

MSC 2020**International Scientific and Practical Conference «MAN. SOCIETY.
COMMUNICATION»****DIDACTIC POTENTIAL OF DIGITAL TECHNOLOGIES IN
FOREIGN LANGUAGE TEACHING OF UNIVERSITY STUDENTS**

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Abstract

The article focuses on the use of digital technologies in the learning process. According to the authors, digital technologies can be considered as a comprehensive means of teaching a foreign language in a higher educational institution. In this regard, the urgent problem is the organic combination of traditional learning with the introduction of information and communication technologies and the methodically correct organisation of the educational process. The article reveals didactic potential of digital technologies that contributes to intensive foreign language practice. The research is aimed at the theoretical substantiation of pedagogical effectiveness of digital resources for developing foreign language competence and generalization of the results of experimental training using information and communication technologies in foreign language teaching of non-linguistic students. The cluster of digital resources used by the authors in the teaching process is suggested. To verify the productivity of introducing digital resources in foreign language training of university students the authors conducted the pedagogical experiment using the methods of scientific research. The dynamics of students' foreign language communicative competence formation was determined including mastery of skills in listening, reading, speaking and writing. The results of the pedagogical experiment proved the effectiveness of using information and communication technologies in enhancing students' learning, increasing motivation for foreign language acquisition, creating favourable conditions for developing students' speech skills, independent learning skills and self-control.

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Keywords: Communicative competence, digital technologies, non-linguistic students



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1. Introduction

A distinctive feature of the development of modern society is the process of informatization of all its spheres which implies the wide use of digital or information and communication technologies (ICT). The use of ICT is an acute problem because these learning tools meet the needs of modern higher education. They provide a new step towards organizing the educational process because the Internet resources reveal the reserves of the teaching process and students' personality, extend the didactic capabilities of the teacher, facilitate his work, allowing to shift the most complex and labour intensive part of the study to these technologies. The analysis of the pedagogical practice shows that modern language education is also characterized by the active use of various technologies, among which digital technologies occupy a significant place. It should be emphasized that the development of the Internet technologies has had a big impact on the way of teaching foreign languages. Traditional techniques are losing their properties of being the most convenient and efficient and need to be optimised according to new standards and rapid pace of life (Bolgov & Dunaeva, 2016; Dudeney & Hockly, 2012).

In the context of the problem being studied, it is necessary to identify the conceptual apparatus of this research. The key concept used in this article is the term "digital technologies", which refers to information channels and software for creating, collecting, storing, transmitting, processing and using information (Sysoev, 2013; Voevoda, 2009). Another key concept considered in this study is foreign language communicative competence, which is the goal and result of students' language training. The program of foreign languages training for non-linguistic universities involves a transition to such an organization of the educational process, when the emphasis is placed on the creative activities of students as a condition for increasing their competitiveness and mobility in their professional field. The main task is to achieve the necessary and sufficient level of foreign communicative competence to solve social and communicative problems in various fields of professional and scientific activity when communicating with foreign partners, as well as for further self-education (Ter-Minasova, 2009).

The problem of finding the most productive ways to improve students' mastery of a foreign language has induced the authors to hypothesize that the use of digital technologies is one of the best ways to effectively form foreign language communicative competence and self-development of students in a non-language university.

2. Problem Statement

Currently, in the Russian system of higher education improving the language training of students of non-linguistic universities and creating optimal conditions for increasing its quality seem to be the most important tasks facing teachers of a foreign language. The formation of foreign language communicative competence is aimed at ensuring the self-realization of the student as a linguistic personality, capable of effectively interacting in an intercultural context (Kuzhanova & Klets, 2017).

However, we have to admit the fact that the quality of the language training of the majority of non-linguistic graduates leaves much to be desired. The declared high goals of foreign language training of future specialists are faced with rather rigid academic realities that objectively do not ensure their

implementation. Let us outline the factors causing the imbalance in teaching a foreign language in non-linguistic areas:

- different initial level of language acquisition;
- different linguistic capabilities of the students;
- limited number of academic hours for a foreign language course;
- the prevalence of traditional teaching methods and the lack of informatization of the educational process.

