



MODERN DIGITAL TECHNOLOGIES IN TEACHING PHILOLOGICAL DISCIPLINES
TECNOLOGIAS DIGITAIS MODERNAS NO ENSINO DE DISCIPLINAS FILOLÓGICAS
TECNOLOGÍAS DIGITALES MODERNAS EN LA ENSEÑANZA DE DISCIPLINAS FILOLÓGICAS

Alla V. Kozak¹
Liliia B. Lavrynovych²
Svitlana V. Sukhareva³
Viktor P. Iaruchyk⁴
Olga B. Iaruchyk⁵

Abstract: The purpose of writing an academic paper is to analyze a variety of digital technologies, the use of which is appropriate in the process of teaching philological disciplines and the determination of the basic factors that have a decisive influence on the quality of the modern educational process. The research methods: comparison, system-structural research, statistical-analytical method, tabular, graphical, analytical modeling, as well as methods of abstraction, analysis and generalization. As a result of the generalization of modern educational trends in various European countries, it has been determined that today's society is characterized by a high level of bilingualism and plurilingualism. The conducted study has proved that increasing level of digitalization of education is ensured through the application of effective regulatory measures by intergovernmental and national governments, as well as standardization, formalization, high quality educational services and integration of new digital technologies in teaching process.

Keywords: Digital Literacy. Foreign Language. Information and Digital Competence. Foreign Language Teacher.

Resumo: O objetivo de escrever um artigo acadêmico é analisar uma variedade de tecnologias digitais, cujo uso é adequado no processo de ensino de disciplinas filológicas e na determinação dos fatores básicos que têm uma influência decisiva na qualidade do processo educacional moderno. Os métodos de pesquisa: comparação, pesquisa sistema-estrutural, método estatístico-analítico,

¹ Lesya Ukrainka Eastern European National University. Lutsk, Ukraine.

² Lesya Ukrainka Eastern European National University. Lutsk, Ukraine.

³ Lesya Ukrainka Eastern European National University. Lutsk, Ukraine.

⁴ Lesya Ukrainka Eastern European National University. Lutsk, Ukraine.

⁵ Lesya Ukrainka Eastern European National University. Lutsk, Ukraine.



modelagem tabular, gráfica, analítica, bem como métodos de abstração, análise e generalização. Como resultado da generalização das tendências educacionais modernas em vários países europeus, foi determinado que a sociedade de hoje é caracterizada por um alto nível de bilinguismo e plurilinguismo. O estudo realizado comprovou que o aumento do nível de digitalização da educação é garantido por meio da aplicação de medidas regulatórias eficazes por parte dos governos intergovernamentais e nacionais, bem como da padronização, formalização, serviços educacionais de alta qualidade e integração das novas tecnologias digitais no processo de ensino.

Palabras clave: Alfabetização Digital. Língua Estrangeira. Informação e Competência Digital. Professor de Língua Estrangeira.

Resumo: El propósito de la redacción de un artículo académico es analizar una variedad de tecnologías digitales, cuyo uso es adecuado en el proceso de enseñanza de las disciplinas filológicas y la determinación de los factores básicos que influyen decisivamente en la calidad del proceso educativo moderno. Los métodos de investigación: comparación, investigación sistémica-estructural, método estadístico-analítico, modelado tabular, analítico, así como métodos de abstracción, análisis y generalización. Como resultado de la generalización de las tendencias educativas modernas en varios países europeos, se ha determinado que la sociedad actual se caracteriza por un alto nivel de bilingüismo y plurilingüismo. El estudio realizado ha demostrado que el aumento del nivel de digitalización de la educación se asegura mediante la aplicación de medidas regulatorias efectivas por parte de los gobiernos intergubernamentales y nacionales, así como la estandarización, formalización, servicios educativos de alta calidad e integración de nuevas tecnologías digitales en el proceso de enseñanza.

Palavras-chave: Alfabetização Digital. Idioma Extranjero. Información y Competencia Digital. Profesora de Lengua Extranjera.

1 INTRODUCTION

The European-wide space is characterized by a high level of innovation in education. The structure of educational processes involves the use of the most effective, new means of generalization and presentation of information, in particular, during the study of philological disciplines. Such trends have emerged under the influence of the multilingualism phenomenon and have become a prerequisite for the active introduction of digital technologies in teaching process. Currently, a foreign language is characterized as a key tool for interstate communication processes, and, therefore, its teaching should be carried out in accordance with the requirements of the modern information society. However, the introduction of digital technologies in educational processes requires a gradual, scientifically well-grounded strategy, which should take into account the specifics of the social-economic and educational space of both individual countries and the European information and communication environment (Bulatov et al., 2020a).

Within the modern conditions of high-tech society, an urgent need arises to identify the most effective methods of applying digital technologies in teaching philological disciplines. Some modern



researchers (Pegrum, 2019; Buribayev et al., 2020) argue that the digital age is an opportunity for teachers to improve their skills and pedagogical competence by acquiring a set of skills related to the rational management of knowledge and information data. This is the latest approach to the organization of the educational process and it is being formed; therefore, some of the scholars remain supporters of traditional methods of teaching foreign languages. They insist on the effectiveness of the application of reflective teaching methods (Duncan et al., 2020; Khamzin et al., 2015; Vinichenko et al., 2018a) and continuous practice in the structure of the educational process, which increases the research potential of modern students and motivates them to improve language skills (Gregson, 2020; Gregson & Kessell-Holland, 2020; Vinichenko et al., 2018b). However, dynamic globalization requires effective information management technologies, differentiation of methods of studying philological disciplines by analyzing possible alternatives for presenting knowledge to students. Further adaptation of teaching activities should be based on the cohesion of modern teachers, as collective decisions take into account the interests of different subjects in both national and European-wide educational space (Gee, 2017; Vinichenko et al., 2018c). The distribution of responsibilities between the participants of the educational process reduces the level of subjectivism in the organization of modern pedagogy, the rational combination of innovation and tradition forms a unified approach to the formation of a highly educated, multilingual society (Bulatov et al., 2020b; Vinichenko et al., 2018d).

The level of interest of the educational process's parties remains an important factor in the effectiveness of teaching. The concept of "innovative pedagogy" (Kukulka-Hulme et al., 2020), outlined in the research of modern scientists, involves the introduction of various digital methods of teaching foreign languages (Holmes et al., 2019; Coughlan, 2019; Atenas et al., 2015; van Staden & Purcell, 2016), each of which improves the quality of information and its perception by students.

Thus, digital technologies are changing traditional methods of studying philological disciplines; modern teachers are characterized by a higher level of information and communication competence and literacy. As a result, students gain quality knowledge on the way to achieving long-term goals. Therefore, this article is an original study of how to effectively mutually cohere traditional methods of teaching students in different European countries with the use of modern digital technologies and innovative methods of presenting information.

