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THE USE OF "CRASH" TECHNOLOGIES IN EDUCATION

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Abstract

Today, the use of information technologies in education is an accomplished fact. Teachers must acquire special professional competence in the field of modern ICT and learn how to use them in the educational and methodological aspects. Crash technology helps intensify the process of teaching various humanities disciplines, which is proved by the results of the experiment conducted by the authors of the article in 2019. Based on the results of the pedagogical experiment, we came to the conclusion that the developed training courses based on Crash technology showed high effectiveness due to compliance with the principle of visualization. The results of the survey of students confirm the desire to work with interactive tools in the classroom. Didactic means of Crash technology have increased the effectiveness of teaching. We would like to note that the experiment was conducted in humanities classes. We believe that Crash technology should be used in teaching other disciplines. For example, in the process of training future engineers, but with changes in the didactic means of the proposed technology.

Keywords: "Crash" technology, didactic means, information and communication technologies

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1. Introduction

The problems of the digital economy development as part of the global ecosystem are discussed quite often. But its formation is impossible without the development of digital competencies of young people because digital literacy can be developed in a specially created digital educational environment. This means that the educational process should also be digital, corresponding to the realities of the modern world. Today, the use of information technology in education is an important issue for the professional competence of teachers. Teachers must acquire special professional competence in modern ICTs and learn how to use them in educational and methodological aspects.

On the one hand, the relevance of this study is due to the needs for students in mastering a foreign language at a new qualitative level. On the other hand, foreign language teaching today is often digital, which causes difficulties for teachers and students. Digitalization of education involves the individualization of learning and the use of all kinds of digital resources to optimize the acquisition of knowledge and skills.

2. Problem Statement

The problem of creating a digital educational environment was studied by Velikhov, Gelfman, Krasovsky, Melamud, Minin, Parodzhanov, Robert, Starodubtsev. Korotenkov, Ilchenko, Zaitseva, Soldatkin, Goura, Sayra, Goura, Saikov, and others. The phenomenon of digitalization in scientific and philosophical contexts was considered by such authors as: Stepanova, Fedotova, Nikiforov, Shulman, Efremenko, Kuzmin, Letov, Yudin, Gorokhov, Karpov, Lebedev, Rakitov. Bortsov, Konstantinovsky, Zborovsky understand this phenomenon as a universal innovation. Asmolov, Bespalko, Lapchik, Mashbitz, Monakhov, Polat consider psychological and pedagogical bases of information technology application in education.

For this study, the concept of digital competencies was studied. Many scholars emphasize the particular relevance of this concept in modern conditions, as digital technologies have wide applications. Scientists note that teachers do not fully use digital tools for pedagogical purposes. Extensive pedagogical support in the creation of digital learning is needed (Ahel & Lingenau, 2020). The literature notes that digital technology is changing the world so much that a new flexible education system is needed. (Belolipetskaya, 2017). New professions will soon emerge to serve the new hybrid reality emerging from the fusion of the real and virtual world through digital technology. Only a special education system can teach such professions and form breakthrough competencies adequate to the new challenges of the economy (Downes, 2005). Such an education system should take maximum account of the student's characteristics, and form a professional development trajectory, including the necessary competencies. To ensure this process, educational institutions should be in the trend of digital technology development and actively participate in the implementation of the national technological initiative program (DeCino & Strear, 2019). In this regard, scientists propose to move to specific models of the formation of digital competencies. The model is proposed to include market demands, new digital capabilities, and characteristics of the institution and students. Based on the dynamics of the model parameters in real-time, individual educational trajectories and related digital competencies can be formed (Kryukova,

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2018). Foreign scientists suggest using cloud technologies to solve this problem (Sanchez et al., 2019). Digital technologies will provide feedback to students who will be able to see and know their academic needs and digital competencies for a specific, relevant profession in today's job market (Dyakova & Sechkareva, 2019). Other scholars suggest using effective digital competencies of young professionals, complex mathematical models, computer technology, and artificial intelligence to improve educational digital technologies, making them adequate to external challenges, logical in their changes, self-learning, and capable of prediction (Kennedy, 2003).

3. Research Questions

We consider crash technology as one of the most effective teaching methods. It has not yet been considered a pedagogical tool for teachers to increase the effectiveness of foreign language acquisition in the classroom and improve communication skills. The ways teachers work with this technology have not been sufficiently studied. Therefore, the purpose of our study is to identify the effectiveness of the use of crash technology in the digital learning environment.