Thus, taking into account rather low initial level of foreign language proficiency and the limited number of class hours devoted to language training in a non-linguistic university, we note that it is necessary to create a fairly intense and rich learning format in which a wide range of modern information and communication technologies will be presented (Klets et al., 2018).

The analysis of the scientific and methodological literature on the research topic shows that an impressive body of works has already been formed in the scientific and educational resources, in which the authors developed teaching methods for aspects of the language, types of speech activity and culture through a certain Internet technology and revealed the effectiveness of its use in the educational process (Ashcroft & Imrie, 2014; Dolgova et al., 2019; Osipova et al., 2017; Scaddan, 2009; Sysoev, 2013; Voevoda, 2009). Researchers agree that ITC have the following didactic characteristics: a) multilanguage and multicultural Internet environment; b) multimedia; c) multi-level Internet resources and their multi-genres; d) hypertext structure of documents; e) possibility to organize synchronous and asynchronous communication.

However, based on a study of scientific sources, it was revealed that there is an insufficient number of publications devoted to generalizing the experience of using various digital resources in the system of teaching a foreign language to students in non-language areas of training. In the context of this study, the authors aim to test various educational online platforms and identify their productivity for the development of students' speech skills.

3. Research Questions

Within the framework of this research, we will define theoretical basis of digital technologies and reveal the didactic potential of them in foreign language training. We will also describe computer technologies that we use in the teaching process and represent results of the pedagogical experiment that we conducted to verify efficiency of ICT in students' mastering a foreign language.

4. Purpose of the Study

The goal of our study is to identify the didactic and methodological potential of digital technologies in order to optimize the process of forming foreign language communicative competence of non-linguistic students, as well as to generalize the experience of integrating information and communication technologies into foreign language teaching of undergraduate students of Pskov State University. The object of the

research is the process of language training of students of non-linguistic areas. The subject of the study is digital technologies as a tool for the development of speech skills and abilities, which form the basis of the foreign language communicative competence of undergraduate students of non-linguistic training areas.

5. Research Methods

To substantiate the relevance of this research the theoretical and empirical methods were used. As theoretical research methods, an analysis of the scientific and pedagogical literature on the problem, system analysis, and synthesis were used. On the basis of this analysis we made the conclusion about the necessity of modelling the process of teaching foreign languages by means of computer technologies.

Practical realization of using ICT in language teaching was implemented within the framework of the pedagogical experiment. So, the empirical part of the study was to generalize the experience of integrating ICT into the process of teaching a foreign language, as well as to organize, conduct, process and interpret the results of experimental training using methods of observation, interviewing, testing and analysis of the products of students' speech activity.

6. Findings

As a result of our research, we came to the conclusion that the educational paradigm of communicative method demands new forms and methods in developing communicative competence at foreign language lessons. In our opinion, one of the most optimal and promising ways to implement the above tasks is the digital or information and communication technologies used in combination with other modern pedagogical technologies, such as problem solving, discussion, role playing, project technology, etc. It should be emphasized that the use of computer technologies in foreign language education should not radically change the traditional learning process, it is only intended to diversify and organically complement it. At the same time, the role of the teacher is significantly changing. We agree with the scientists who state that the task of the teacher is in supporting the creative search of students, in developing independent work skills, in counseling, cooperation and joint creativity (Choi et al., 2018; Evstigneev, 2011; Golovko et al., 2019; Gratyshina et al., 2019).

