

# Digital tools in education as an integral part of teaching a foreign language in higher school in the context of large-scale digitalization of society

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**Abstract.** One of the pillars of the United Nations 2030 Agenda for Sustainable Development is quality education. It aims to provide inclusive and equitable quality education for all. Digital technologies have become an important tool to achieve this goal. Technological advances in education have made life easier for students. Instead of using pen and paper, students now use a variety of software and tools to create presentations and projects. Unlike a heavy book, browsing an e-book is easier. These methods contribute to increasing interest in research. The article briefly talks about the need to use digital technologies in education. Higher education institutions are undergoing major changes. They are caused by many factors, the main of which is the large-scale digitalization of society. Digital technologies demonstrate a number of tools chosen for teaching a foreign language in higher education. The purpose of this study is to provide an overview of the distinctive features of the digital transformation process that has taken place in higher education institutions. In addition, the article considers digital learning as part of the ecosystem of modern higher education.

## 1 Introduction

Sustainable development includes social well-being, which depends on education. Information technology emerged to disseminate general knowledge and is the main driving force behind education reforms [1]. The introduction of new technological learning tools such as mobile devices, smart whiteboards, MOOCs, tablets, laptops, simulators, dynamic visualizations and virtual labs has changed education in higher education. That is why the issue of studying digital technologies in the system of higher education remains relevant.

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Based on the requirements for the modern competence of the graduate and the focus on the concept of LLL (life-long learning - continuous education), modern students must constantly hone their skills in digital tools, and this applies to any taught discipline [2].

The objectives of the work are:

- 1) improving the language and professional competence of students;
- 2) increasing the overall motivation of students to learn.

The methods of this work include operational-activity and research methods.

The object of the work is gamification techniques, online tools for testing students' knowledge, interactive maps, innovative ways of presenting and communicating information (presentations), resources for creating large projects (books, websites, videos).

The subject of the work is the applicability of the above tools to improve the level of professional English proficiency and the general motivation of students to learn.

The relevance of the work is due to the need to improve the digital competence of students.

## 2 Research Methodology

To begin with, we want to draw attention to the definition of the concept of “digital technology”. Digital technologies include hardware and software used by students for educational, social and/or recreational purposes at school and at home [3]. These technologies include desktop computers, mobile devices (laptops, tablets, mobile phones, smartphones, PDAs, game consoles), Internet resources (information, multimedia and communication resources; Web 2.0 technologies), digital recording devices (data logging equipment, digital microscopes, flip cameras, smartphones, voice cameras and video recorders), interactive whiteboards, and a range of software that promotes learning and recreation.

Faced with the technological apparatus, higher education educators are constantly faced with the challenge of preparing future professionals using digital technology, or ICT, as an innovative teaching tool integrated into the lives of students.

Many educational scholars have proven that ICTs are particularly suited to providing individual differentiation due to their algorithms that allow for individual learning paths. It is shown that taking into account differences in the level, interests and styles of learning between students improves the motivation of students, and neglecting these differences can lead to a decrease in academic performance for some students [4].

Based on the experience of working in modern higher education, we can state the obvious advantages of interactive computer technologies over conservative methods:

1) the relationship between advancement in the game and external rewards, when scoring points, students see their progress, firstly, immediately, secondly, there is no subjective (teaching) component in the assessment;

2) the involvement of the emotional component (mostly positive emotions, since the games selected / created by the teacher are feasible for the student) and associative connections, which contributes to better learning of vocabulary;

3) repeated repetition of a particular game to fix new knowledge and skills;

4) the competitive nature of games increases the competitiveness of students, making ratings in some games and quizzes (Kahoot, Quizlet, Menti) creates a positive motivational effect;

5) an unobtrusive offer to students to create their own educational games for themselves / classmates / parallel groups increases the level of independence, assimilation and

consolidation of the material, contributes to the fact that even students who are lagging behind and missing classes can show their best side;

6) the use of games in combination with other educational resources creates a kind of hypertext (professional-oriented discourse) [5]. Therefore, it is possible to argue that the use of gamification affects the psychological state of the student, which, in turn, allows you to have a certain impact on learning.

