Linguodidactic Potential of Digital Educational Technologies in Teaching Foreign Languages in Higher Inclusive Education

Viktoriia Slabouz
PhD in Philological Sciences, Associate Professor,
the Department of Foreign Languages,
SHEI “Donbas State Pedagogical University”
Sloiansk, Ukraine
ORCID ID 0000-0003-1810-4054
queen_viktoriya28@ukr.net

Abstract. The relevance of the study of the problem in the article is due to the need to analyze the process of digitalization of higher inclusive education in Ukraine. In this regard, teaching a foreign language requires new approaches to the use of the linguodidactic potential of digital educational technologies to develop the personality of students with special psychophysical development, to increase the level of creativity in their thinking, to form skills for developing a strategy to find solutions to both educational and practical tasks when teaching foreign languages.

The purpose of this study is to substantiate scientifically and practically the linguodidactic potential of digital educational technologies in teaching foreign languages in inclusive education.

According to the results of the study, the article presents the scientific rationale, essence, and structure of the complex application of the linguodidactic potential of digital educational technologies in teaching foreign languages in higher inclusive education.

The theoretical significance of the research lies in the fact that the main theoretical approaches to the problem of the linguodidactic potential of digital educational technologies in teaching foreign languages in inclusive education are analyzed and generalized; the content of the concept of “digital educational technologies” in the system of social and humanitarian knowledge is revealed; the characteristics of digital educational technologies are specified.

The practical significance of the research results lies in the fact that the components of the software-methodical support for using the linguodidactic potential of digital educational technologies in teaching foreign languages in inclusive education are indicated.

The main provisions and conclusions can be used in the process of training scientific-pedagogical personnel and in refresher courses for university teachers who work with students with special psychophysical developmental disabilities. The materials and results of the research can be used in the development of pedagogical programs for the formation of foreign language communicative competence of students with special psychophysical developmental disabilities, as...
well as in the teaching and educational activities of institutions of higher inclusive education. The findings of the study can serve as a basis for further scientific research in the development of the theory and practice of teaching foreign languages to students with special psychophysical developmental disabilities.

**Key words:** computer linguodidactics; linguodidactic potential; digital educational technologies; teaching foreign languages; students with special psychophysical developmental disabilities; interactive teaching methods; components of software-methodical support; inclusive education.

**The problem setting in general.** According to the National Digitization Program in Ukraine, the “strategy for solving the problem of meeting information needs and information support” in various spheres of life has been defined (Conceptual principles (version 1.0), 2016). Among the main directions of the state policy in this aspect the following ones are identified: “to develop the methodological support for the use of computer multimedia technologies in teaching subjects and disciplines”; “to improve curricula, to open new specialities in the latest information and communication technologies, to implement the principle of “lifelong learning”; “to ensure free access to information and communication technologies and information resources, especially in rural areas and hard-to-reach settlements”; “to increase the level of computer literacy of the population, in particular pensioners, low-income people and people in need of social assistance and rehabilitation”, etc. (On Approval of the Regulation on the National Educational Electronic Platform, 2018). Digital technologies allow such people to develop their abilities and talents, acquire professions, communicate with like-minded people, etc. (Lyons, Thompson, & Timmons, 2016). Thanks to ICT, they overcome socio-psychological barriers to learning, gain access to a variety of didactic materials in an accessible acceptable format, and have the opportunity to demonstrate their academic achievements.

Computer linguodidactics is of particular importance in teaching a foreign language. In this new branch of knowledge, the computer is seen as a didactic means since the presentation of educational material occurs in a special way. “Computer linguodidactics is a field of linguodidactics that studies the theory and practice of using computers in teaching a foreign language” (Smirnova, 2007).