The importance of the practical use of the research results lies in further balancing the views of scientists on the role of digital technologies in the educational processes of modern times. The adaptation of the tendencies of the digital society to the traditional standardized teaching



philological disciplines should be carried out gradually while preserving the basic characteristics of the educational systems of different European countries. Consequently, the idea of modernizing formalized educational methods should be based on reliable theoretical and methodological ground and positive experience in the use of digital technologies in teaching activities.

2 LITERATURE REVIEW

A comprehensive analysis of the issues proposed in the scientific research makes it possible to conclude that modern digital technologies have been widely used in the process of teaching philological disciplines in various European countries. And what is more, the level of digital literacy and information and communication competence of modern teaching staff is gradually increasing and changing under the influence of the transformation of the educational environment. Taking these trends into consideration, currently, the outlined subject matter of the academic paper is quite interesting and widely studied by both foreign and Ukrainian scientists. The modern educational system is the result of transformation, coordination and modernization of different methods of teaching educational material. New approaches to presenting information to students are formed in the structure of studying philological disciplines; updated methods of knowledge perception come in contrast to traditional education. The theory of pedagogy emphasizes the prospects of non-formal and informal education, the rational combination of which contributes to the formation of a modern learning environment – mixed one (Guzer & Hamit, 2014; Khamzina et al., 2020). Its organizational support is carried out by applying digital technology and distance learning.

Blended learning of students by applying digital technologies is the latest trend, emerging in different European countries. Its development is carried out on a gradual basis, in accordance with the innovative potential of the country, the level of research activity and the dynamics of the introduction of the latest technological developments in the structure of the educational system. Modern researchers (Kukulska-Hulme et al., 2020; Ferguson et al., 2019a) argue that the following tools should be distinguished among the basic ones for ensuring digital teaching philological disciplines, namely:

- Teaching philological disciplines with the use of robots, mechanized intelligent assistants and artificial intelligence. This teaching theory involves the integration of knowledge into mechanized tools of information accumulation in order to transfer educational material to students



through artificial intelligence (Mubin et al., 2013). The use of artificial intelligence in teaching philological disciplines contributes to the adaptation of modern teachers to the modernized and computerized educational space, as well as increases their digital literacy and awareness (Holmes et al., 2019).

– Combination of theoretical aspects of teaching with practical application of acquired knowledge through the formation of virtual studios or online laboratories - training centers with the possibility of modeling practical situations. The basic advantages of such teaching approaches include: the communication of students and teachers through digital devices in real time, the availability of remote access to analytical tools, distance learning of disciplines, etc. (Herodotou et al., 2018; Ridho et al., 2018). The defining feature of a virtual studio is the ability to go beyond traditional university approaches to learning foreign languages by gaining access to the benefits of a high-tech world (Jowers et al., 2017). The most successful tool for exchanging information through the use of digital technologies is keeping language blogs – online journals, where teachers have the opportunity to post relevant educational materials. The effectiveness of such technology in studying philological disciplines is confirmed not only by the ease of organizing the educational process, but also the development of modern students' creativity, their adaptation to the digital post-industrial society (Pegrum, 2009).

– Teaching foreign languages through open databases and electronic digital resources, which simplifies the mechanism of transfer of educational materials for personal self-development of students and improving the knowledge gained within the educational process (Coughlan, 2019; Zimmer, 2010; Titko et al., 2020). The use of open databases helps teachers identify the most relevant sources of information. In turn, students have the opportunity to independently process, analyze and interpret the acquired knowledge.

Modern educational institutions are taking an active part in cooperation with research centers in order to introduce digital technologies in teaching philological disciplines; they enter into partnerships with companies, engaged in innovative activities (Ferguson et al., 2019b). Although the outlined teaching methods are promising, they are only at the stage of development and experimental implementation. Forasmuch as modern pedagogical paradigms are based on the priority of learning foreign languages in the remote mode, the most appropriate and accessible of the outlined learning approaches are related to the use of mobile communications and artificial intelligence. Such statement has been made by J. Traxler and A. Kukulska-Hulme (2019); the researchers are convinced that a change in approaches to teaching foreign languages is inevitable



in the era of open, socially-oriented learning. Formal methods of perception of educational material should be replaced by mobile tools and digital technologies, the use of which leads to the transformation of the traditional educational paradigm. The use of computer technology is an equally relevant and accessible approach to teaching philological disciplines. The use of computers in students' education has a number of advantages (Macaro et al., 2012). The basic ones include the possibility of effective organization of multisensory learning through the improvement of speaking skills, as well as mastering vocabulary and grammar.

Undoubtedly, modern scientists analyze both the advantages and disadvantages of applying digital technologies in teaching activities. The level of innovation in education is constantly growing, however, traditional methods of teaching philological disciplines can not always be adapted to the requirements of the digital society. Portable storage devices, of course, complement the studying process, however, A. Kukulska-Hulme (2019) has investigated whether it is always appropriate and effective. The author has defined the role of teachers in the structure of digital teaching philological disciplines in her studies. The scholar has emphasized the importance of updating informal methods of students' training, as well as adapting formal education to the requirements of the innovation environment. Although, there are critical viewpoints regarding the feasibility of e-teaching foreign languages, due to the various difficulties of such training, in particular, the limitedness or need for financial support (Traxler, 2018), the relevance of the obstacles outlined in the studies of scientists decreases at the stage of development of innovation and active institutionalization of the society. Therefore, the modernization of educational processes encourages the improvement of the concept of "mobile learning", based on which modern authors highlight the basic advantages of the possibility of enrichment with new knowledge and improvement of existing one (Traxler, 2017). Forasmuch as formal methods of education contradict social-cultural tendencies of public life's diversification and hinder the development of multilingualism for the expansion of interstate and intercultural communication processes, modern scholars are convinced that the integration of digital, in particular, mobile technologies in teaching philological disciplines is inevitable (Pegrum & Kukulska-Hulme, 2018).



3 MATERIALS AND METHODS

The basic research methods used in the academic paper are as follows: comparison, system-structural research, statistical-analytical method, tabular, graphical, analytical modeling, as well as methods of abstraction, analysis and generalization. Methods of comparison, analysis and generalization have been used to study the theoretical and methodological basis of the concept of modern digital technologies, the peculiarities of their introduction into the educational systems of different European countries and methods of application in teaching philological disciplines. The use of the outlined methods made it possible to distinguish various aspects of the organization of European practice in terms of using digital technologies in education and to identify the basic advantages of teaching foreign languages by applying the latest methods of presenting information data. Also, the characteristic trends of increasing digital literacy and information competence of teachers of foreign languages in the context of the transformation of educational processes have been investigated.

