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The Experience of the Usage of Information Technologies in Preparation of Future Teachers in the Global Educational Practice

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Abstract: The subject taken up in the article is the review to the modern educational technologies on which basis some are chosen from them. The role and a place of the modern educational technologies are considered in vocational bachelors' training of a pedagogical education on profiles of "Mathematics", "Foreign language" and «Music and world art culture». Author's electronic educational resources and also resources of firms «1C», «Cyril and Methodius» and educational Internet resources are allocated. The experience of the usage of information technologies in preparation of future teachers in the universities around the world.

Key words: Modern educational resources · The bachelor of a pedagogical education · Electronic educational resources

INTRODUCTION

The strategic reference points of modernization of domestic education are reflected in the Concept of the Federal target program of a development of education for 2011-2015, the National Education project, the Russian Education — 2020 model in the conditions of transition to-level structure of higher education.

The optimization of higher education is one of acute national problems: accession of Russia to Bologna Process, in this connection: introduction of a mass bachelor degree and magistracy; development and deployment of educational standards of the third generation; creation of federal universities; search of an effective proportion of humanitarian, social and economic, mathematical, natural-science, all-professional, special blocks of disciplines in their system integrity, etc. This diversity of a problem of increase of efficiency and quality of vocational training in higher education institution is reflected in modern researches.

At the present stage the quality of preparation of students in the conditions of modernization of system of domestic education causes need of search of new approaches to the organization of educational process. One of them is connected with education informatization. Now, informatization of an education system enters on qualitatively new level as the problem of effective use of modern educational technologies for designing of educational process and the organization of interaction of all subjects of this process is solved.

A number of contradictions were revealed after the analyses of a condition of a problem of use of modern educational technologies in vocational training of students:

- Between requirements of the state educational standard to high-quality two-level preparation of the specialist teacher and traditional techniques of his realization in system of continuous pedagogical education;
- Between need of transition of the higher pedagogical education on two-level system of training in connection with modern requirements and a weak theoretical and methodical readiness of this problem regarding the organization of process of use of modern educational technologies;
- Between need of creation of the adaptive educational environment considering individual characteristics of students and lack of the information and methodical providing, capable to make effective functioning of this process;

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- Requirement of educational practice for use of modern educational technologies in the course of training in disciplines and absence of complex, systematic research of opportunities of their effective use;
- Positive potential opportunities of use of modern educational technologies in training of bachelors of pedagogical education for the deciding of a number of professional tasks and an insufficient readiness of techniques of training with use of modern educational technologies [1].

Modern education demands introduction in educational process of new educational technologies.

Use of computers in education led to emergence of new generation of the electronic educational technologies (EET) which allowed increasing quality of training, to create new means of educational influence, more effectively to interact to teachers and trainees with computer facilities [2].

The professional training of bachelors does not possible without development of abilities in them competently to choose and apply electronic educational technologies in educational activity in the conditions of education system informatization.

Using of electronic educational technologies in educational process inevitably leads to change of nature of interaction of the teacher and the trainee. This interaction ceases to have direct character that, at an invariance of the content of training and its purposes demands, on the one hand, development of new technologies of training and, on the other hand, demands from the trainee of new motivational installations and revision of the organization of informative activity [3].

The factors influencing efficiency of use of EET (electronic educational technologies) in preparation of bachelors of pedagogical education on different profiles, in connection with specifics of this activity are numerous.

The program of training of bachelors of pedagogical education is directed on the training of specialists, professional tasks capable to the decision and the organization of new spheres of activity.

Therefore the choice of modern educational technologies is defined by specifics and a profile orientation a realized main educational program.

Modern educational technologies are focused on individualization, a remoting and variability of educational process, the academic mobility of trainees.

The electronic educational resources (EET) representing means in electronic form, urged to provide the educational process, containing educational information and a training technique belong to such educational technologies.

Development of electronic educational resources gives ample opportunities for the invention of new techniques of the organization of educational process with use of means of modern information and communication technologies.

RESULTS

At the Dagestan state pedagogical university a certain work on creation and EET use in system of preparation of bachelors of pedagogical education, in particular, on the Mathematics, Foreign language and Music and World Art Culture profiles is carried out [4].

For studying of a new material, repetition earlier passable or generalization and systematization of knowledge is perspective to use multimedia maintenance of computer presentations of the subjects which each slide represents or a fragment of a theoretical material of a subject, visually and colorfully issued, or the detailed solution of a task, the photo, the announcer's text, video records, computer animation. All this allows to make teaching of mathematics more substantial, more interesting, more emotionally, more visually and to increase motivation of school students to mathematics studying.

Using the program environment "Designer of Sites" us the electronic training material on the subject "Geometric figures" of a school course of mathematics is developed.

We developed EET on the subject "Quadratic equiponderate" at a school course of mathematics on the basis of the program Front Page environment, including theoretical and practical parts, the video lessons, useful resources.

This EET contains 20 video lessons collected from disks of Kirill and Mefodiy firm.

Using of communication technologies use in teaching of foreign languages is one of the most important aspects of improvement and optimization of the educational process, allowing to diversify forms of work and to make a lesson interesting and being remembered for pupils.

Now there was an opportunity actively to use modern educational technologies in training after emergence of multimedia - a language laboratory of the English equipped with computers, a multimedia projector and the screen.

The multimedia - a language laboratory gives the chance to use numerous electronic educational resources in educational process that qualitatively raises level of training and allows to distribute school hours effectively.

We created an electronic educational resource on the basis of the program Macromedia Flash Pro environment for a lesson of English of the subject "The Article".

In a form of representation of a training material our EOR is presented in the form of the static illustrated book ("in pictures"), in a statement form work has the combined (universal) character.