Currently, inclusive education is dominated by the traditional approach to teaching foreign languages with the ensuing contradictions due to the lack of realization of the linguodidactic potential of digital educational technologies (DETs) in teaching foreign languages. It is important to revise various types of educational activities in inclusive education in order to modify the methods of teaching a foreign language, implemented with the help of DETs, the use of the capabilities of which
creates the prerequisites for intensifying the processes of learning a foreign language, interactivity, immediate feedback, computer visualization of educational information and the possibility of multiple repetition. It also seems necessary to manage educational and project activities in an organized manner, to monitor the learning outcomes. As E. Smirnova notes, “multimedia technologies accelerate the process of teaching foreign languages, they contribute to a sharp increase in students’ interest in the subject, improve the quality of assimilation of the material, allow individualizing the learning process. Using information and communication technologies (ICT) in teaching foreign languages not only heats the motivation of students, not only makes practical classes more diverse and interesting but also contributes to the lecturer’s self-development and self-education” (Smirnova, 2014).

Information and communication technologies are rapidly changing and improving, but the education sector, unfortunately, does not use them in the most active way. All this entails the need to reveal the linguodidactic potential of the DETs in teaching foreign languages in inclusive education and to revise the paradigm of educational interaction between participants in the educational process and interactive teaching means.

The analysis of recent studies and publications. After analyzing the existing applied software and electronic teaching tools, it has been seen their focus on training and self-control of the knowledge gained, skills of foreign language activity. There is a lack of developments in the use of the DETs for organizing, for example, project activities in foreign languages, visualization of educational information, adaptability to the individual characteristics of each student with psychophysical developmental disabilities (PFDDs). Information that expands the independence of students in the choice of modes of educational activity is presented discretely. The teaching methods of using software and the DETs for teaching a foreign language in classroom conditions has been developed unconvincingly, taking into account the characteristics of students with PFDDs. It is required to develop individual ways of managing educational activities, to adapt the forms of presentation of educational material to the individual specifics of the perception of information.

It should be noted that the problem of the linguodidactic potential of the DETs in teaching foreign languages is mainly studied in the works related to the theory and methodology of teaching a foreign language, by such authors as N. Galskova, I. Zimniaia, L. Merkulova, I. Kirreeva, A. Miroliuibov, S. Ter-Minasova, S. Folomkina, V. Bondar, I. Kalinichenko, A. Kolupaieva, Z. Leniv, V. Synov, O. Taranchenko, A. Shevtsov, M. Shved, O. Bezpalko, R. Vainoly, H. Vasanovych, A. Kapskoi, N. Seiko, V. Bykov, Yu. Nosenko, M. Mariotti, etc. In the works of the mentioned

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scientists, modern approaches to teaching foreign languages are indicated: personality-oriented, communicative and socio-cultural, which seem to be significant in teaching a foreign language to students with PFDDs based on the DETs. It is noted that when teaching a foreign language to students with PFDDs, it is important to overcome the negative properties of control through the creation of a control system for the process of foreign language education using a set of control tools of open and hidden control, correction, observation, as well as a system of self-control and self-assessment of the level of knowledge based on ICT. The attention of the methodologists is drawn mainly to the issues of forming the competency of intercultural communication of students, including using distance education, in order to organize an intercultural dialogue with students of the countries of the target language.

At the same time, this topic is of increasing interest in the framework of the pedagogy of the design of educational systems and processes, sociolinguistics, and knowledge in the field of information and communication technologies (B. Dendev; P. V. Sysoev; M. A. Bovtenko; D. R. Parker; N. Roberts and F. Ferris; K. Wetzel; J. E. J. Woodrow; R. Zambo, K. Wetzel, and R. Buss; B. Aber; V. Blândul; A. Bradea; D. Cameron; D. J. Chambers; L. Cook; M. Friend; J. Njelesani; N. Hui; L. Kincade; S. Main; P. Sarah; D. A. Hurley-Chamberlain; C. Shamberger; R. Tichá; E. Vickery, etc.). In the scientific works of these authors, the methodology and practice of informatization of teaching foreign languages are presented, the issues of creating a special system of general and particular principles that reflect the specifics of computer training at institutions of higher education, as well as the use of ICT tools in the educational process are considered. At the same time, all these authors note that the modern educational paradigm, based on computer teaching aids, is based not on the transfer of ready-made knowledge, skills, and abilities to students, but on the inculcation of self-education skills. But at the same time, it should be noted that the huge linguodidactic potential of the DETs in teaching foreign languages to students with PFDD in inclusive education is currently not used enough.