The method of system-structural research has been applied to outline the conceptual fundamentals and principles of using digital technologies in teaching philological disciplines. Due to the outlined method, the dependence of the quality of philological education on the level of information and communication, technological, digital and innovative support of educational processes in some European countries has been determined. The statistical-analytical method has been applied in the process of analyzing the state and dynamics of the use of digital technologies in teaching philological disciplines in European-wide practice. At the same time, the tabular, graphical and analytical modeling have been applied in order to conduct an analysis of the level and dynamics of studying philological disciplines, including foreign languages by students of European educational institutions, as well as the level of digital competence of human capital in the context of the analysis of indicators DESI-2020 and DESI-2019, the level of use of digital technologies in teaching philological disciplines in terms of different continents and individual European countries, in particular.

Against the background of the intensification of the use of digital technologies in teaching philological disciplines, new requirements for the qualification of teachers appear, in particular, to the level of digital literacy and information-digital competence. The concept of “digital literacy” began to be formed recently, but it has already received a detailed description in the studies of modern scientists, who interpret it as a set of digital skills (Brown, 2017). Thus, digital literacy of the



teacher is an opportunity to gain access to management, accumulation, systematization, generalization, integration and analysis of information through the use of digital technologies in the educational process (A Global Framework of Reference..., 2020). Increasing the level of digital literacy is carried out by developing scientifically well-grounded national or regional strategic plans, which are based on tactical methods of managing information and digital competence of teachers of philological disciplines.

The statistical and analytical collections of European Commission (European Commission. Digital..., 2019), UNESCO (A Global Framework of Reference..., 2020) have summarized the following information: statistical and analytical information on the features of practical application of digital technologies in teaching philological disciplines, the level of digital literacy and information-digital competence of teachers in some European countries, current trends in teaching by combining traditional and informal methods of students' training, and the effectiveness of such training technology.

4 RESULTS AND DISCUSSION

Multilingualism as a social-cultural phenomenon of modern European society influences educational processes, emphasizing the importance of plurilingualism in order to improve interstate communication. However, within the conditions of dynamic digitalization of the educational sphere, the value of the newest methods of presentation of educational material to students increases, and, therefore, currently digital technologies are being actively introduced in pedagogical activities. Teaching philological disciplines is a promising area of work in an environment of linguistic diversity. Such tendencies are the consequences of the integration of national social-economic systems into European space. Active differentiation contributes to deepening of interstate relations and requires the expansion of communication opportunities. The level of studying foreign languages by students of European educational institutions remains high, however, English, German, French, Spanish, Russian and Italian are referred to the highest priority ones (Figure 1).



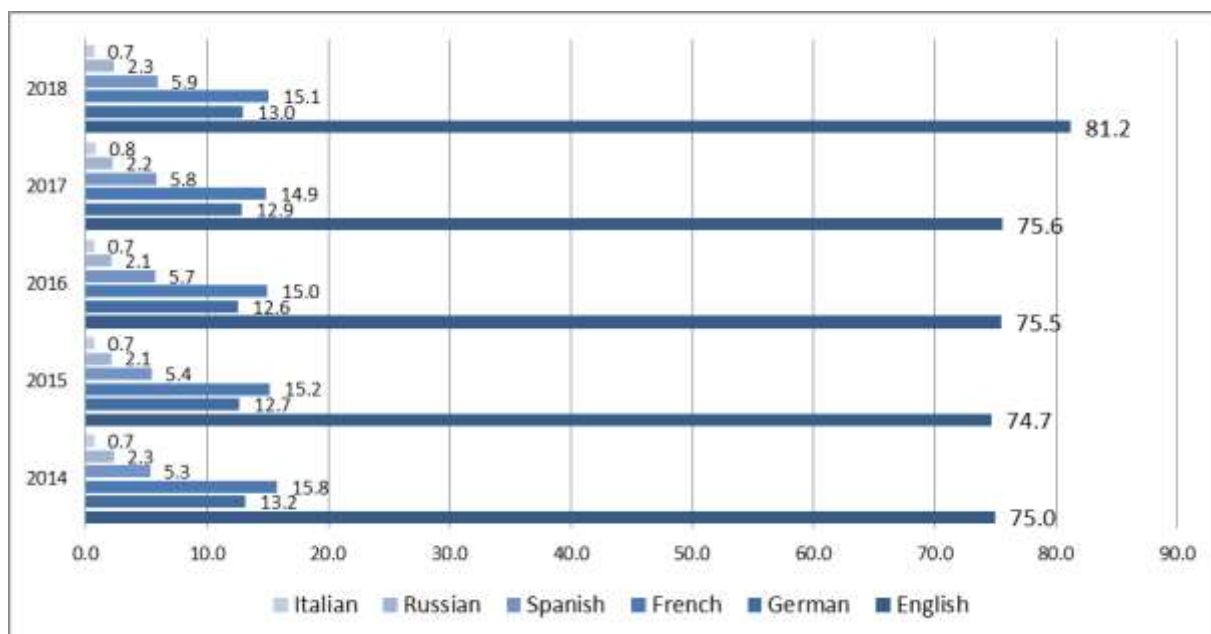


Figure 1 – The level of studying foreign languages in European educational institutions during 2014-2018 (%)

Source: it has been compiled by the author according to the data (European Commission. Education and training, 2020; Education and Training Monitor, 2019).

Forasmuch as European education environment bears signs of integrity, coherence, structure and subordination to the theoretical principles of the digital society (Figure 2), it should be explored as a single educational space. Adherence to the basic principles of digitalization ensures effective cooperation between different aspects of educational relations, namely:

- the state receives highly qualified multilingual specialists with an excellent level of language knowledge and practical experience in their application;
- teachers of philological disciplines gain access to the latest teaching technologies, which helps increase their digital literacy and information and digital competence;
- students receive high-quality knowledge and expand the possibilities of their application in the modern multilingual society.

Accordingly, the digitalization of the educational sphere should comply with the following principles (Figure 2).