6.1. Methodological potential of digital technologies in foreign language teaching

The analysis of the theory and practice of foreign language teaching indicates that there are many advantages of integrating Internet-resources in the process of learning foreign languages. We found out that the use of ICT in the process of teaching a foreign language provides a solution to the following methodological problems:

- saving study time as this training tool performs the following functions: a means of preparing, maintaining and storing information as well as a means of optimizing and modeling educational process;
- availability of virtual forums and a variety of educational means in text, audio and video formats; the ability to work with hypertext and multimedia;

- possibility of anonymity and work at an individual pace choosing a convenient time and place of work;
- realization of students' creative potential and the development of critical thinking;
- creating an authentic language environment and effective assimilation of material by activating different senses;
- increasing motivation for the implementation of foreign language activity and cognitive interest;
- organization of intensive foreign language communication; the formation and improvement of language and speech skills by multiple repetition of material in various formats;
- acquaintance of students with the features of intercultural communication, linguistic and regional realities;
- the opportunity to correlate theoretical material with practical skills;
- the teacher's guidance through the use of interactive methods and effective feedback; the ability to automatically check and self-test.

6.2. The cluster of digital resources for foreign language training in a non-linguistic university

Let's consider the entire spectrum of multimedia and the Internet resources in the educational process. Actually, modern information and communication technologies represent a whole range of training tools. In general, modern ICT can be systematized into three groups: 1) demonstration ICT (multimedia presentations and white board); 2) multimedia training programs, which are a combination of computer technologies that simultaneously use several information environments and representing a collection of texts, accompanied by audio and video materials, graphics, photos, tables, diagrams, exercises (hotlist, scrapbook, treasure hunt, subject sampler, webquest, etc.); 3) communication technologies that create the conditions for organizing synchronous (chat, Skype technology, WhatsApp, Viber) and asynchronous (e-mail, web forum, blogs, podcasting, sites, wiki, YouTube, etc.) communication between Internet users. Besides, there are available such resources as search systems Google, Yandex, reference directories Galaxy, Yahoo!, etc. (Haythornthwaite & Andrews, 2011; Katermina, 2019; Martín et al., 2019; Polat, 2007).

The authors of this research have extensive experience in using a considerable number of digital technologies in foreign language education of undergraduate students of Pskov State University. It should be noted that we are based on the BYOD concept in teaching foreign languages with ICT. Let us consider this notion in more detail.

The term BYOD stands for the following: "Bring Your Own Device". Nowadays BYOD is a global concept commonly used to mean permitting employees or students to bring personally owned mobile devices (laptops, netbooks, tablets, smartphones, etc.) to their workplace or educational institution and to use those devices to access corporate, institutional and other information, applications and services (Attawell, 2015; Osipova et al., 2017; Ribeiro, 2012; Sousa & Rocha, 2019). Along with desktop computers we practice an active use of personally owned mobile devices in classroom activities within implementing such subjects as "The English Language", "Technical English", "English in the Sphere of Professional Communication", "The German Language", "English in the Field of Science", "Business English/German" in the system of foreign language training at Pskov State University.

Actually, our teaching experience proves that due to BYOD technology students become more independent, engaged and motivated during language classes. It gives students the impact to use their smartphones and tablets not only as a source of entertainment, but as a great source of self-education, which is presented in a new innovative way. The teacher's task is to show useful web platforms to students and teach them to work with corresponding computer programs. Constant involvement of personal portable devices in study process increases performance at the lesson, enhances digital literacy and lead to the development of soft skills, such as critical thinking, problem-solving, creativity and self-study.

It should be noted that one of the important areas of teaching a foreign language is the organization of independent work of students using digital technologies. That is why along with classroom work, we actively use the elements of blended learning, which is traditionally understood as a model that integrates face-to-face education and electronic distance training (Marsh, 2012). Blended learning allows to harmoniously use the benefits of e-learning and helps students develop self-study skills. This ensures the personalization of the learning process, its flexibility and accessibility, as well as the diversity of student interaction in various modes. It is obvious that blended learning has become a most popular trend of modern linguistic education (Ghazizadeh & Fatermipour, 2017; Scaddan, 2009).