4. Purpose of the Study

The aim of the study is to identify the educational potential of Crush technology as an effective didactic tool for teaching students.

5. Research Methods

Research methodology: competence approach, as well as the ideas of environmental, personal, and activity, approaches in pedagogy and psychology.

Research methods and techniques: theoretical (analysis of philosophical, social, psychological, and pedagogical literature, scientific materials, and publications on WEB 2.0 technologies; analysis of crash technology research experience; comparative analysis); empirical (observation of educational processes in digital technologies, systematization of the information).

6. Findings

Digital learning is more than just providing students with a laptop. Digital learning requires a combination of technology, teaching, and digital content. Digital education has revolutionized the traditional classroom learning process by making learning mobile, interactive, and engaging for today's generation of students. Most institutions have embraced digital education as a solution to the complex challenges of organizing learning during a pandemic, while the traditional education system has been on hold for some time (Amhag et al., 2019).

Currently, there is an overuse of Internet resources in all aspects of human life. Adaptation of the learning process takes place through computerization. Schoolchildren and students use the Internet for self-development, participation in online Olympiads, projects, and preparation of materials for homework. (Deng & Burlakova, 2019). Schoolchildren and students of the new generation have little interest in

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outdated facts from school textbooks, and there is not enough time in the classroom to learn anything more than the curriculum. This is why there is a need to use digital technology in education. (Akhmetzhanova & Yuriev, 2018).

"Crash" in English means intensive, giving immediate effect. In M. Webster's American Dictionary, "Crash" is defined as marked by a concerted effort and effected in the shortest possible time especially to meet emergency conditions / "marked by an effort and effected in the shortest possible time especially to meet urgent conditions. The following example was given in this dictionary: "a crash renovation program," which denotes an educational program mastered in the shortest possible time. (Merriam-webster.com, n.d.).

According to the Cambridge Academic Content Dictionary, the term "Crash" is defined as "quick and involving a lot of effort," that is, "quick and requiring a lot of effort," the term "Crash" is used in the phrase "crash course" (a course that teaches you a lot of basic facts in a very short time) as "a crash course in various fields, such as science, cooking, etc" (Cambridge Dictionary Online, n.d.).

At the origins of the emergence of technology "Crash" in the educational process are the concepts of scientists-methodologists: Lozanov, Kitaygorodskaya, and Passov, who conducted research in the field of intensive and communicative teaching methods (Shchukin, 2010).

After reviewing the works of the above authors, we defined the term "technology Crash" as one of the types of modern digital pedagogical technologies. It is an intensive method of learning, implemented with the help of computer programs and other electronic devices.

Information and communication technologies empower students, give them access to a wide range of web tools, increase their self-confidence and contribute to the removal of stress in the process of solving difficult learning tasks.

In this article, we also consider what type of technology Crash refers to – blended learning or ICT-supported learning. According to the Sloan Consortium, the basic educational model can be defined as:

- the share of ICT in the educational process;
- the role of ICT in the learning process;
- the role of the teacher in the e-learning process (Moore, 2002).

The criterion is based on the percentage content of information and communication technologies in the educational process. It can range from 30 to 79 percent. It is worth noting that this range allows for blended courses with a competing instructional component (30–50 percent ICT courses) as well as distance learning (50–79 percent ICT courses) (Moore, 2002). The next category, in which the proportion of information resources in the educational process ranges from 0 to 30 percent, includes individual courses with ICT support. Thus, Crash technologies can be classified as ICT-supported courses.

Experimental work took place on the basis of the Academy of Social Management in Moscow. A group of first-year students took part in the study. The average age of the students was 18–19 years old. The total number of students is 51. The total weekly load of each group was 6 hours of English.

The experiment aimed to test the "Crash" technology and to determine the effectiveness of the use of this technology in the process of foreign language teaching.

During the study, we created a set of exercises including the following components: podcasts, interactive applications, the mind-map method, and "tag cloud". Experimentally we found that the most

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relevant interactive exercises are: the grammar quiz "Grammar Interactive Monkey Fun Game", the communicative game "Gather useful information", mnemonic cards from the application Games to learn English, and learning popular songs in English.