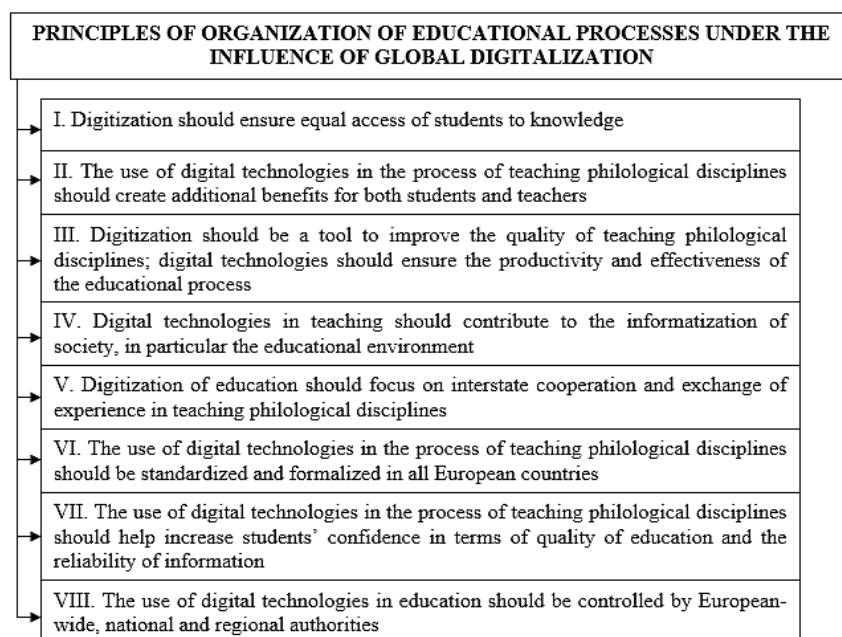


Figure 2 – Principles of construction of modern educational sphere within the conditions of digitalization

Source: it has been compiled by the author according to the data (Bazeliuk, 2018).

The activity of the introduction of digital technologies in the structure of teaching philological disciplines depends on the level of European digitalization, which is measured by the Digital Economy and Society Index 2020 (hereinafter – DESI-2020). The specified index is a comprehensive indicator of the level of integration of digital technologies in various spheres of society, including the educational system. The indicator provides a quantitative characteristic of changes in the quality of life of the population and the level of digital and information competitiveness of EU member states. The basic components of the above-mentioned index include: the level of digitalization of communications, the level of digital and information and communication literacy of human capital, the level of use of Internet services by citizens, the level of integration of digital technologies by enterprises and the level of digitalization of state management services.

In the context of studying the interdependence between the indicator of the quality of education and the level of digitalization, the most indicative component is the level of digital literacy and information and digital competence of the teaching staff. During 2019-2020, some European countries have significantly improved the level of digital support of educational processes, which has affected the quality of teaching philological disciplines. Consequently, Finland, Sweden, Denmark and the Netherlands have received the highest rates in DESI-2020. The result of such trends has been directly connected with the higher level of quality of education of students of



philological specialties and the development of bilingualism and plurilingualism in the territories of the outlined states.

The level of DESI-2020 in the context of studying the component of digital literacy of teachers of philological disciplines and its change in comparison with DESI-2019 is reflected in Figure 3. Determining the level of digital competence of human capital (pedagogical staff of European educational institutions, in particular) by calculating the outlined indicator involves measuring two aspects, namely: the level of digitalization of society through studying the skills in terms of use of Internet resources and online services (in the context of the analysis of teaching activities, the indicator reflects the dynamics of the use of online means of presenting educational material to students); the second aspect concerns the professional skills of using digital technologies in narrow focus specialized activities that do not relate to the educational environment.

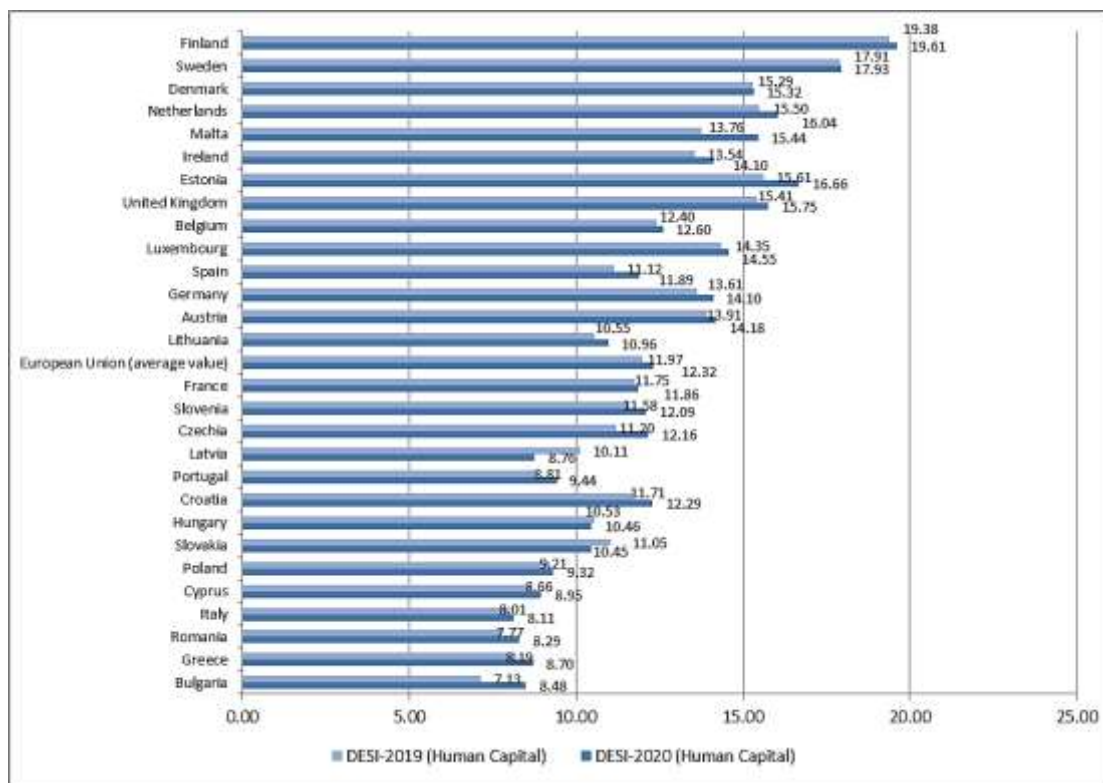


Figure 3 – The level of digital competence of human capital in the context of analysis of DESI-2020 and DESI-2019 (%)

Source: it has been compiled by the author according to the data (Digital Economy and Society Index (Desi), 2020; Digital Economy and Society Index, 2020).

Thus, according to current data, Finland is the leader among European countries in the level of digitalization of human capital. The consequence of this trend is closely connected with the high quality of education, forasmuch as teachers are characterized by an appropriate level of digital literacy in the process of application of the latest technologies in teaching activities. In turn, the high



information and communication awareness of students is equally important; as a result, they possess basic skills in the use of digital technologies in order to obtain, summarize, analyze and accumulate educational material, as well as its practical application. At the same time, the vast majority of educational processes are provided through the use of computer technologies. Malta, Bulgaria, Estonia are characterized with a significant increase in the level of digital literacy in 2019 compared to 2018 among European countries, forasmuch as teachers of these countries also have a positive experience in the use of digital technologies in teaching philological disciplines.