The analysis of scientific and pedagogical literature in the field of correctional pedagogy and social adaptation of students with PFDDs in teaching a foreign language has shown that the existing system of teaching foreign languages to students with PFDDs is insufficiently directed to the formation of a student’s personality capable of actively participating in the dialogue of cultures. That is why the experience of working with modern technical means, their application in practice, is so important for a future specialist with PFDDs. This can be realized by expanding the range of the DETs application in the educational process. By modifying traditional teaching methods in
inclusive education, working on the creation and implementation of new methods and forms of education, it is possible to promote the development and application of software tools with various functions. However, new software products for foreign languages do not always effectively use the rich capabilities of the DETs for inclusive education. Therefore, it is necessary to identify ways to improve the efficiency of the DETs for students with PFDDs.

The article is prepared on the basis of investigations (pedagogical observation, method of analysis of foreign language communicative competency, generalization of scientific and pedagogical experience in inclusive linguistic education), carried out within the framework of the Philological Faculty of the State Higher Educational Institution “Donbas State Pedagogical University”.

The author has made a logical conclusion that using the linguodidactic potential of the DETs is aimed at forming all types of universal educational activities in foreign languages. Therefore, it is important to study the linguodidactic potential of the DETs in teaching foreign languages in inclusive education.

The purpose of this study is to substantiate scientifically and practically the linguodidactic potential of digital educational technologies in teaching foreign languages in inclusive education.

The results and discussion. The main methods of using the linguodidactic potential of the DETs in teaching foreign languages in inclusive education should be considered the following ones:

a) studying domestic and foreign researches, experience in the field of teaching foreign languages using the DETs in inclusive linguistic education;

b) methods of psychological and pedagogical support for professional training of students with PFDDs: didactic and correctional exercises, modeling and analysis of social situations;

c) active methods of teaching foreign languages;

d) pedagogical technologies of cooperation;

e) interactive teaching methods;

f) using distance learning technologies for foreign languages;

g) training based on the experience of using the DETs and special software and methodical support for teaching foreign languages to students with PFDDs;

h) training through the implementation of three stages of work on the formation of a foreign language communicative competency;

i) special tasks in project activities with the use of the DETs for self-study;

j) self-education based on the use of the DETs and authentic materials in the study of foreign languages by students with PFDDs.
It should be especially noted that in the process of psychological and pedagogical support of students with PFDDs when teaching foreign languages, the following correctional and rehabilitation tasks are implemented:

a) enriching and expanding knowledge in the field of the studied foreign language and ideas about intercultural communication in general;

b) developing personal components of the cognitive activity (purposefulness, activity, independence);

c) developing the cognitive activity and cognitive interests in the field of the studied foreign language;

d) forming the required level of socialization in interactive intercultural dialogue; e) developing communication activities in the field of a foreign language;

f) developing general intellectual skills and abilities to apply a foreign language in the field of future professional activities; g) developing the mnemonic activity;

h) strengthening and maintaining psychophysical health when teaching a foreign language in inclusive education.

DETs are an effective pedagogical means for studying foreign language culture and developing communication skills. The most frequently used tools in the educational process in foreign languages for students with disabilities include the following electronic educational ones: domestic and authentic electronic textbooks and manuals demonstrated using a computer and a multimedia projector; electronic encyclopedias and specialized reference books; domestic and foreign simulators and testing programs in foreign languages; educational resources of the Internet; video and audio equipment; scientific-research works and projects of students; multimedia presentations of research papers and projects.

The breakthrough in the use of the DETs, which is observed at present, forces everyone to take a fresh look at the problems of organizing information support of the cognitive activity for students with PFDDs in the process of organizing educational activities in foreign languages.