It is worth mentioning that there are several basic models of blended learning approach (BLA) used in the teaching process. They respond to various linguistic, cognitive, social and emotional abilities of students. In this article we dwell upon two types of BLA which are usually implemented in our foreign language teaching. Firstly, it is blended learning with minimal amount of on-line materials presented at the lesson (up to 25%). It is appropriate to use this type of BLA while training students' spontaneous speech with the help of pictures, memes, quotes, catch phrases, etc. Using this approach does a great job in making warmer-ups. Secondly, it is blended learning where online activities occupy the significant part of a lesson (no less than 45%). This type suits best for grammar checking, surveys, work with audio- and video content. This learning model is preferred when organizing distance learning and student self-study.

Thus, after analyzing the didactic and methodological potential of educational platforms and Internet resources we used them in the teaching process. We summarized the most productive of them in Table 01. It should be mentioned that these language applications are extensively used by students as many of them are available for free. The task of a teacher is to recommend qualitative language learning applications to students and give impetus to use them in appropriate cases. These applications are useful not only in class, but also out to do home task or for self-study.

We came to the conclusion that these digital resources ensure the effective organization of students' language training and contribute to the development of students' basic speech skills which are the main components of foreign language communicative competence:

- 1) writing (creating comments on podcasts, correspondence by email, on blogs);
- 2) reading (familiarity with the content of text sites, audio scripts in podcasts, reading messages in e-mail and blogs);
- 3) listening (listening and viewing podcasts);
- 4) speaking (presentation of the results of project activities, producing dialogues of audio scripts from podcasts in the classroom, students' texts based on information from the Internet).

Table 1. Digital resources for teaching a foreign language in a non-linguistic university

Digital Resources	Skills to be developed	Types of activities the technologies are used for
“WebQuest.org” [https://webquest.org]	reading, speaking, writing	an inquiry-oriented lesson format; cooperative learning (synthesis, analysis, problem-solving, creativity and judgment); reading practice; good for group work in class
“Online Test Pad” [https://onlinetestpad.com/]	Reading	testing (grammar and vocabulary tests); can be used both in class and for self-study
“Hot Potatoes” [https://hotpot.uvic.ca]	reading, speaking	interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises; reading practice; good as a homework watching real-world videos; vocabulary practice;
“FluentU” [https://www.fluentu.com]	speaking, listening, writing,	individual speaking activities and group discussions; can be used both in class and for self-study
“BUSUU service” [https://www.busuu.com/]	reading, listening	vocabulary and grammar practice; reading practice; interactive tests; good for self-study
“VOXY” [https://voxy.com/]	reading, listening	task-based language learning; reading practice; vocabulary practice; playing games, solving the quizzes; good for self-study
“Anki” [https://www.ankisrs.net]	reading, speaking, listening	vocabulary practice, translation work, pronunciation practice; good for self-study, individual and group work
“Wordengine” [https://www.wordengine.jp]	reading, speaking, writing	vocabulary practice, conversation practice, critical thinking exercises, composition writing; reading practice; can be used for preparation to international exams: TOEIC, TOEFL, IELTS; good for self-study, individual and group work
“Kahoot!” [https://kahoot.com/]	reading, speaking, listening	game-based learning platform; multiple-choice quizzes, reading practice; good for students’ knowledge revision and for formative assessment in class; can be also used for self-study
“Quizlet” [https://www.quizlet.com/]	reading, speaking, listening, writing	vocabulary practice; matching exercises, spelling exercises; internet-based writing activities; reading practice; good for individual and group work; can be used as a home task
“Linguasorb”[https://www.linguasorb.com/]	reading, speaking, listening	vocabulary practice, pronunciation practice; games, quizzes; reading activities; good for self-study
“British Council” [https://learnenglish.britishcouncil.org/]	reading, speaking, listening, writing	grammar and vocabulary practice; watching videos; writing activities; listening practice; reading practice; interactive exercises; good for self-study, individual and group work
Language social network “Speaky” [https://www.speaky.com/]	speaking	speaking practice with native and non-native speakers; good for self-study
Public international broadcaster “Deutsche Welle” [https://www.dw.com/]	reading, speaking, listening	watching real-world videos; reading practice; vocabulary practice; listening practice; group discussion, individual activities; can be used both in class and for self-study
YouTube channel “Deutsch mit Marija” [https://www.youtube.com/]	listening, writing	watching videos; listening practice; writing practice; can be used for preparation to international exams: Goethe-Zertifikat, TELC; can be used both in class and for self-study

