

# Digital Educational Resources in the Study of Humanities Subjects in a Technical University

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## ABSTRACT

Digitalization of education is currently a powerful trend in the context of reforming and modernizing the global educational environment. The article deals with theoretical and practical issues of using digital educational resources in the process of studying Humanities subjects in a technical University. The necessity of using digital technologies by teachers and students is justified. It is assumed that new information technologies are of interest to students and their use in the educational process contributes to the formation of positive motivation. The use of digital educational resources in the learning process allows you to enrich the arsenal of methodological tools and techniques, to diversify the forms of work, makes classes interesting and memorable for students. As can be seen in practice, the digitalization of higher education has made changes in the qualification requirements for the teaching staff. Universities have started to develop new formats of knowledge transfer, primarily, distance courses, online courses. The results of our research allow us to conclude that the use of digital technologies in the process of teaching and learning is not particularly difficult, and therefore it is easier to use them in education. As an example of the use of digital educational resources in the course of studying the disciplines of the Humanities cycle, the development of classes on the discipline “Foreign language” is given.

**Keywords:** *digitalization, digital technologies, interactive learning methods, educational platforms, Internet technologies, foreign language, online learning*

## 1. INTRODUCTION

Russia’s entry into the Bologna process in 2012 was marked by further education reform and the transfer of emphasis from the concepts of “teach a student” to “teach a student to learn”. Since that time, an important criterion for the development of students, teachers, and the institution itself has been the effectiveness of the selected tools for implementing the new postulate of education.

All this gave an impetus to the development of new learning tools. One of the newest and most controversial tools for developing students is digital educational resources.

Speaking about the phenomenon of digitalization, it should be noted that various analysts and experts consider the transition of the educational process to the digital stage as a turning point in the history of education.

Digitalization of education is a powerful trend in the context of reforming and modernizing the global educational environment. Digitalization means converting all types of information (texts, sounds, visual images, videos, and other data) into a digital language [1].

Also, digital educational resources mean any information of an educational nature stored on digital media. The most complete definition of the concept of digital educational resources, in our opinion, belongs to L. L. Bosova:

“Digital educational resources necessary for the educational process and to the digitized resources, namely, photographs, video sequences, static and dynamic models, role-playing, objects, objects of virtual reality and interactive modeling, maps, sound recordings, symbolic objects and business graphics, text documents and other educational materials selected in accordance with the content of a specific tutorial attached to lesson planning and provided with necessary methodical recommendations” [2].

The named educational resource can be presented on a CD, DVD or any other electronic medium, as well as placed on the Internet. It should be noted that digital educational resources cannot be presented in paper form; otherwise their didactic properties are lost.

Thus, digital educational resources expand the arsenal of presenting information, since all channels of perception are involved: text-sound -video-color.

## 2. METHODOLOGY

Thanks to the implementation of the state program “development of education” in 2016, the government of the Russian Federation approved the priority project “Modern digital educational environment in the Russian Federation”.

The goal of the project was to create conditions by 2018 for systematically improving the quality and expanding opportunities for continuing education for all categories of citizens through the development of the Russian digital educational space and increasing the number of educational organizations that have mastered online courses to 11 million people by the end of 2025 [3,4].

Currently, there is an active process of integrating digital technologies into the educational process. As noted above, technologies of the XXI century should not only help students learn certain facts, but also increase their competence, develop logical thinking and communication skills. If we compare traditional methods of control, one of the main advantages of integrating digital technologies into the educational process is that the teacher can control the practical effectiveness of the educational process, the quality of learning material, the time spent by the student on solving a particular problem, and the level of understanding of new information.

There are two characteristic features of digital educational resources:

- the use of digital media;
- use of information for education.

One of the innovative directions is the creation of an electronic educational environment. The technical University pays special attention to work in the following areas:

- 1) use of electronic educational resources (electronic applications to textbooks, various educational multimedia presentations, video tutorials, etc.);
- 2) using information and communication technologies (Skype communication technology, plickers interactive survey technology with QR codes);
- 3) use of various distance learning technologies (Moodle distance learning system, various educational portals, platforms, organization and holding of interuniversity and distance Olympiads).

### 3. RESULTS

Taking into account the selected characteristics, we will analyze the use of some digital educational resources in the study of disciplines of the humanitarian cycle in a technical University.

In the branch of the Ufa State Petroleum Technological University in Salavat, the Moodle distance education system is actively used when working with distance learning students.

