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Practical Orientation Increase for Future Teachers Training Through the Integration of Interactive Technologies

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Abstract: The study discusses the conditions for the implementation of practical orientation increase for future teachers preparation through the integration of interactive technologies in the learning process. It is suggested that the organization of training on the basis of the proposed mechanisms of distance learning platform for the integration of interactive technologies enhances the practical orientation among the bachelors with teacher education. The theoretical bases of interactivity integration into the educational process are determined. The types of interactive cooperation within the distant learning are determined between the participants of educational environment: a student, a teacher, a group of students, an interactive content. The sequence of student actions is described using interactive teaching methods and the distance learning course, created on the platform of distance learning system. The main advantages of such a training organization which motivates students are specified. In accordance with the possibilities of a distance learning course of the system moodle, the types of activities are described undertaken by a teacher and a student. The analysis of interactive learning opportunities and realization terms of distance learning system moodle for their support allows to describe the components of the mechanism, the ways of their implementation, the examples of applications in different types of a student educational activity. The study presented the identified conditions for the implementation of interactive learning by the comparison of moodle respective capabilities. In order to spread the experience of interactive technologies integration in the educational process with the use of distance learning system capabilities the researcher methodical recommendations for the teachers of higher educational institutions are described. The results of integration mechanisms testing are provided. The content of the articles contain positive comments of teachers and students who participated in the testing.

Keywords: Interactive technologies, distance learning, integration of interactive technologies, distance learning system moodle, interactive elements, distance learning course

INTRODUCTION

Currently, the modernization of the basic professional educational programs is carried out in Russia. The aim of these programs is the preparation of pedagogical staff training programs in line with ISP (Yamburg, 2012; Margolis, 2014).

The modernization of educational programs involves the professional training of a teacher, i.e., such model of his practice-based learning, in which the main educational result is the ability to develop a future professional activity (Margolis, 2014). This implies an increase in the practical employment of students at the change of the theoretical material provision form. The model should be based on the use of interactivity in all its forms. The introduction of interactive forms of education is one of the most important ways to improve the training of specialists who are ready to carry out their professional activities in practice. The major methodological innovations are directly related to the use of interactive technologies and teaching methods (Galimullina and Kraynova, 2014). The use of Distance Learning (DL) which has powerful organization features for individual training is the relevant one. A key feature of DL is interactivity. Therefore, it is necessary to introduce new forms and methods of educational process organization including the integration of interactivity with the distant technologies (Galimullina, 2014).

We expect that the integration of interactive technologies and the methods of learning in the process

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of an undergraduate teacher education using distance learning courses will enhance the practical orientation of the educational process. The purpose of research is to reveal the mechanisms of interactive forms integration and the methods in the preparation process for future teachers in the conditions of practical orientation increase on the basis of DL.

We suggested that the integration of interactive technologies in a study process using the DL technologies will be effective if:

- The theoretical basis of interactivity integration into the educational process on the basis of DL are determined
- The theoretical basis of interactive technology integration mechanisms are revealed into the process of teacher education bachelors preparation
- The possibilities of Distance Learning System (DLS) are analyzed for the integration of interactive technologies into the learning process
- The guidelines for teachers on the integration of interactive technologies in the educational process with the use of DLS features are developed

MATERIALS AND METHODS

DLS are used most frequently for distance learning organization, the most common of which is moodle. It should be noted that many distance learning courses in the DLS do not take into account an interactive element of training and are actually serve as the courses for self-education. Therefore, it is necessary to focus on the active use of interactivity in all its forms.

An interactive educational process is organized taking into account the involvement in the process of learning of all group students without an exception: everyone makes his own special contribution, there is the change of knowledge, ideas and the methods of activity in the course of work. The interactive methods are based on the principles of cooperation, student activity, a group experience, an obligatory feedback.

The environment of educational communication is developed. It is characterized by openness and the interaction of participants, the equality of their arguments, the accumulation of common knowledge, the possibility of mutual evaluation and control (Galimullina and Kraynova, 2014).

The distance learning interactivity is implemented at two levels: at the level of interaction between a teacher and students and between students and at the level of student interaction with teaching aids they use, mainly by electronic means (Polat, 2004).

The RF Ministry of Education and Science is implementing the project on the development of new modules of the basic professional educational programs for undergraduate and graduate teaching areas with an increased practical and research oriented training. One of the project participants is the Kazan Federal University (KFU). The teachers of Elabuzhsky Institute (EI) KFU developed the modules of basic professional educational program for teacher training, one of which is a the module "Disciplines of mathematics and science cycle". The module program is designed for bachelors who start to obtain teacher education which will allow them to perform their professional development and use actively the interactivity in all its forms (Anisimova and Sabirova, 2015).

The knowledge gained by interactive education, are acquired in the course of the student's own activity and not from a teacher as a finished system. On the other hand, a student in the process of interaction during a classroom with other students and a teacher master the system of tested methods of activity in relation to himself and to the group as well as master various ways of knowledge search. Therefore, the existing knowledge is also a tool for the self-procuring of new information (Galimullina, 2014). All of this will strengthen the practice-oriented feature of the learning process.

The powerful features in the organization of interactive learning are provided by DLS, for example moodle. In this regard, the EI teachers of KFU distance learning site created the distance courses for students within the trend 44.03.05 "Teacher Education". Within these distance courses the student work is developed in such a way that a refusal from the monologic oral presentation of a training material by a teacher, typical of traditional lectures is possibe.