6.3. Results of the pedagogical experiment

The effectiveness of the use of ICT technologies in the process of teaching a foreign language was identified during the experimental work for two semesters (from February 2019 to January 2020) in the academic environment of Pskov State University.

Let us consider the course of experimental training and analyze its main results in detail. The pedagogical experiment was attended by 120 undergraduate students of non-linguistic profiles studying English and German in the 1st and 2nd courses. This contingent of students was divided into two groups – control and experimental.

The pedagogical experiment included two stages: 1) ascertaining and 2) forming. At the ascertaining stage didactic and methodological possibilities of using ICT technologies as a means of developing students' communicative abilities in foreign language classes were identified, the potential of these technologies for the formation of a foreign language communicative competence was examined.

Besides, at the initial stage, in order to clarify the level and further plan of the educational process, the control and experimental groups were offered to undergo language testing, including verification of all types of speech activity: reading, writing, listening, speaking. Test results were subjected to quantitative assessment and were evaluated using a traditional 5-point system (Figure 01).

It should be mentioned that at the forming stage of the experiment, in the control group training was conducted according to the traditional method and in the experimental group with advanced use of modern information and communication technologies. At the end of the experimental work the level of communicative competence development was also determined both in the control and experimental groups on the basis of the test control (Figure 02).

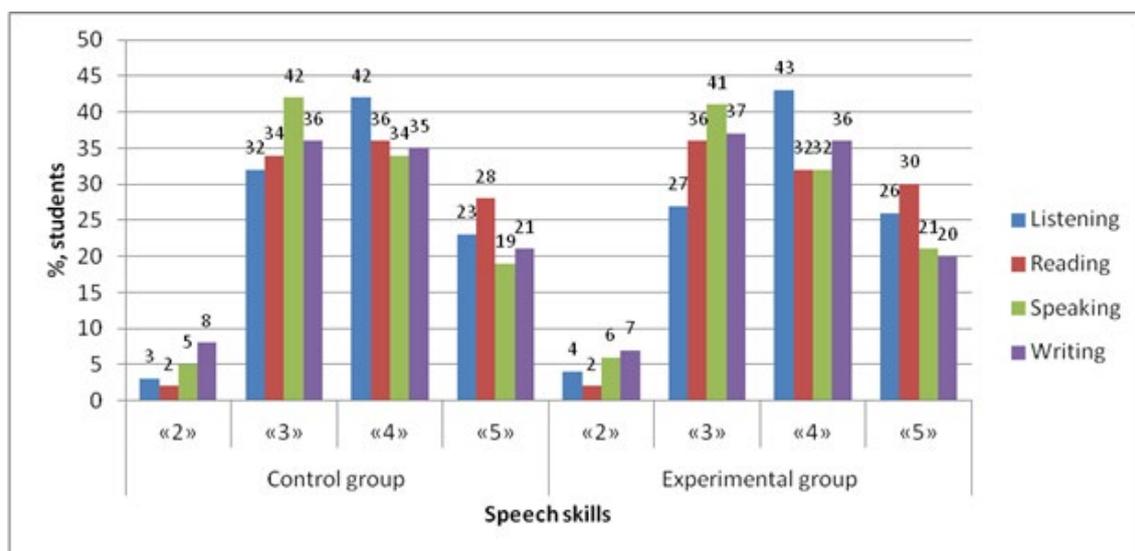


Figure 1. The results of evaluating the level of speech skills development at the initial stage

The comparative data of the tests' results indicate that after completing the training course, positive dynamics in the formation of speech skills was observed both in the control and in the experimental groups. However, in the experimental group these indicators were significantly higher than in the control group.