Since going into virtual reality and the way to achieve achievements can be relatively easy to create addiction due to the positive association of online games with the ability to reduce stress, studies have shown that the teacher should prescribe the timing when compiling the curriculum.

Let's now look at some useful resources in more detail. All are offered free access and all have been tested in class with students [5]. Also, these gaming interactive technologies can be used as an optional part of homework (then students then provide a short written or oral report in English), to start (warmer activities) or complete (round-up) classes.

Relatively speaking, these games can be divided into several categories: sites with ready-made games and sites where you can create your own, resources for practicing professional vocabulary, grammar, general language competence, knowledge control, quizzes and quizzes.

“Ready” resources:

In this category, we distinguish several subsections:

- 1) resources aimed at the formation of certain narrow skills;
- 2) resources that “level” the possession of vocabulary and grammar to the extent necessary for studying at the university;
- 3) resources aimed at building vocabulary;
- 4) resources to improve general language competence;
- 5) resources aimed at developing professional vocabulary;
- 6) resources aimed at improving professional competence.

Presentations.

In the modern educational paradigm, students have to repeatedly use various resources to create their presentations and presentations [4]. In January 2023, the authors of the work conducted a survey on the topic of presentations and resources used by students.

The survey, posted on Google forms, was attended by 602 students from various universities of the Russian Federation (Financial University under the Government of the Russian Federation, National Research University Higher School of Economics, Russian Open Academy of Transport, Peoples' Friendship University of Russia, Moscow State University, Moscow State University, Krasin, Russian State University for the Humanities, Moscow State Technical University named after N.E. Bauman, RANEPa, Russian Academy of Sciences named after Gnesins, Moscow International University, NRU MGSU, Synergy, University of the Prosecutor's Office of the Russian Federation, Russian State University, Leningrad State University named after A.S. D. I. Mendeleevva, BSU, Ryazan State Medical University, Vyatka State University, Tolstoy State Pedagogical University, TUSUR, TSU, KFU, Siberian Federal University, Siberian State Technical University, M. F. Reshetnev Siberian State University, V. P. Astafiev KSPU, NSU, NSPU - a total of 36 universities and 1 college, one student preferred not to indicate the place of study) [8]. There were 373 representatives of the Financial University under the Government of the Russian Federation (students of various specialties and faculties, mostly not our students), but nevertheless we can talk about the good geographical representation of the survey participants. The results showed that there is no direct correlation between the educational institution and the number of presentations that a student should prepare in the

learning process [7]: just over 75% of the students surveyed prepare presentations on an ongoing basis, i.e. 6 or more times a year.

However, 77% of respondents admitted that they learned how to prepare presentations on their own and do not have sufficient skills. Power Point is still the most popular (98.5%) presentation tool - with rare exceptions, respondents chose this option. It is assumed that such popularity can be explained by the fact that most students get acquainted with this program at school. At the same time, students noticed in the comments that high-quality visualization is rather rare among student presentations.

One of the research questions concerned the so-called Flash-presentations, however, almost 67% of respondents find it difficult to identify such a tool [5]. In this case, we are not even talking about its use. 30% of respondents indicated that they use this kind of presentations, but rarely, since this is a less familiar format for them, which takes more time to work with compared to traditional ones, however, the students' own experience of the authors of the article with presentations in the Prezi and eMaze format proves that the labor costs are the same as when working with more traditional programs.

The authors suggested that students try out various forms of presentation presentations that are alternative to the traditional Power Point tool. The list of recommended resources was compiled by the teacher, in addition, students offered their own options. The most popular resources were Ayoa, Google, Pictochart, Mentimeter, Prezi, Inshot. All presentations were accompanied by an oral story of the students.