In the context of improving the quality of teaching philological disciplines, it is worth outlining the following benefits of global digitalization of European society, namely:

- increasing the role and perception of philological disciplines in the structure of the educational system by simplifying the mechanism of their teaching;
- the use of adapted technologies of teaching foreign languages with observance of balance of interests of all the participants of educational process;
- enabling students to learn several languages simultaneously through the development of multilingual online services;
- adaptability of the educational process to the multitasking of modern society through a balanced combination of equal directions of educational and social activity of students;
- increasing the value of linguistic diversity within European educational space and simplifying communication at the interstate level.

Computer technologies are of special importance in the structure of digital technologies, the use of which in the process of teaching philological disciplines has a steady upward trend. The state and directions of application of computer capabilities by philologists in the process of teaching students of different ages in terms of individual European countries are reflected in Table 1. The specified data indicate that currently the most widely used methods of establishing communication between teachers and students are as follows: receiving information and consulting services from teachers of philological disciplines, undergoing language courses online, processing educational materials, literature, scientific articles or other sources of information, as well as using educational sites, online blogs or portals in order to discuss current philological issues.



Table 1 – The level of use of digital technologies in the process of teaching philological disciplines in terms of different European countries in 2019 (%)

Country	Digital technology use: communicating with students using educational websites/portals		Digital technology use: online teaching material		Digital technology use: reading online language materials		Digital technology use: undergoing an online linguistic course	
	from 16 to 24 years	from 25 to 65 years	from 16 to 24 years	from 25 to 65 years	from 16 to 24 years	from 25 to 65 years	from 16 to 24 years	from 25 to 65 years
	Austria	31.0	8.0	50.0	19.0	80.0	58.0	25.0
Belgium	50.0	10.0	43.0	15.0	85.0	59.0	23.0	9.0
Bulgaria	16.0	4.0	32.0	6.0	92.0	45.0	15.0	2.0
Croatia	40.0	6.0	50.0	14.0	87.0	72.0	14.0	5.0
The Czech Republic	51.0	7.0	55.0	12.0	98.0	80.0	23.0	6.0
Cyprus	23.0	7.0	39.0	11.0	82.0	70.0	13.0	6.0
Estonia	51.0	17.0	77.0	27.0	88.0	81.0	65.0	14.0
Italia	60.0	10.0	55.0	13.0	67.0	44.0	17.0	7.0
France	29.0	6.0	32.0	13.0	69.0	54.0	15.0	8.0
Hungary	29.0	6.0	32.0	8.0	81.0	67.0	11.0	6.0
Greece	6.0	3.0	11.0	5.0	95.0	66.0	17.0	13.0
Ireland	43.0	14.0	44.0	20.0	77.0	67.0	23.0	6.0
Latvia	33.0	8.0	53.0	18.0	80.0	68.0	20.0	4.0
Lithuania	14.0	11.0	46.0	18.0	89.0	74.0	26.0	7.0
Luxembourg	50.0	10.0	48.0	20.0	74.0	72.0	22.0	10.0
Germany	29.0	7.0	37.0	16.0	81.0	71.0	15.0	8.0
The Netherlands	59.0	16.0	49.0	18.0	92.0	75.0	29.0	13.0
Poland	17.0	5.0	39.0	10.0	83.0	60.0	21.0	5.0



Portugal	45.0	11.0	49.0	21.0	91.0	62.0	14.0	6.0
Romania	16.0	4.0	33.0	12.0	69.0	40.0	15.0	3.0
Slovakia	11.0	4.0	35.0	11.0	75.0	60.0	9.0	5.0
Spain	47.0	16.0	42.0	24.0	88.0	71.0	21.0	15.0
Switzerland	48.0	13.0	39.0	16.0	90.0	76.0	33.0	12.0
The UK	51.0	14.0	65.0	28.0	94.0	70.0	52.0	19.0
Total average	36.0	9.0	39.0	15.0	78.0	62.0	18.0	8.0

Source: it has been compiled by the author according to the data (Digital Economy and Society Index (DESI), 2020).

The data in Table 1 show a high level of application of digital technologies for reading educational materials in the online format – in 2019, the vast majority of students in European countries have preferred this method of perceiving information. The use of computers in the process of teaching philological disciplines significantly increases the level of organization of education and ensures the productivity of modern teachers. Achieving success in teaching activities is connected with a number of additional opportunities that the teacher of philological disciplines possesses, namely: the use of online tools to create author's distance foreign language courses, as well as the offer of multilingual courses; implementation of multi-sensory technology for training students of philological specialties by activating various methods of knowledge perception through the use of video, audio and presentation materials in widely available electronic formats and through additional plug-ins; storage of educational materials in electronic formats, which makes it possible to systematize and structure large amounts of information; supplementing, updating, adapting of developed online courses to the needs and capabilities of students or adding various elements to the existing curriculum, the ability to quickly modify educational materials; the use of different types of online tests; automation of the process of testing students' knowledge, receiving online reports completion of the training course and control tests by students.

Forasmuch as students, pursuing higher education in the philological direction, need an integrated, flexible and effective training system, as well as seeking high-quality educational services adapted to the requirements of the digital society, intergovernmental educational organizations offer a set of theoretical principles for teaching activities' differentiation. Consequently, the success of a computerized approach to teaching philological disciplines depends on the level of adherence to the principles, proposed by world educational organizations, namely:



1. Teaching students the knowledge that is necessary for success in future professional activities. Accordingly, the use of digital technologies in the process of teaching philological disciplines should be carried out in order to structure the educational material in accordance with the level of its priority and the possibility of use in practice. In addition, the use of digital resources helps evaluate alternative career paths.

2. Training of students' financial literacy by offering various curricula with different levels of initial investment. Adherence to the above-mentioned principle involves conducting information and consulting work with students on the balance of financial investments in various educational tools (Internet resources or software for studying philological disciplines, services to improve practical language skills, online courses, teaching materials, literature, etc.) and the level of potential return on investment in education.

3. The use of high-tech approaches to teaching philological disciplines in order to prepare students for professional activities. The use of digital software in the process of teaching philological disciplines guarantees a high level of adaptability of future professionals to the requirements of modern computerized educational space.

4. The use of digital technologies in order to adapt the learning process to the personal life of the student and his life priorities. This model of digital learning involves not only the use of computer technologies, but also mobile information exchange tools.

5. Ensuring the general accessibility of students to high-quality educational resources that are necessary for successful professional development. Providing a certain autonomy in the process of studying philological disciplines will help modern students become curators of their own education; it will teach them to choose the most effective digital learning tools individually in accordance with their needs.

6. Providing assistance to students through the use of digital communications. Consulting and awareness-raising work in the process of teaching philological disciplines will help the students to achieve success at a faster pace under the guidance of a highly qualified teacher. The use of digital technologies not only provides the exchange of educational materials, but also helps establish communication and increase the level of trust between different subjects of the educational system.