It is necessary to consider the potential possibilities of using electronic educational tools in teaching foreign languages in inclusive education in more detail. To search for information sources on the Internet, the browsers such as Google Chrome, CCleaner Browser, Microsoft Edge are used, as well as the search engines of these browsers, and work with them (compiling, annotating, abstracting, etc.). To work with the texts of the original foreign literature, one can use the standard programs of the Microsoft Office package. In Microsoft Word, one can create and edit both text and graphic material. Microsoft PowerPoint option allows creating slides for the structured
presentation of reports, as well as accompanying speeches. In Microsoft Excel, one can perform mathematical operations, analyze data, make lists and summarize them in tables, and then post them on web pages. Microsoft Office Publisher allows creating flyers, brochures, etc. It is possible to carry out automated versatile translation of texts using translation programs and electronic dictionaries. One can communicate with foreign students and lecturers using Viber, Skype, email, GoToMeeting, Zoom, etc. Players AIMP, VLC Media player, KMPlayer, GOM Audio allow processing and playing graphic and sound files. Picasa, Irfan View, STDU viewer are used to view images. The programs and services Coggle, X Mind, Microsoft Visio are used to create diagrams and graphs.

The above-mentioned DETs create ample opportunities for organizing educational activities and independent work in foreign languages for students with PFDDs. They help to use electronic technologies both for the study of certain topics and for the exercise of self-control of the acquired knowledge (Bykov, Spirin, & Pinchuk, 2017).

Modern computer programs require concentration of attention, activation of mnemonic processes from the student. Not every student is able to work in this mode: mental characteristics of the character, the type of nervous system, and the student’s perceptions often become the reason for academic failure. At the same time, modern requirements for the level of education do not allow reducing the amount of information required by a student with PFDDs. However, when organizing an educational situation using computer programs, information is provided to students in a more structured way, with animation effects, in the form of texts/diagrams/graphs/drawings. All this makes it possible to explain the educational material more clearly and understandably.

Among the many factors that determine the possibility of teaching foreign languages when using the DETs, the most important is the availability of special software-methodical support (SMS). In a broad sense, the software-methodical support of education includes programs that make it possible to computerize the organization of the educational process (for example, databases for organizing distance learning), programs used to prepare teaching materials, programs designed directly for training. The concept of “software-methodical support of training” can be attributed to the complex of computer teaching aids and the DETs, designed for learning foreign languages. The breakthrough in the field of the DETs, which is currently taking place, forces scholars to reconsider the issues of organizing information support for cognitive activity in inclusive education.
Thus, speaking about the advantages of students’ work with a computer, one should name its indisputable advantages: general cultural development of students; improvement of the language level; creation of a favorable psychological climate; possibility of individualization of training; implementation of the feedback principle; combination of control and self-control; objective and timely assessment of students’ actions; activation of skills of independent work. Despite the significant advancement of the DETs in the educational process in foreign languages, the problem of choosing between a traditional occupation and an occupation involving a computer remains relevant because the use of computer technologies in the learning process has both obvious advantages and significant disadvantages.

Based on the results of the study, the article presents an analysis and scientific substantiation, as well as the essence and structure of the complex application of the linguodidactic potential of the DETs in teaching foreign languages in inclusive education. The author presents the characteristics of the DETs for teaching foreign languages in inclusive education and also investigates the practice of using the DETs for teaching foreign languages in inclusive education, the components of the software-methodical support for teaching foreign languages to students with PFDDs, and the experience of implementing methodical support.

The analysis of the linguodidactic potential of the DETs in teaching foreign languages in inclusive education suggests that the use of the linguodidactic potential of the DETs in teaching foreign languages in inclusive education should make it possible to use the DETs as an effective means of teaching, various types of speech activities could be trained with the help of the DETs. Various computer programs allow combining them in different combinations, which contributes to the formation of linguistic abilities, creates communicative situations, automates language and speech actions, and also helps to implement an individual approach to students with disabilities and accelerate the pace of independent work.

It has been revealed and established that digital educational technologies (DETs) for the development of foreign language communicative competence are understood as “a set of applied and instrumental software tools and educational-methodical materials aimed at automating the processes of collecting, searching, archiving, transmitting, and receiving, replicating foreign language information” (Budnyk, 2019).

In the article presented the DETs for teaching foreign languages in inclusive education are characterized. The DETs are focused on automating the processes of collecting, searching, archiving, transmitting, and receiving, replicating foreign language information. The latter is presented in symbols, animation, audio-video
information when implementing feedback; when visualizing the studied linguistic phenomena; interactive dialogue with the user; when implementing various modes of work with educational material; automating the development of spelling, grammatical, lexical, phonetic foreign language skills. These DETs include: computer programs, a variety of applied, encyclopedic, reference and other programs that can be effectively used for educational purposes, for example, for carrying out project activities in teaching foreign languages already at the early stages of the development of computer linguodidactics included a set of programs, among which there are not only educational but also all kinds of applied, game, simulation programs.