RESULTS AND DISCUSSION

Let's examine the mechanisms of interactive technology successful integration into the process of teacher education using distance learning courses to enhance the practical orientation.

The determination of the theoretical foundations for the integration of interactivity into the educational process on the basis of distance learning. There are the following kinds of interactivity within DL (Galimullina and Kraynova, 2015):

- Teacher↔group
- Teacher↔student

Table 1: The components of integration mechanism for interactive technologies in the learning process on the basis of distance learning courses

Terms of interactive learning implementation	DLS Moodle opportunities to ensure the conditions for the realization of interactive learning
Comfort in learning	The educational content is freely available and presented in a convenient form
Feedback	The implementation of different kinds of interaction between the educational process participants: student↔interactive content, student↔student, student↔teacher
Group activity of students	Organization of individual, pair and group work to address the educational problems and accumulate mutual knowledge
Mutual control and evaluation	Organization of an open educational environment for the purpose of mutual evaluation and monitoring"

- Student↔interactive content
- Student↔student
- Group↔student

According to these types of interaction, let's analyze one of the main methods of interactive learning in respect of the possibility of its projection into a distance course. Let's describe the sequence of student actions using a distant learning course in the method of "Round Table".

Step 1: the preparation of a student for the participation in a round table in a distan course under the guidance of a teacher. Working with an interactive lecture in a distant course, a student uses the recommendations, the specified and independently obtained sources of information which may be also obtained at the consultation with a teacher and classmates, masters the material.

Step 2: the discussion of the round table basic issues at an educational forum, together with a teacher.

Step 3: participation in the Round table. A round table involves the following:

- Discussion during the discussion of problematic situations on a subject
- Illustration of opinions, positions using various visual materials
- Implementation of the discussion activities, the argumentation of an own standpoint, persuasion of interlocutors

Step 4: preparation of an essay-reflection, a photo report, the presentation materials at the round table, the publication of an essay during a distant course for its discussion and evaluation by classmates and a teacher. Let's specify the main advantages: an extended preparation for a round table at the expense of independence and the ability to communicate with a teacher and students offline and/or online; the refusal from monologic lectures and, as a consequence, the interactivity increase concerning the educational process; learning becomes more student-oriented, which leads to a student motivation increase.

The description of operation sequence for the "Round Table" method on the basis of the distance learning course shows the feasibility and the effectiveness of other interactive methods integration. Integration components concerning interactive technologies in the preparation process for future teachers using LMS Moodle platform.

After the analysis of the implementation conditions in respect of interactive learning DLS Moodle opportunities for their provision, we determinrdthe main components of integration mechanisms for interactive technologies in the educational process on the basis of distance learning courses. Let's determine the conditions for the implementation of interactive learning and compare the corresponding DLS Moodle opportunities (Table 1).

Analysis of DLS Moodle possibilities for the integration of interactive technologies in the learning process. Distance learning courses developed in DLS Moodle have the capacity for a teacher and a student interactive activity implementation (Table 2).

Guidelines for teachers on the integration of interactive technologies in the educational process with the use of DLS features. To spread the experience of interactive methods integration in the learning process at a university on the basis of distant learning courses a methodical support is necessary. We developed a handbook for the teachers of higher educational institutions who decided to integrate interactive technologies into the learning process at a high school using distance learning courses. The manual deals with the theoretical bases of interactive technologies integration in distant courses using the possibilities, elements and resources of the distant learning systems and also the technology for interactive training course creation by the means DLS Moodle is provided.

Summary: Using the proposed integration mechanism for interactive technologies on the basis of distance learning courses enhances the practical orientation of bachelor teacher education. Testing showed that the classroom interactive event takes place more effectively and successfully, as students have the opportunity to prepare for it by the means of a distance course and if necessary, seek the advice of a teacher and discuss emerging issues together. A distance learning system has powerful

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interactive features that allow you to abandon the lecture followed by the discussion of the issues examined at round tables, master classes, conferences, etc., which in its turn enhances the practical orientation of the learning process.

The technology of interaction between a teacher and a student described step by step will facilitate the introduction of integration mechanism for interactive technologies in the educational process of higher education. The comparison of distant learning system possibilities with the conditions of interactive learning implementation will help a teacher to find the proper ways of an interactive learning process organization.

In order to distribute the experience of interactivity integration into the educational process of a high school the guidelines for teachers are developed which may be used for self-examination and further training.

CONCLUSION

The proposed mechanism was tested in Yelabuga Institute of KFU during the period from September to November 2014. In order to determine the effectiveness of a developed integration mechanism for interactive methods in the learning process of future teachers on the basis of distant learning courses, we conducted the survey of participant testing.

The teachers who participated in the testing noted that interactive methods allow to motivate students to active learning activities, stimulate to a teamwork and a creative spirit. Positive feedbacks from students were received by such components of distance learning courses, as interactive lectures and assignments, educational forums that increase the willingness of students to participate in interactive activities. They explained this by the fact that a close interaction with classmates and a teacher allows to solve the challenges which they face during the search and selection of the required information and its critical consideration. Students expressed the desire to continue classes, explaining it by the fact that such a training organization gives them the ability to think and make decisions.

The teachers concluded that the use of a distance learning course lets you get rid of traditional lectures and provides you with some time for interactive lessons which contributes to a greater independence of students, enhance accountability for learning outcomes, makes the learning process activity-based.

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