7. Teaching philological disciplines with the application of modern digital technologies should ensure the cooperation of teachers not only with students but also with educational institutions. The use of digital technologies in the process of training students – philologists should simplify the procedure of documenting the educational process, systematization or change of the



curriculum, as well as reporting to the management of the educational institution or other subjects of the educational system.

8. Formation of a national educational network with an extensive digital infrastructure. Such approach to the organization of teaching will create a continuous and flexible learning process, adapted to the needs, interests and goals of students, taking into account the features of their schedule, employment and financial capabilities (Reimagining the Role of Technology..., 2017).

The active use of digital technologies in education is connected with the integration of national education systems into a single space, and, therefore, digitalization should be considered as a global phenomenon. The change in digitalization’s global level of education in 2018 compared to 2008 is reflected in Figure 4.

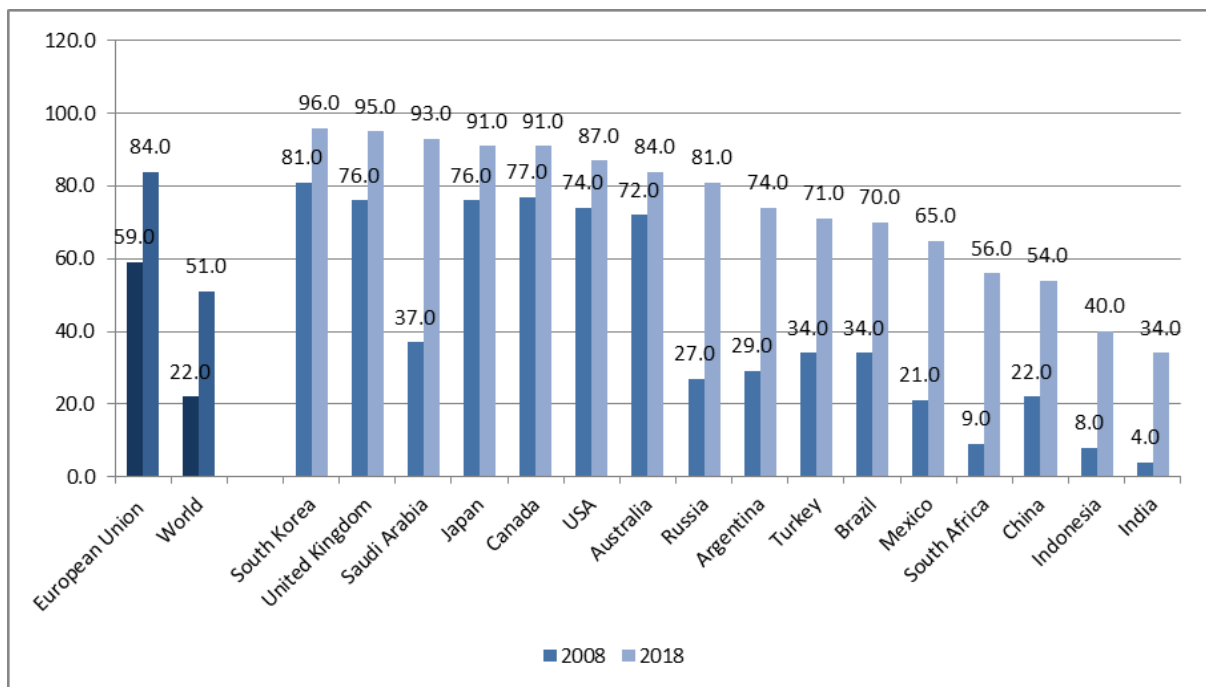


Figure 4 – Comparison of the level of education’s digitalization in 2008 and 2018 (%)

Source: it has been compiled by the author according to the data (The EU in the World..., 2020).

Analysis of digitalization level of education shows that currently all countries of the world are actively implementing digital technologies in educational processes. Forasmuch as multilingualism is a driving factor in stimulating the mobility of highly qualified personnel, the system of students’ training should be organized in accordance with current trends in terms of spreading new technologies, innovative developments and other tools, applied in order to improve the quality of knowledge in the global educational space.



In our opinion, it is worth agreeing with the opinion of A. Kukulska-Hulme (Pegrum & Kukulska-Hulme, 2018; Kukulska-Hulme, 2019; Kukulska-Hulme & Traxler, 2019; Pegrum, 2019; Kukulska-Hulme et al., 2020;) on the role of digital technologies in teaching process. Researchers are convinced that the introduction of social-technological trends in educational processes will ensure the formation of a modern multilingual landscape in European countries. The active development of online learning, especially in current conditions of limited social interaction and the introduction of mobile and computer technologies into the structure of educational processes will support the social-cultural and linguistic diversity of teaching experience, as well as students' support in preparing for effective communication in the society. However, it should be borne in mind that the process of introducing digital technologies in the process of teaching philological disciplines should be flexible and structured, in accordance with the capabilities of the economic and social-political spheres of the country. Digitalization of education should become a multi-vector strategic goal of the modern globalizing world, the achievement of which should be carried out gradually.

5 CONCLUSIONS

As a result of the study conducted it has been determined that modern digital technologies are important in the structure of teaching philological disciplines. Digitization of education involves the introduction of new, modernized methods of teaching educational material, adapted to the educational space. The basic purpose of using digital technologies in educational processes is the adaptation of modern students to the requirements of an informatized post-industrial society, as well as increasing the level of digital literacy and information and communication competence of future specialists.

Undoubtedly, the further integration of digital technologies into the training activities of teachers in European countries should be carried out on the basis of a balance of traditional and high-tech approaches to teaching. The personal level of digital literacy of teachers of philological disciplines affects the adaptability of modern students to the digitalized society. Therefore, in order to increase the level of learning effectiveness it is necessary to reconcile the needs and interests of different parties in the educational system: the state, teachers and students. On the one hand, automation of the outlined subjects' cooperation through the use of digital technologies will create a modern computerized educational environment and provide students with the opportunity to gain quality knowledge, and on the other hand, it will implement their potential in practice.



The obtained results are important for the introduction of digital technologies in the training activities of teachers of philological disciplines, forasmuch as the digital literacy of the society is a driving factor in the structure of educational, economic, political and cultural progress of mankind. We consider it expedient to direct further research in the field of the outlined problems in the direction of development of effective adaptation mechanisms of modern teachers and students to the level of education's digitalization, to offer practical methods of creation of an extensive network of digital infrastructure in the structure of educational systems, to develop effective approaches to teaching philological disciplines adapted to different social-economic models of the society based on the use of the latest digital technologies and innovative developments, as well as to ensure general access of both teachers and students to high-quality information and digital educational resources.

REFERENCES

A Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2, 2020. Available at: <http://uis.unesco.org/sites/default/files/documents/ip51-global-framework-reference-digital-literacy-skills-2018-en.pdf>. Accessed date: 12 May 2020.