In order to identify the attitude of teachers and students of the branch to the electronic a sociological study was conducted on the basis of the Moodle distance education system. 42 teachers and 153 students of the correspondence department of all directions took part in it. Analysis of the data obtained showed that 74% of students use Moodle as needed; daily-13%; weekly-9%; sometimes they log in-4%; do not use it at all – 0% of respondents. 65% of respondents agreed that the electronic learning resource Moodle helps them in the process of studying the discipline, 34% - to some extent, 1% - does not help. And

even though the teacher conducts communication in the distance education system Moodle online, as noted by half of the students (55%), the system cannot replace traditional training with a teacher, according to 80% of respondents [5].

A similar position was found in the survey of teachers, 50% of whom belong to Moodle distance learning system as an additional way of learning positively; 29% – neutral; 21% – negative. Noting that communications in the Moodle distance learning system are in the online is effective in some cases (50%); nothing can replace live communication (43%); very effective, because they allow you to quickly and quickly provide Advisory support for several students at once (7%). Confirmation of this is due to the fact that only 19% of teachers communicate with students in the Moodle online distance learning system [5]. In our opinion, training using distance learning technologies has a number of advantages:

- the study material is available to students at any time, and is presented in an attractive modern form;
- the remote lesson is built taking into account the individual characteristics of each student; he can repeat the material again, read the sections that interest him and quickly find the necessary information;
- there is a possibility of remote quality control of training;
- the undeniable advantage of the system is the availability of feedback (emails and messages to the author, forum, chat);
- develop universal learning activities through the use of distance learning technologies.

Moving away from the traditional system through the use of electronic educational technologies allows you to eliminate the monotony of the educational environment and the monotony of the educational process, creates conditions for changing activities in the learning process.

The use of Internet resources is necessary for a stronger assimilation of knowledge, and checking its understanding. The electronic information environment can be considered as a means of teaching a foreign language, which takes the educational process to a higher level. Thanks to information technologies, the efficiency of independent, individual and collective work of students is increased.

The use of information and communication technologies in teaching foreign languages at a technical University involves the selection and adaptation of suitable Internet resources, their use for creating various tasks, organizing intercultural communication and creating educational materials based on Internet software products [6].

The main and most effective methods of using information and communication technologies for interactive teaching of a foreign language are the following:

- classes using multimedia training programs;
- practical training using computer presentations that allow you to integrate audio-visual information presented in various forms: slides, video, graphics;
- computer testing;
- telecommunication projects, working with audio and video resources;

– voice chat over a local network, used for teaching phonetics. To implement this chat, you can use the following free programs: Net Speakerphone or Speaker, which allow you to communicate in the mode: teacher-student, student-student, conference mode;

– an audience equipped with language devices, including a teaching console and students' work places according to one of the following schemes: audio-passive, audio-active or audio-comparative. Audio-passive devices are intended to provide students with the ability to listen to phonograms through headphones; audio-active devices allow students to listen to phonograms and train themselves in loud speech through a microphone, audio-comparative devices allow you to record your speech on a voice recorder, and then listen to this recording and compare it [7];

– the language portfolio as an effective means of control and self-control contains such key points as self-monitoring and reflection. Especially in the conditions of independent work of the student, the portfolio is a promising technology for reflexive learning. Educational technology "language portfolio" creates opportunities for informal assessment of students' achievements [8].

During the analysis of existing analogues, it was revealed that the existing software products have certain disadvantages associated with the problem of intersubject integration, which is a prerequisite for the formation of professional competence of students. In this regard, there is a need to develop a new electronic educational and methodological complex in English. The electronic educational product we created contains popular software and pedagogical tools: the possibility of trial testing, terminological testing for modules, and lexical reference books of terms in English and Russian in computer science. The uniqueness of this product is that testing takes place not only in certain modules of the English language, but also in terms directly related to the field of training "Computer Science and Computer Engineering". The student not only checks and consolidates their knowledge of the English language, but also expands their General vocabulary.

The convenience of this interface is that the user will not have problems using the e-learning product. Most importantly, the test results are displayed with an explanation of the answers [8].

The novelty of the created product is that it defines a method for monitoring the results of teaching professional speech to students of technical universities using terminology testing.

We are increasingly using Internet technologies in foreign language classes, such as the Plickers mobile app for Android Smartphone's with QR codes, which builds response diagrams and allows us to immediately find out which students understood the material being studied and who needs additional help.

The most commonly used educational platforms are EdX, Coursera, Udemy, Openlearning, Alison, Genius English, etc. These platforms allow you to learn new material or work out the topics you have covered at home, and identify gaps in knowledge [9].