So, we can sum up this section, the students accepted with interest the proposal to prepare presentations in an unconventional form, used English-language online services and mastered the skills of working with data visualization [4]. During the preparation process, students decided in pairs or individually which design to use, and this contributed to the formation of the skill of presenting data in a visual, understandable and concise manner.

Projects.

Conducted by a student of the Financial University showed that students of Moscow universities prefer traditional education, but at the same time would like to use ICT and gamification more often.

At the same time, foreign experience proves the effectiveness of using digital tools both for educational purposes and to improve the ability to cope with extracurricular tasks. In addition, the use of digital teaching technologies can reduce stress and nervous tension when preparing for exams.

One of the projects implemented in 2018-2019 is the creation of a book on the Book Creator service. This is a free service for creating interactive comics, every month 2 million books are created on the portal. There are special book templates for higher education in various subjects, as well as an iOS application [5]. Students studying at the Faculty of Management with a degree in personnel management took part in the creation of the book.

The book is a complete multimedia service project, that is, a project that involves the participation of students in the implementation of organizational processes as an executor (technical training teaching materials, assistance in the process of conducting classes, support for conferences, etc.). Each chapter of the book is accompanied by a presentation that can be downloaded or viewed in a browser, as well as an oral presentation by the student on the topic.

As part of the creation of the book, students changed roles, one was the author, and the second was the editor, then they changed roles and filled out a report on the work done according to the template provided by the teacher [7]. This cross-cutting challenge was designed to develop critical thinking while providing a vocabulary for kind but constructive criticism. Students had to learn not only to conscientiously collect material, analyze data,

shoot a presentation at the right time, but also comply with technical requirements so that individual works of students could be collected in one book with a single format, that is, they had to agree among themselves, argue their position, apply the skills of persuasion and the ability to take a different point of view (which turned out to be a big challenge for students who are accustomed to the rate of modern times on individualization). The project is of practical importance for 1st year students enrolled in this specialty.

### 3 Results and Discussions

Thus, we can summarize that in the process of preparing infographics, timelines and memes, students used their creative abilities, brainstormed and had conversations (when performing tasks in mini-groups and pairs), used educational reflection, therefore, the above forms of work – examples of heuristic learning. In addition, the purpose of the heuristic task is the application by students of critical thinking skills and the principles of self-organization [5]. Summing up, we need to list the hard and soft skills that our students have mastered (Table 1).

**Table 1** Hard & soft skills mastered by our students

Hard skills	Soft skills
Knowledge of current products	Self-discipline, improved time management
The ability to analyze technical resources and identify the most effective for solving the task	Responsibility, development of leadership abilities, the ability to determine and delegate authority
Increasing the level of English proficiency	Acquisition of teamwork skills
Finding Relevant Audiovisual Materials	Ability to listen, hear others and negotiate
Mastering programs, services and applications that are freely available, but which students learned about in foreign language classes	Solving problems and interpersonal conflicts
Data analysis	Development of critical thinking
Mastering the basics of design	Thinking in “results” and “processes”
hard skills	Creative summarization

### 4 Conclusions

In conclusion, it can be noted that any activity that is interesting to the student and is related to the English language benefits general language competence. For students who are hyperactive and accustomed to discrete perception of information, Telegram channels, for example, Puzzle English, Wordee, Hot Idioms, Learn English, English for Life, English Day by Day, etc., can be useful for expanding vocabulary.

Thus, we determined that as digital tools in foreign language classes, first of all, interactive games using multimedia tools, the Internet, exercises, video and illustrative projects created by students stand out. Such didactic games and projects allow not only to increase the motivation to learn a business foreign language, but also to organize interactive interaction of students with the information and educational environment, to master

professional vocabulary in an innovative form. Students learned such new forms of information presentation as infographics, timelines, memes, mental maps, flash presentations, creating a book, websites and videos. The development of a synopsis using digital resources in the practice of teaching a foreign language implies the traditional process of pedagogical planning with an appeal to innovative forms of presenting educational material.

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