ATENAS, Javiera; HAVERMANN, Leo; PRIEGO, Ernesto. Open data as open educational resources: Towards transversal skills and global citizenship. **Open Praxis**, v. 7, n. 4, p. 377-389, 2015.

BAZELIUK, Oleksandr. Digital culture of vocational education and training institutions' teachers. **Bulletin of Postgraduate Education. Series: Pedagogical Sciences**, v. 6, p. 23-36, 2018.

BROWN, Mark. **A critical review of frameworks for digital literacy: Beyond the flashy, flimsy and faddish**, 2017. Available at: <http://blog.ascilite.org/a-critical-review-of-frameworks-for-digital-literacy-beyondthe-flashy-flimsy-and-faddish-part-1/>. Accessed date: 19 May 2020.

BULATOV, Nurzhan; SARZHANOV, Dauren; ELUBAEV, Sagyntay; SULEYMENOV, Tynys; KASYMZHANOVA, Kuralay; BALABAYEV, Oyum. Engineering and experimental testing of prototypes of biogas equipment. **Renewable Energy**, v. 160, p. 278-287, 2020a.

BULATOV, Nurzhan; TOILYBAYEV, Assylbek; SULEYEVA, Nurgul; SARZHANOV, Dauren. Development of the model (algorithm) of the efficient transportation logistics with the purpose of collection and transportation of the solid municipal waste to the places of their recycling. **Environment Development and Sustainability**, v. 3, p. 12-18, 2020b.

BURIBAYEV, Yermek; KHAMZINA, Zhanna; SUTEEVA, Canzada; APAKHAYEV, Nurlan; KUSSAINOV, Sergazy; BAITEKOVA, Kantkul. Legislative regulation of criminal liability for environmental crimes. **Journal of Environmental Accounting and Management**, v. 8, n. 4, p. 323-334, 2020.

COUGHLAN, Taylor. The use of open data as a material for learning. **Educational Technology Research and Development**, v. 68, p. 383-411, 2019.



Digital Economy and Society Index (Desi) 2020: Human capital, 2020. Available at: <https://ec.europa.eu/digital-single-market/en/human-capital>. Accessed date: 28 May 2020.

Digital Economy and Society Index, 2020. Available at: <https://digital-agenda-data.eu/datasets/desi/visualizations>. Accessed date: 16 May 2020.

DUNCAN, Sam; BROSANAN, Kevin; DERRICK, Jay; GREGSON, Margaret; JONES, Robin. **Reflective teaching in further, adult and vocational education**. London: Bloomsbury, 2020.

Education and Training Monitor, 2019. Available at: <https://ec.europa.eu/education/sites/education/files/document-library-docs/volume-1-2019-education-and-training-monitor.pdf>. Accessed date: 18 May 2020.

European Commission. Digital economy and society, 2019. Available at: <https://ec.europa.eu/eurostat/web/digital-economy-and-society/overview>. Accessed date: 23 May 2020.

European Commission. Education and training, 2020. Available at: <https://ec.europa.eu/eurostat/web/education-and-training/overview>. Accessed date: 27 May 2020.

FERGUSON, Rebecca; COUGHLAN, Taylor; EGELANDSDAL, Kjetil; GAVED, Mark; HERODOTOU, Christothea; WHITELOCK, Denice. **Innovating pedagogy 2019: Open university innovation report 7**. Milton Keynes: The Open University, 2019a.

FERGUSON, Rebecca; JONES, Ann; SCANLON, Eileen. **Educational visions: Lessons from 40 years of innovation**. London: Ubiquity Press, 2019b.

GEE, James. **Teaching, learning, literacy in our high-risk high-tech world: A framework for becoming human**. New York: Teachers College Press, 2017.

GREGSON, Margaret; KESSELL-HOLLAND, Paul. Practice! Practice! Practice! *In: Practice-focused research in further adult and vocational education shifting horizons of educational practice, theory and research*. London: Palgrave, 2020.

GREGSON, Margaret. In practice: The importance of practitioner research in vocational education. **Education Sciences**, v. 10, n. 79, 2020.

GUZER, Bayram; HAMIT, Caner. A proposal for a blended learning methodology and how to apply it with university students. **Procedia-Social and Behavioral Science**, v. 116, p. 4596-4603, 2014.

HERODOTOU, Christothea; MUIRHEAD, Dave; ARISTEODOU, Maria; HOLE, Malcolm; KELLEY, Simon; SCANLON, Eileen; DUFFY, Marcus. Blended and online learning: A comparative study of virtual microscopy in Higher Education. **Interactive Learning Environments**, p. 1-16, 2018. Available at: <https://www.tandfonline.com/doi/full/10.1080/10494820.2018.1552874>. Accessed date: 19 May 2020.



HOLMES, Wayne; BIALIK, Maya; FADEL, Charles. **Artificial intelligence in education: Promises and implications for teaching and learning**. Boston: Center for Curriculum Redesign, 2019.

JOWERS, Iestyn; GAVED, Mark; DALLISON, Delphine; ELLIOTT-CIRIGOTTIS, Gary; ROCHEAD, Alan; CRAIG, Mark. A case study in online formal/informal learning: was it collaborative or cooperative learning? **Design and Technology Education: An International Journal**, v. 22, n. 1, 2017. Available at: <https://ojs.lboro.ac.uk/DATE/article/view/2213>. Accessed date: 11 May 2020.

LUCENA, S.; OLIVEIRA, J. M. A. Culturas digitais na educação do Século XXI. **Revista Tempos e Espaços em Educação**, v. 7, n. 14, p. 35-44, 2014.

KHAMZIN, Amangeldy; KHAMZINA, Zhanna; BURIBAYEV, Yermek. The decent work programme of Kazakhstan: Social and labor rights protection from an institutional aspect of international law. **Journal of East Asia and International Law**, v. 8, n. 2, p. 539-548, 2015.

KHAMZINA, Zhanna; BURIBAYEV, Yermek; YERMUKANOV, Yerkin; ALSHURAZOVA, Aizhan. Is it possible to achieve gender equality in Kazakhstan: Focus on employment and social protection? **International Journal of Discrimination and the Law**, v. 20, n. 1, p. 5-20, 2020.

KUKULSKA-HULME, Agnes; TRAXLER, John. Paradoxical paradigm proposals – Learning languages in mobile societies. **Argentinian Journal of Applied Linguistics**, v. 7, n. 2, p. 89-109, 2019.

KUKULSKA-HULME, Agnes. Intelligent assistants in language learning: Friends or foes? *In: Proceedings of World Conference on Mobile and Contextual Learning*, 2019. p. 127-131. Available at: <https://www.learntechlib.org/p/210611/>. Accessed date: 7 May 2020.

