementation of a mixed model of training in educational process of Kazan (Volga) Federal University.

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