Also one of the most productive Internet resources is a project called UChannel, which is a consortium that combines the Woodrow Wilson School of public and international relations at Princeton University, as well as the school of public and international relations at Columbia University. The goal of this consortium is to provide open access to various educational materials [10].

Website LearningApps.org used for learning and teaching using interactive modules. Existing modules can be included in the training content, and they can also be modified or created online. Using this site LearningApps.org relatively quickly, we create exercises aimed at forming the language competence of students and fixing the educational material. They have their own value, namely interactivity.

Undoubtedly, the use of digital educational technologies in the teaching of foreign languages activates the cognitive activity of students, which leads to increased learning efficiency. When implementing the above-mentioned technologies, a mandatory factor is the connection of training with future professional activities. Therefore, students' attention is focused on the importance of a foreign language in their professional development.

Teaching a foreign language at a technical University implies professional positioning of the future scientist among colleagues-specialists from other countries. In this regard, there is a need to prepare students for orientation in a multi-lingual community, to achieve communication goals using innovative technologies [11].

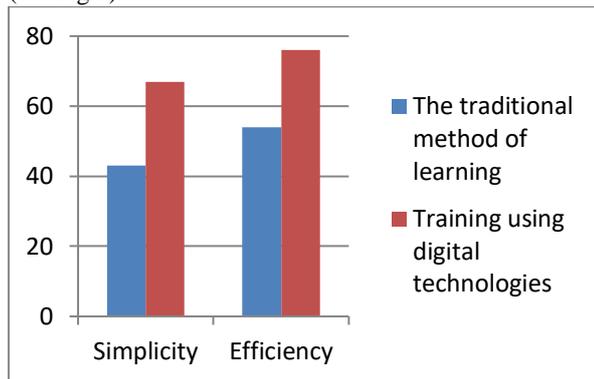
#### **4. DISCUSSION**

The stated trend of digitalization of education in Russia already sets certain tasks for educational institutions. New solutions allow you to individualize the educational process, adapting the program to the individual needs of the student. First, there is the digital divide between providing information gadgets to students who actively use them and traditional approaches to learning. Therefore, digitalization has both loyal followers and skeptical opponents. In our view, digital technologies should only complement, but not replace, traditional teaching methods, and their full potential should be used by students with disabilities or students with special needs. The best results can be achieved if you use digital technologies at regular intervals, about three times a week, since frequent use of innovative and primarily digital methods can gradually reduce the efficiency of information processing by students [12].

At the end of the school year, teachers and students were asked to express their opinions on two aspects of digitalization of the learning process: the ease of using digital technologies and the effectiveness of the learning process after using digital technologies in comparison with traditional teaching methods.

The majority of respondents concluded that the use of digital technologies in the educational process is not particularly difficult, and it was correspondingly easier for

them to use them in the process of teaching and learning (see Fig.1).



**Figure 1** Aspects of digitalization of the learning process

## 5. CONCLUSION

In conclusion, it can be stated that the increasing use of information and communication technologies has led to changes in teaching and learning at all levels of the higher education system, which has led to an increase in their quality. The methods of classroom learning and online learning run in parallel and act as a support system for each other. The use of digital technologies in education not only improves the learning process in classrooms, but also provides an opportunity for online learning.

Analyzing the results obtained, we see that the use of digital educational resources as a tool for repetition and development of subject competencies improves the quality of education.

So, the goals of modern education make you choose methods and forms of organization of educational work that contribute to the active process of learning and develop the ability to learn: find the necessary information, use various information sources, remember, think, judge, decide, and organize the educational process.

The use of digital technologies in language teaching opens up new opportunities in the method of teaching the subject, improving the knowledge of students.

The electronic educational resource is firmly established in the educational activity and it needs to be actively developed. But it is important to know that during classes, the teacher should use the electronic resource dosed.

Computer and digital resources are one of the tools that can be used in the educational process, depending on the needs of the teacher and students. We must not forget about the power of words, the influence of live communication on the development of a person's personality.

On February 20, 2019, Russian President Vladimir Putin delivered his annual Address to the Federal Assembly. In his speech, he outlined the strategic directions of the country's development – in the field of economy, industry, social sphere, education, science and security. In particular, the President stressed the need for further broad

implementation of modern technologies and digital educational tools in the educational process [13].

Thus, the use of e-learning tools is not a fashion trend, but a necessity dictated by the current level of development of students.

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