So, compared to the initial indicators the control group showed the following average growth results of those students who passed the test with “4” and “5”: in listening by 4%, in reading by 7%, in speaking by 6%, in writing by 4%. Accordingly, in the experimental group, an increase in indicators for four types of speech skills gave the following values: in listening by 16%, in reading by 18%, in speaking by 13%, in writing by 21%. It is obvious that an increase in the proportion of students of experimental group with high language proficiency is very convincing.

Thus, the results of the conducted pedagogical experiment revealed significant positive speech skills’ transformation and confirmed the effectiveness of the use of ICT in language training of non-linguistic students.

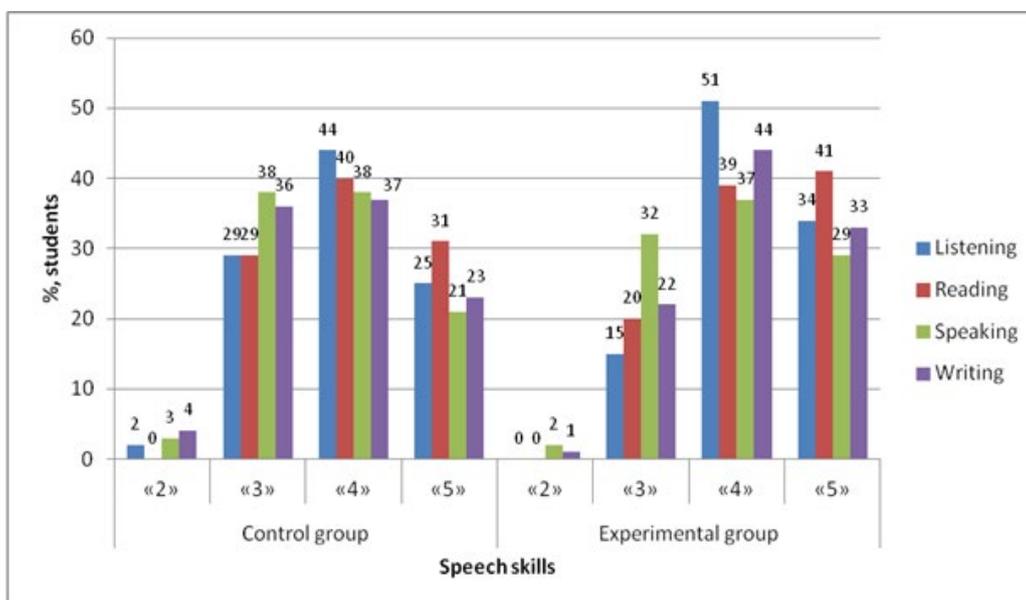


Figure 2. The results of evaluating the level of speech skills development at the final stage

7. Conclusion

Thus, the conducted research allowed achieving the main objectives. We may conclude that modern information and communication technologies have a great number of didactic and methodological properties that must be taken into account when teaching a foreign language based on these technologies. Our studies showed that modern digital technologies contribute to the creation of an educational information environment in which students can form language skills and develop receptive (listening, reading) and productive (writing, speaking) types of speech activity that are the basis of the communicative competence. Moreover, we found out that the active use of Internet communication in teaching a foreign language increases the cognitive interest and motivation for learning, contributes to the development of intercultural and informative competencies. It also should be emphasized that through digital technologies it is possible to create conditions for the development of self-study skills and individual learning paths as well as for the implementation of cooperative learning and reflective activities of students. The development of all of the above aspects takes place in a complex, where each of the aspects is part of a single mechanism for training, education and development of the student’s personality.

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