Teaching a foreign language on the basis of "Crash" technology was conducted in three stages. In the first stage, the level of foreign language proficiency of the students was determined. In the second stage of the experiment, a comparative analysis of the results of two tests on the level of language proficiency was carried out. In the third stage, a questionnaire survey of students was conducted to determine their attitude toward learning English with the help of "Crash" technology.

To achieve the goals of the research we developed a set of instruments: primary and final tests on the formation of lexico-grammatical skills and listening skills, and primary and final tests on reading. The Oxford Language Test with CEFR orientation was chosen as the language proficiency test. The purpose of the test was to determine the level of English proficiency.

Figure 1 shows that during the initial testing of lexico-grammatical skills and listening skills there were no statistically significant differences between the experimental and control groups. The English proficiency level of both groups was A 1.

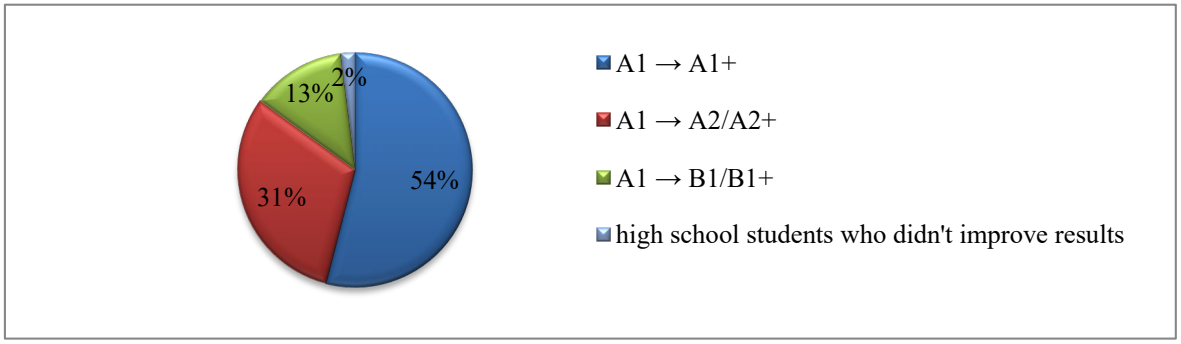

Figure 1. Results of proficiency testing in the 2020 academic year

After one month of learning a foreign language on the basis of "Crash" technology, we observed the following dynamics. 49 students (98 %) improved their English proficiency: 27 students (54 %) went from B1 to B1+; 15 students (31 %) went from A1 to A2+; 6 students (13 %) went from A1 to B1. One student (2 %) could not improve his or her grade.

At the same time, we tested the reading skills of the control and experimental groups according to the English language assessment requirements.

Table (1) shows the average scores of the control and experimental groups for comprehension and reading techniques.

Table 1. Reading tests in the experimental and control groups of students

Name of group	**Primary reading, %**			**Final reading, %**		
Group score	High level	Average level	Low level	High level	Average level	Low level
Experimental gr.	13	21.7	65.2	52.1	34.8	13.1
Control gr.	7.1	32.1	60.7	14.2	39.3	46.4

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In the preliminary reading test, both groups performed poorly. However, the control group showed a slight improvement in the final reading. The control group made many errors in pronunciation when reading aloud and reading comprehension, and it was evident that the students had poor language comprehension skills. The pace of reading was slow, and students could not explain what the text they were reading was about. The experimental group had good reading comprehension skills compared to the control group, with 12 students (13 %) showing high levels of achievement and demonstrating reading without pronunciation errors and text comprehension. An analysis of the results of the control experiment indicates that the students in the experimental group improved their reading comprehension performance during the control experiment due to the use of Crash technology.

A questionnaire survey was also conducted during the study. 159 people aged 18-19 took part in the questionnaire. The purpose of this survey was to identify the attitude of students to the use of "Crash" technologies in the process of teaching a foreign language.