In the professional and pedagogical activity we pay essential attention to a method of projects as to the important means bearing in high potential for versatile development of bachelors on the "Music and World Art Culture" profile.

The musical quiz becomes complicated technical difficulties: music listening in an audio recording – film scrolling wasting thus precious time forward-back. And digital CDs don't give the chance to allocate any fragment, for example, the main or collateral party.

Often students can't learn a photo of this or that composer.

All this demands revision of traditional forms of education and to pass to modern methods of submission of information.

The multimedia project "Robert Schuman" including innovative qualities, using new pedagogical tools is developed for successful studying of discipline "History of foreign music" at the Dagestan state pedagogical university at faculty of music.

20 slides enter into presentation, 19 from which are added with illustrations (Schuman, Clara Schuman's self-portrait, the cities and houses in which he lived, etc.). Fragments from the musical newspaper which editor-in-chief was Schuman are also presented. In this development Schuman's two piano cycles are considered: "Carnival", "Butterflies".

Schuman's piano cycle "Carnival" is in detail considered. Except them "Abegg" variations, "Symphonic etudes", "Fantastic plays", "Kreysleriana"" are included.

During forming experiment it was proved that the developed multimedia project "Robert Schuman", its methodical maintenance provide theoretical base for strengthening of professional competence of bachelors on the "Music and World Art Culture" profile and developments of knowledge, abilities of work and independent development of new opportunities of projects in further professional activity.

In the North Caucasus Federal University information technologies are widely used in the educational process. For example, when graduate and post-graduate students, future teachers of higher education, prepare for the seminars, they develop their projects using multimedia presentations. During the courses the electronic complex “Pedagogy of Higher Education” is used, which allows you to learn the material better (Sorokopud Yu.V., 2010, 2013) [5; 6].

Examine basic approaches of using the information resources in the education systems of different countries.

In New Zealand, in 2008 New Zealand Digital Strategy was developed by the Ministry of Economic Development. According to it, the increase of information competence through an active involvement of students, teachers and students of pedagogical specialties in the work with digital resources is realized. In the project the students of four universities in New Zealand: Otago Polytechnic Institute; Manukau Institute of Technology; Massey University and the University of Otago; were involved. Throughout the program, students in selected universities used digital educational resources as much as possible. To monitor the dynamics of the development of digital literacy of the students special criteria for Digital Information Literacy (DIL) were used. These criteria were developed by the Australian and New Zealand Institute for Information Literacy (ANZIIL). This project helped to educate a new generation of teachers, engineers, civil servants, whose computer skills are far more advanced compare to computer literacy of their colleagues [7].

At the Sydney University of Technology during the preparation of future teachers video-technologies are widely used. But for all that, the students are the authors of digital video-projects on the pedagogical subject, which are then used in the seminars to illustrate different pedagogical situations. As the authors note the use of digital video-technologies in the educational process significantly improves the quality of the knowledge of future teachers, increases their learning motivation and interest in the subject [8].

In Kuwait, there is a program the Public Authority of Applied Education and Training (PAAET). As part of this program the period of trainee of future teachers is based on the technology TPACK (the Technological Pedagogical Content Knowledge). Mishra and Koehler (2006) introduced Technological Pedagogical Content Knowledge (TPACK) as a framework to understand and describe the kinds of knowledge needed by a teacher for effective ICT integration [9]. The main bodies of

knowledge in the TPACK framework are: content knowledge (CK), pedagogical knowledge (PK) and technological knowledge (TK). Besides these main bodies of knowledge, the TPACK framework stresses the importance of the interactions between these bodies of knowledge. These include pedagogical content knowledge (PCK) as addressed by Shulman (1987), technological content knowledge (TCK) referring to how ICT and content influence each other, technological pedagogical knowledge (TPK) addressing how pedagogies change while using ICT and technological pedagogical content knowledge (TPACK), which is the knowledge that emerges from interactions among the three knowledge domains (Koehler & Mishra, 2008) [10].

According to Alayyar, G., Fisser, P. & Voogt, J. (2012) the experiment was conducted [11]. Students-trainees were divided into 2 groups to train technology TPACK (The Technological Pedagogical Content Knowledge). In the first group the students-trainees were learnt be experienced teachers, participated in team projects. The second group assumed blended learning – working with experienced teachers, working in groups to make team projects and also the were actively studying in the educational internet environment, participating in online forums with other teachers of different Internet-projects. According to the results the students of the second group with blended education (including the electronic one) showed much better results in info-communication competence. The components of TPACK were better formed. Thus, it was concluded that blended education where the information technologies and Internet technologies play an important role is more effective.

In the U.S., for example, in the Columbia University and in the University of South Florida (Crocco, M., Thornton, S. & Chandler, T. (2006) [12], students who are going to get master's degree in the future and become teachers or researchers should master elective courses aimed at studying of information technologies. Students are actively involved in various projects and researches which are made with the help of the most up-to-date information technologies. As studies showed (Crocco, M., Thornton, S. & Chandler, T. (2006), students who mastered such elective courses, get better results in the educational activity and scientific researches during the Master Courses.

CONCLUSION

A comparative analysis of approaches to the usage of information technologies in preparation of future teachers in different countries, including Russia, showed that these technologies have great potential and occupy key positions among other modern technologies. This is especially important in preparation of future teachers. Higher school teacher impart knowledge from generation to generation, transmit culture valuables and intangible assets of each country. Therefore, teacher must apply the most up-to-date technologies while transmitting pieces of knowledge – information. Analysis of world experience has shown that on many continents - Europe, Asia, Australia, North America, training of future teachers with the help of information technologies will allow to prepare well-qualified specialists of the educational sphere. This leads to the raise of the level of educational systems in different countries and has a positive influence on the level of information culture of all the country.

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