KUKULSKA-HULME, Agnes; BEIRNE, Elaine; CONOLE, Gráinne; COSTELLO, Eamon; COUGHLAN, Tim; WHITELOCK, Denise. **Innovating pedagogy 2020: Open university innovation report 8**. Milton Keynes: The Open University, 2020.

MACARO, Ernesto; HANDLEY, Zöe; WALTER, Catherine. A systematic review of CALL in English as a second language: Focus on primary and secondary education. **Language Teaching**, v. 45, n. 1, p. 1-43, 2012.

MUBIN, Omar; STEVENS, Catherine; SHAHID, Suleman; AL MAHMUD, Abdullah; DONG, Jian-Jie. A review of the applicability of robots in education. **Technology for Education and Learning**, v. 1, n. 1, p. 1-7, 2013.

PARASKEVA, J. M. “Brutti, Sporchi & Cattivi”: Towards a Non-Abysal Curriculum. **Revista Tempos e Espaços em Educação**, v. 9, n. 18, p. 75-90, 2016.

PEGRUM, Mark; KUKULSKA-HULME, Agnes. Linguistic diversity in online and mobile learning. *In: The Routledge handbook of language and superdiversity*. Abingdon: Routledge, 2018.

PEGRUM, Mark. **From blogs to bombs**. Crawley: UWA Publishing, 2009.

PEGRUM, Mark. Digital literacies in language education. **Matraga – Revista Do Programa de Pós-Graduação Em Letras Da UERJ**, v. 26, n. 47, p. 462-469, 2019.



PEREIRA, A. A educação de jovens e adultos no sistema prisional brasileiro: o que dizem os planos estaduais de educação em prisões?. **Revista Tempos e Espaços em Educação**, v. 11, n. 24, p. 245-252, 19 jan. 2018.

Reimagining the Role of Technology in Higher Education: A Supplement to the National Education Technology Plan, 2017. Available at: <https://tech.ed.gov/files/2017/01/Higher-Ed-NETP.pdf>. Accessed date: 26 May 2020.

RIDHO, Taridi; VINICHENKO, Mikhail; MAKUSHKIN, Sergey. Participation of companies in emerging markets to the sustainable development goals (SDGS). **Economic and Social Development**, v. 1, p. 741-752, 2018.

The EU in The World: 2020 Edition, 2020. Available at: <https://ec.europa.eu/eurostat/web/products-statistical-books/-/KS-EX-20-001>. Accessed date: 12 May 2020.

TITKO, Elvira; DEI, Maryna; SMALII, Oleksandr; YULDASHEV, Serhiy. Impact of palliative care/medicine on realization of "Right to Life" and "Right to Dignity" in the context of human rights protection. **Journal of History Culture and Art Research**, v. 9, n. 1, p. 49-68, 2020.

TRAXLER, John. Mobile learning: The philosophical challenges, problems and implications of defining and theorising. **South African Journal for Open and Distance Learning Practice**, v. 39, n. 1, 2017. Available at: <https://www.upjournals.co.za/index.php/Progressio/article/view/1785>. Accessed date: 17 May 2020.

TRAXLER, John. Learning with mobiles in the digital age. **Pedagogics, Special Monothematic Issue: Education Futures for the Digital Age: Theory and Practice**, v. 68, n. 3, p. 293-310, 2018.

VAN STADEN, Annalene; PURCELL, Nicole. Multi-sensory learning strategies to support spelling development: A case study of second-language learners with auditory processing difficulties. **International Journal on Language, Literature and Culture in Education**, v. 3, n. 1, p. 40-61, 2016.

VINICHENKO, Mikhail; CHULANOVA, Oxana; KARACSONY, Peter; BOGDAN, Elena; MELNICHUK, Alexander; MAKUSHKIN, Sergey. Model of competences of graduates of high schools of engineering directions: Research of stakeholders. **Modern Journal of Language Teaching Methods**, v. 8, n. 3, p. 369-380, 2018a

VINICHENKO, Mikhail; CHULANOVA, Oxana; OSEEV, Anatoly; BOGDAN, Elena; MAKUSHKIN, Sergey; GRISHAN, Mikhail. Interaction of the higher education and key employer for the formation of the actual profile of the competences of graduates of engineering directions. **Modern Journal of Language Teaching Methods**, v. 8, n. 5, p. 394-404, 2018b.

VINICHENKO, Mikhail; KARACSONY, Peter; KIRILLOV, Alexander; OSEEV, Anatoly; CHULANOVA, Oxana; MAKUSHKIN, Sergey; SHALASHNIKOVA, Valentina. Influence of time management on the state of health of students and the quality of their life. **Modern Journal of Language Teaching Methods**, v. 8, n. 5, p. 166-184, 2018c.



VINICHENKO, Mikhail; MELNICHUK, Alexander; MAKUSHKIN, Sergey. Implementation of game methods in the preparation of management personnel. *In: 4th international conference on higher education advances (head'18)*. Valencia: Universitat Politècnica de Valencia, 2018d. p. 373-380.

ZIMMER, Michael. But the data is already public. *Ethics and Information Technology*, v. 12, n. 4, p. 313-325, 2010.

ABOUT THE AUTHORS

Alla Kozak

PhD in Pedagogy, Senior Lecture at the Department of Foreign Languages and Translation, Lesya Ukrainka Eastern European National University, Lutsk, Ukraine.

E-mail: kozak5838@tanu.pro

ORCID: <https://orcid.org/0000-0003-4322-8358>

Liliia Lavrynovych

PhD in Pedagogy, Associate Professor at the Department of Theory of Literature and Foreign Literature, Lesya Ukrainka Eastern European National University, Lutsk, Ukraine.

E-mail: lavrynovych5838@murdoch.in

ORCID: <https://orcid.org/0000-0001-8588-9790>

Svitlana Sukhareva

Full Doctor in Pedagogy, Professor at the Department of Foreign Languages and Translation, Lesya Ukrainka Eastern European National University, Lutsk, Ukraine.

E-mail: s.sukhareva5838@ubogazici.in

ORCID: <https://orcid.org/0000-0001-5039-582X>

Viktor Iaruchyuk

PhD in Pedagogy, Associate Professor at the Department of Ukrainian Literature, Lesya Ukrainka Eastern European National University, Lutsk, Ukraine.

E-mail: v.p.iaruchyuk5838@unesp.co.uk

ORCID: <https://orcid.org/0000-0002-9314-944X>

Olga Iaruchyuk

PhD in Pedagogy, Associate Professor at the Department of Slavic Philology, Lesya Ukrainka Eastern European National University, Lutsk, Ukraine.

E-mail: o.iaruchyuk5838@uoel.uk

ORCID: <https://orcid.org/0000-0002-5194-1105>

Received on: 09-03-2020

Approved on: 11-05-2020

Published on: 11-11-2020