The modern educational paradigm, based on computer teaching aids, is based not on the transfer of ready-made knowledge, skills, and abilities to students with disabilities, but on the inculcation of self-education skills. At the same time, the work of students in foreign language classes is like communication with the lecturer, mediated with the help of interactive computer programs and audiovisual means. The DETs for organizing educational activities in teaching foreign languages in inclusive education is an effective pedagogical tool for studying foreign language culture and forming communication skills. Using the DETs contributes to the acceleration of the learning process, the growth of the interest of students with PFDDs in the subject, improves the quality of the assimilation of the material, allows the learning process to be individualized, and makes it possible to avoid the subjectivity of the assessment. Practical classes with the use of the DETs are distinguished by diversity, increased interest of students in a foreign language, and efficiency. The author has identified and installed the components of the software-methodical support for the organization of educational activities in teaching foreign languages to students with PFDDs. The components of the software-methodical support include:

a) the provision of various modes of perception of audio texts;

b) the availability of educational information visualization tools that allow visualizing the process of transferring foreign language information;

c) the presence of paralinguistic listening tools that clarify the content of the educational material;

d) the ability to create a real communication environment, the ability to use presentation graphics programs;

e) the possibility of audio recording of a student’s own foreign language speech for its further comparison with the reference version, the ability to update educational information and expand the content of the text;
f) the presence of training programs, spellers, spelling correction systems, carrying out the formation of lexical and grammatical skills in writing, the ability to master the skills of writing based on the use of electronic document templates;

g) the presence of a specialized application program that allows entering a foreign language text for the purpose of teaching writing.

The author’s personal experience in the implementation of methodical support for using the linguodidactic potential of digital educational technologies in teaching foreign languages in inclusive education has allowed distinguishing three stages of work on the formation of foreign language communicative competence. The first stage consists of the formation of lexical and pronunciation skills, grammatical skills, and the formation of spelling skills. The second stage includes the process of improving the skills acquired at the first stage and forming the skills in foreign language speech activity. The third stage is the formation of a foreign language communicative competence. The second stage involves a targeted relationship with the skills learned during the first stage. Thus, they are combined. The essence of the second stage is to transform the material and combine it with the skills learned at the first stage. At the third stage, all the qualities of reading, speaking, listening, writing are formed as an activity and as a product necessary for the creation and implementation of a project in a foreign language. The specificity of the work at this stage is that new situations are used that are more complex from a psychological and linguistic point of view for students with PFDDs. The supports here serve only as a stimulus to the types of speech activity and guide them in a semantic sense. Teaching is carried out in dialogic, group, and collective forms. In addition, an individual approach is taken into account when working with students with PFDDs.

Conclusions and prospects for further research. The results of the study have revealed that the necessary digital skills of a teacher of the 21st century are: using technical means, digital tools, and resources for the development of critical thinking, creativity; establishing communication, organizing educational activities of students, especially in terms of inclusion; using software for data visualization; using digital educational technologies for exchanging and disseminating educational information; using ICT to create educational content; organizing distance learning, instant feedback using digital educational technologies to assess learning outcomes, etc.

For the effective use of DETs in inclusive education, improving its quality and accessibility for people with psychophysical developmental disabilities, the priority is to ensure the following conditions: implementing the appropriate ICT infrastructure that would meet the principles of accessibility, ease of use, flexibility, and cost-
effectiveness; modifying curriculum components (including content, teaching methods and evaluation of its results), adapting ICT to the nosologies of students; raising the level of ICT competence of lecturers of inclusive education, their digital literacy in establishing pedagogical interaction with people with PFDDs (Zaporozhchenko, 2013).