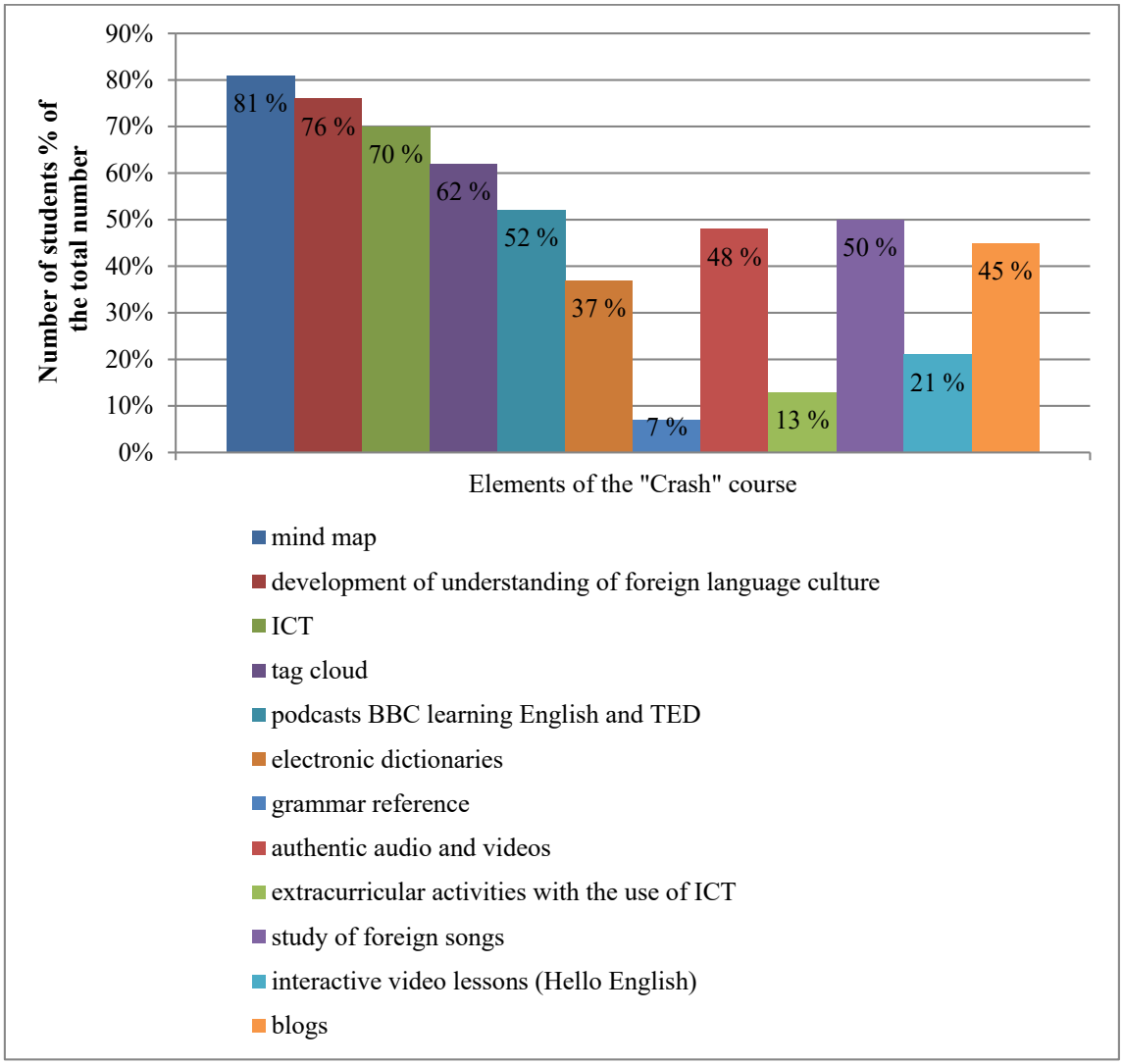

Figure 2. The results are based on the analysis of students' answers to the question: What elements of "Crash" technologies do you consider useful in learning English?

The survey conducted among the 1st year students showed that the majority of respondents noted those elements of Crash technology that are useful in learning English (Figure 02): mind maps, ICT, developing an understanding of foreign language culture, using podcasts, tag clouds, and working with foreign songs.

We would like to note that training and knowledge control with the help of Crash technology were also conducted in other disciplines of the humanities cycle. But due to the limitations of the volume of the article we have cited the results of our colleagues - foreign language teachers – as an example.

7. Conclusion

According to the results of the pedagogical experiment, we came to the conclusion that the developed educational course of a foreign language on the basis of Crash technology showed high efficiency due to compliance with the principle of visualization, as evidenced by the test results. The results of the student survey confirm the desire to work with interactive tools in the classroom. Various didactic means of Crash technology allowed increasing the effectiveness of teaching the discipline. We would like to emphasize that the experiment was conducted in humanities classes. But we believe that Crash technology should also be used in teaching other disciplines. For example, in the process of training future engineers, but with a change in didactic means of the proposed technology.

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