An important condition for effective training of students with psychophysical developmental disabilities is the establishment of active communication between participants in the educational process, creative cooperation in a group, development of skills of partnership, teamwork, and personal and collective responsibility for the results of joint activities, even if takes place in a distant format (Vasianovych, & Budnyk, 2019). The digital resources and tools presented in the article, which are recommended for online or offline work, are extremely valuable for solving such tasks. At the same time, in working with students with PFDDs there are some difficulties in organizing cooperation, group work, dialogic learning in the format of distance education. Therefore, the prospects for further research are seen in the study of the possibilities of applying the best European practices, digital tools, and resources, interactive methods for distance learning of people with special educational needs, and their acquisition of professional profession.

REFERENCES


ЛІНГВОДИДАКТИЧНИЙ ПОТЕНЦІАЛ ЦИФРОВИХ НАВЧАЛЬНИХ ТЕХНОЛОГІЙ У ВИВЧЕННІ ІНОЗЕМНИХ МОВ У ВИЩІ ІНКЛЮЗИВНІЙ ОСВІТІ

Вікторія Слабоуз
кандидат філологічних наук, доцент,
доцент кафедри іноземних мов,
ДВНЗ «Донбаський державний педагогічний університет»
м. Слов’янськ, Україна
ORCID ID 0000-0003-1810-4054
queen_viktoriya28@ukr.net

Анотація. Актуальність дослідження проблеми у статті зумовлена необхідністю аналізу процесу дигіталізації вищої інклюзивної освіти в Україні. У зв’язку з цим викладання іноземної мови потребує нових підходів до використання лінгводидактичного потенціалу цифрових освітніх технологій для розвитку особистості учнів з особливим психофізичним розвитком, для підвищення рівня творчості їхнього мислення, для формування навичок щодо розробки стратегії знаходження рішень для навчальних і практичних завдань під час викладання іноземних мов.

Проблема лінгводидактичного потенціалу цифрових освітніх технологій у навчанні іноземних мов переважно досліджується в працях, які досліджують теорії та методології викладання іноземної мови, такими авторами, як Н. Гальськова, І. Зімня, Л. Меркулова, І. Кірєва, А. Міролюбов, С. Ієр-Мінасова, С. Фоломкіна, В. Бондар, І. Калініченко, А. Колупаєва, З. Ленін, В. Синов, О. Таранченко, А. Шевцов, М. Швед, О. Безпалько, Р. Вайнолій, Х. Васянович, А. Капскій, Н. Сейко, В. Биков, Ю. Носенко, М. Мариотті та ін.

Мета цього дослідження – обґрунтувати науково та практично лінгводидактичний потенціал цифрових освітніх технологій у навчанні іноземних мов в умовах інклюзивної освіти.

Розглянуто практику використання електронних навчальних засобів для організації навчальної діяльності з навчання іноземних мов в інклюзивній освіті. Представлено досвід впровадження методичного забезпечення використання лінгводидактичного потенціалу електронних освітніх засобів у навчанні іноземних мов в умовах інклюзивної освіти. За результатами дослідження у статті представлена наукова обґрунтування, сутність та структуру комплексної застосування лінгводидактичного потенціалу цифрових освітніх технологій у навчанні іноземних мов у вищій інклюзивній освіті. Теоретичне значення дослідження полягає в тому, що аналізуються та узагальнюються основні теоретичні підходи до проблеми лінгводидактичного потенціалу цифрових освітніх технологій у навчанні іноземних мов в умовах інклюзивної освіти; розкрито зміст поняття “цифрові освітні технології” у системі соціальних та гуманітарних знань; конкретизовано характеристики цифрових освітніх технологій. Практичне значення результатів дослідження полягає в тому, що складові програмно-методичного забезпечення використання лінгводидактичного
поголів’я цифрових освітніх технологій у навчанні іноземних мов в умовах інклюзивної освіти визначені. Висновки дослідження можуть послужити основою для подальших наукових досліджень у розвитку теорії та практики навчання іноземних мов студентам з особливими вадами психофізичного розвитку.

**Ключові слова:** комп’ютерна лінгводидактика; лінгводидактичний потенціал; цифрові освітні технології; викладання іноземних мов; студенти з особливими психофізичними вадами розвитку; інтерактивні методи навчання; компоненти програмно-методичного забезпечення; інклюзивна освіта.

**СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ**