Distance education in the education system of European Union countries

Дистанційна освіта в системі навчання країн Європейського Союзу

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
Abstract

The article describes the experience of distance education in the education system of the countries of the European Union for the introduction of a new innovative level of education quality in the European dimension. The main characteristics of distance education are highlighted: learning at an individual pace, in a convenient format, in any city, at a convenient time; flexible pedagogical and educational frameworks that respond sensitively to internal and external changes; consideration by education of students' ability levels, various learning styles, interests, needs, and experience. Various technological tools of modern distance education and the main possibilities of intensive development of distance education in the education system of the European Union countries are considered. The role of the European Association of Distance Learning Universities is shown. The requested educational projects within the framework of the Erasmus+ program was analyzed. The regimes in which

Анотація

У статті описано досвід дистанційної освіти в системі навчання країн Європейського Союзу для запровадження нового інноваційного рівня якості освіти у європейському вимірі. Виокремлено основні характеристики дистанційної освіти: навчання в індивідуальному темпі, у зручному форматі, будь-якому місті, у зручний час; гнучкі педагогічні освітні рамки, що чутливо реагують на внутрішні й зовнішні зміни; врахування освітою рівнів здібностей студентів, різноманітних стилів навчання, інтересів, потреб, досвіду. Розглянуто різні технологічні інструменти сучасної дистанційної освіти та головні можливості інтенсивного розвитку дистанційної освіти в системі навчання країн Європейського Союзу. Показано роль Європейської асоціації університетів дистанційного навчання. Проаналізовано затребувані освітні проєкти у рамках програми Erasmus+. Виписано режими в яких може здійснюватися дистанційна освіта

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distance education can be carried out in the education system of the countries of the European Union are listed.

Keywords: distance education, countries of the European Union, innovative level of education, European Association of Distance Learning Universities, European dimension.

в системі навчання країн Європейського Союзу.

Ключові слова: дистанційна освіта, країни Європейського Союзу, інноваційний рівень освіти, Європейська асоціація університетів дистанційного навчання, європейський вимір.

Introduction

Quarantine restrictions, which were caused by the worldwide Covid-19 pandemic, prompted the educational systems of all countries of the world, including European ones, to introduce distance education (Shparik, 2021).

Modern education sets a universal goal for the entire world community: to introduce a new innovative level of education quality in the European dimension and, as a result, to ensure the competitiveness of future specialists in the world market. At the same time, the educational space must be reformed based on continuity, openness, democratization, mobility, equal access to education, and preserving the authenticity of national education (Sysoeva, & Krystopchuk, 2012).

The systematic development of Internet communications had a significant impact on the educational process. Innovative information technologies are constantly used during independent work to increase the efficiency of the educational process of education seekers. Distance educational technologies come to the fore. Without their help, it is not possible to implement a modern educational format. The analysis of the leading countries of the world showed an innovative trend in the organization of distance education networks, which showed the need to study the experience of distance education in the education system of the countries of the European Union.

The modern development of distance education is due to the provision of the market in qualified personnel, as well as the existing need for the advantages of distance education in learning, innovations in the educational sector, and the active inclusion of the world's largest computer companies in the development of educational programs. All these points indicate the necessity of implementing distance education for the education and state economies of the countries of the European Union (Belova, 2023).

The following questions are discussed in the article:

- The main characteristics of distance education.
- Analysis of distance education experience in the education system of the European Union countries.
- European Association of Distance Learning Universities.
- Comprehensive program of the European Union.
- The importance of the characteristics of distance education.
- The following modes of distance education of the European Union countries.

The purpose of the article: to study the experience of distance education in the education system of the countries of the European Union for the introduction of a new innovative level of education quality in the European dimension.

Literature Review

S. Sysoeva, & T. Krystopchuk (2012) considered the structural parameters of compulsory education in European countries; highlighted the main educational categories of the countries of the European Union: non-formal, formal, and informal; highlighted the main positions in the structure of higher education in Europe. The content of education, its stages of formation and development, types of education, and structuring of education systems in the countries of the European Union are analyzed and features are shown. Educational levels are considered, an analysis of the level of education is proposed and the specifics of academic levels, degrees, qualifications, and typification of higher education institutions are shown.

V. Belova (2023) analyzed the possibilities of distance education in institutions of higher education in the countries of the European Union. She showed the possibilities of implementing the intensive development of the distance education system and emphasized the integration capacity. In European countries, the systems of distance education are considered, and universal features and ways of implementing

distance education of national specificity are outlined. Emphasis is placed on the legal aspect in European universities, and the organizational principles of the functioning of distance education. Collegial advisory management bodies are analyzed, the connection between society and institutions of higher education, the humanitarian sphere and business are shown, the work of methodical and technical support departments are described, developments are proposed for quality control of technology management in education, and general monitoring.

O. Shparik (2021) characterized distance education, and identified its advantages: education at an individual pace, at a convenient time and in any place; flexible pedagogical frameworks aimed at the sensitive response to internal changes and all external changes; taking into account the experience, interests, styles of the educational process, needs, abilities of the students of education. The differences between the terms "distance education", "distance learning", "distance learning", and "extraordinary distance education" are highlighted. The influence of distance education technologies on high-quality, continuous education in the conditions of quarantine restrictions is shown.

R. Medvedev, & N. Khamska (2022) analyzed the current state of distance education organization in pedagogical institutions of higher education and highlighted their own experience in organizing distance education of education seekers based on LMS Collaborator in a single educational information environment.

O. Islamova (2023) shows the features of distance learning for specialists, especially English language, and highlights advanced ideas in the system of distance education of future border officers, in particular, the possibility of acquiring a high level of foreign language competence in the process of distance learning. The content of the work of the European agency Frontex, which provides an opportunity to participate in international educational projects, distance education courses of pan-European importance, to use simulators, electronic textbooks, and training complexes based on virtual reality, is disclosed. The meaning of the concept of "facilitation" in the educational online environment is clarified. New forms and innovative methods of the educational process are offered: "Polarization of opinions", "World Cafe", "Continuum", "Moderation cards", and "Aquarium".

M. Gagarin (2017) presented the main trends and carried out a comparative analysis of the development of higher education in foreign countries; the structure of the higher education systems of foreign countries is shown, in particular: Great Britain, Italy, Germany, and France, and their differences in the educational systems at the level of higher education are highlighted, and the common aspects of the educational process are shown.

V. Belan (2018) describes the educational policies of the countries of the European Union in the context of the implementation of the "Education and Vocational Training" program in the field of informatization. The main European documents enabling the implementation of digital competencies, informatization of education, and the use of distance learning in higher education have been analyzed. The development of distance education is shown in the example of Poland and promising ideas for domestic education are highlighted. A comparative analysis of the use of distance learning in institutions of higher education in Poland and Ukraine was made. The influence of distance learning centers on the education of the country, which were created in Poland at higher education institutions, is shown.

Methodology

A complex of methods was used for the conducted research, in particular:

– theoretical: analysis, synthesis, comparison of philosophical and psychological-pedagogical scientific sources, generalization for studying scientific literature, analysis of official and normative documents for comparison of positions of scientists regarding the content of research concepts; terminological analysis to determine the historical origins of the emergence of distance education in the education system; historical-pedagogical analysis to determine the period of distance education in the education system in the process of informatization of the educational space, comparative analysis of the development of distance education in the education system of foreign countries and the introduction of industry innovations in the educational process of those seeking education in universities of foreign countries - to identify and generalize trends in promoting quality training specialists; educational-methodical documentation, scientific-pedagogical experience,

scientific-methodical support - to determine the state of implementation of foreign experience of the organization of specialist training in higher education institutions of one's country; design, modeling - clarification of the main ideas of distance education in the education system of foreign countries, which is necessary for the high-quality training of specialists in foreign universities and its implementation in higher education institutions of one's country;

– empirical: pedagogical observation of distance education in the education system; conducting problem-based training to check the effectiveness of the implementation of distance education in the educational process in the education system

The study is based on the premise that the high-quality training of specialists in higher education institutions requires the generalization of promising foreign experience, the definition of the organizational structure of distance education in the education system, and the content of the training of future specialists, taking into account modern trends in the development of innovations in education, which makes it possible to promote the formation of professional competence of specialists in conditions of European integration of educational processes, modernization changes in universities abroad, further successful professional activity of specialists and their adaptation to the labor market. The study involves effective implementation and ensuring the unity of methodological, theoretical, and technological concepts.

The methodological concept provides opportunities for an integrated combination and complex application of general scientific methodological approaches:

– humanistic - promotes the formation, with the help of distance education in the training system, of professional ethical, humanistic skills in future specialists under the professional support of specialists to ensure the competitiveness of future specialists, which is the basis of professional activity;
– axiological - contributes to the formation of professional readiness of specialists, professional and personal values in the system of training specialists using distance education in the training system;
– personally oriented - contributes to the formation of the value bases of personally oriented education, on the condition of creating an environment of distance education in the education system,

highlighting in foreign countries progressive ideas for the development of creative abilities of future specialists by the value guidelines of distance education in the education system, which provide the participants of the educational process with the status of the highest value;

– systemic - provides an opportunity to consider distance education in the education system and its impact on the training of future specialists as a step-by-step systemic process that ensures the formation of professional competence of future specialists;
– operational - contributes to the operational ability to give primary importance to distance education in the education system, to solve tasks that contribute to the specialist's competitiveness;
– competence - ensures the formation of the professional competence of specialists in the process of their training in distance education in the education system and forms the readiness of education seekers to implement professional competencies in future professional activities;
– integrated - implements modernization changes in the training of specialists who meet the modern demands of the labor market, in the direction of distance education in the education system and bringing their education to the level of developed countries.

The theoretical concept provides the theoretical basis for improving the professional training of specialists, provides an opportunity to theoretically substantiate the possibilities of distance education in the education system, offers philosophical foundations for the educational background (general concepts of the philosophy of education, the laws of philosophy, the organizational structure of the training of specialists; the structure of professional competence, psychological and pedagogical support of educational process, readiness for the implementation of professional competences in the practical activities of future specialists, the organization of the higher education system, quality management management in higher education institutions, opportunities for the practice of education in foreign countries taking into account distance education in the education system, scientific positions of foreign scientists that ensure the improvement of the training process specialists in universities of foreign countries).

The technological concept covers experimental and applied aspects of improving the training of future specialists in the process of distance education in the education system based on the implementation of best practices of foreign countries and contains innovative educational interactive technologies for the rational use of distance education in the education system.

Results and Discussion

1. The main characteristics of distance education.

Distance education, which has a spectrum of wide use and distribution of digital means of the educational process, has long been associated with correspondence education and is defined as education that teaches at a distance with the help of information and communication technologies.

The main characteristics of distance education are:

- study at an individual pace, in a convenient format, in any city, at a convenient time;
- flexible pedagogical and educational frameworks that respond sensitively to internal and external changes;
- education takes into account students' ability levels, various learning styles, interests, needs, and experience (Shparik, 2021).

Modern distance education exists in various formats and is carried out using various technological tools, in particular: training, monitoring, demonstration, simulation programs; educational automated systems, virtual reality programs, hyper-environments, electronic textbooks, multimedia; expert, intellectual educational systems, etc.

The main opportunities for the intensive development of distance education in the education system of the European Union countries lie in the integration capacity of distance education itself. It is impossible to concentrate in each institution of higher education all the world's information resources created by mankind in the educational and scientific space. Therefore, the main task of world education is to open up such opportunities so that an educational process is organized with the help of telecommunications from every geographical point of the planet, providing access to information resources that can be grouped in any region of the world (Biletska et al., 2021).

Distance education in the education system of the countries of the European Union is characterized by flexibility, which is important for the introduction of a new innovative level of education quality in the European dimension, because students study in a convenient place, at a time when they can, at a convenient pace (Shchyrbul et al., 2022). Everyone studies as much as is personally necessary for him to study the course of the discipline, to obtain professional knowledge in his specialty. Distance programs in the field of education are based on the principle of modularity, which consists of the adequate content of each educational professional course, and the subject area for a set of independent educational courses that meet group or individual needs (Kuchai et al., 2021).

2. Analysis of distance education experience in the education system of the European Union countries.

We will analyze the study of the experience of distance education in the education system of the countries of the European Union for the introduction of a new innovative level of education quality in the European dimension.
In 1939, in France, for children who did not have the opportunity to attend school, the State Distance Learning Center CNED was created for learning by mail. Today, this center has become the largest educational institution of distance education in Europe. It included eight institutes that specialize in a certain field of activity (more than 3,000 training courses are offered for a different range of activities for those seeking an education). The total number of employees exceeds 8,000, who contribute to the education of more than 350,000 learners in 120 countries around the world. Such categories of students acquire education with the help of the Internet, satellite television, e-mail, educational programs, modern information, and pedagogical technologies (Dall'Acqua, 2009).

In the European educational environment, the implementation of educational tasks and programs related to distance education is becoming more widespread every day. An example is the cooperation between institutions of higher education in Ireland.

Dublin City University and Dublin University of Technology work in the distance learning sector. For several years, they have been conducting joint research that improves the quality and level of education of those seeking education.

The National University of Distance Education in Spain (UNED) has been working with distance learning technology for more than 50 years. It was founded in 1972. Its structure includes 58 educational centers in the country and nine abroad (Picciano, 2019).

At the Baltic University of Sweden, more than 50 universities from the Baltic region jointly implement distance education.

In Sweden, foreign software "Mentor", "Luvit", "Maestro", "Librix", "FirstClass", "Telia Instant Education", "Comenious online", "Lecando", "WebCat", "Marratech". But institutions of higher education use "PingPong" - domestic software. State universities use student management systems "Ladok Novau", and "Ladok" which they are equipped with and which are owned by a consortium of 37 higher education institutions in Sweden. The software for the Ladok system is maintained by the Umeå group established in each university, while the institutes are responsible for local systems that pay for the operation of equipment, networks, servers, and local support.

The leading universities of Italy, Germany, and Holland, which work in the field of distance education, have, along with general development trends, unique features characteristic of institutions, educational networks, and individual states. The peculiarities of the organization of the management of institutions and the management of the quality of learning technologies of the students of the educational process, which are observed in the educational systems of different countries, are important (Belova, 2023).

The Open University of the Netherlands educates students only at the master's level and only in seven academic disciplines: psychology, culture, informatics, law, economics, business, public administration, and ecology.

The University of Ljubljana in Slovenia has been operating since 1995 and has been offering distance learning programs in the following disciplines: international business, tourism, management, and entrepreneurship since its inception.

3. European Association of Distance Learning Universities.

In the European educational environment, educational institutions in their work use their developments in the educational virtual environment: platforms, support systems, and teaching of e-learning.

In 1987, the European Association of Distance Learning Universities was founded and still exists, the purpose of which is to:

– development of distance education in Europe at the highest level;
– promotion of cooperation in the field of scientific research;
– support and accelerate the creation of a European distance education network (Kuzminskyi et al., 2018);
– the creation of conditions for multilateral contacts between university teachers;
– development of courses, creating the possibility of exchange of courses and recognition of diplomas;
– introduction of new technologies and methods of distance education;
– implementation of projects in the field of education together with enterprises and European governments;
– facilitating access to higher education opportunities in Europe (Cort, 2014).

Based on such cooperation, it became possible to create the European Open University based on the Network of European Open Universities. The organization includes 17 open universities from 15 countries. The governing structure of the Network of European Open Universities is an organized network of European Learning Centers, the purpose of which is to:

– show the possibilities of distance education;
– provide access to courses from any institution in any European country;
– to contribute to the support of students of open distance education (Kuchai et al., 2022).

Therefore, the field of distance education in European countries is dominated by open universities, where there are integration processes that include high-quality education standards and mutual accreditation of higher education institutions (Sysoeva, & Krystopchuk, 2012).

Institutions of distance education in the countries of the European Union are divided according to the legal form of the organization into private organizations and state ones, the established national and international associations of universities that work in the system of distance education are successfully functioning. In such

organizations, advisory collegial management bodies have been created, which have the mandatory goal of ensuring the connection of educational institutions with the needs of business, the humanitarian sphere, and society. In European universities, the mandatory elements of the distance education system are the departments of methodical and technical support, teaching and development of courses, general marketing, quality control of pedagogical technology management and monitoring of the educational process in general, finance, accounting, etc. The content of educational disciplines is developed by the teaching staff and with the help of external experts (Belova, 2023). In European countries, the unification of the distance education system contributed both to the need of individual member states to define innovative principles and moral rules of coexistence, and to unification in general and the mandatory creation of a multilingual environment (Kotiash et al., 2022). There was a need to manage the process of multilingualism, in the distance format of the educational process, to create an appropriate language regime of the EU "EU language regime", to implement technical and organizational measures, which received the general name multilingualism management. Today, language issues are a separate area of activity of the EU, which is a priority, and has the official name: "EU Language Policy" (Sysoeva, & Krystopchuk, 2012).

Pedagogical innovation systems in the European space make it possible today to combine the open distance mode of education and create conditions for asynchronous, flexible, mixed, interactive learning that takes place throughout life (Shparik, 2021).

4. Comprehensive program of the European Union.

The European Union has developed a program that is comprehensive and includes:

1) development of educational open courses, and information repositories;
2) unification of created educational open resources;
3) development of education quality standards for open distance learning (European Commission, 2014).

This program for the implementation of the strategy of informatization of education in the European format involves bringing educational electronic local resources to the global and European level. In the future, the main direction of the European comprehensive program is the development of quality standards for open education and their implementation (Open Quality Standards). The European Commission plans to achieve these intended positions with the help of the Erasmus + program (Belan, 2018).

Popular educational projects within the Erasmus+ program is:

– European online platform for education School Education Gateway (https://www.schooleducationgateway.eu/en/pub/index.htm). It facilitates online courses; exchange and familiarization with advanced experience with specialists from different countries of the European Union, improving the skills and abilities of educational space applicants; makes it possible to hold webinars on various topics; helps to find the necessary educational online resources;
– the eTwinning platform (https://www.etwinning.net/en/pub/community.htm) facilitates the implementation of educational projects, the interaction of teachers, enables the exchange of teaching experience, and educational resources, promotes the development of professional skills;
– SALTO-YOUTH (https://www.salto-youth.net/about/) a network that provides non-formal educational resources for learners, and leaders and includes seven resource centers, organizes educational innovation activities to support national agencies and organizations within Erasmus + Youth and European Solidarity Corps programs;
– The European Learning Corner platform (https://europa.eu/learningcorner/home_en) provides access to online games of educational content, interactive books, and educational materials for education seekers of all age groups to familiarize themselves with EU activities;
– EU Code Week (https://codeweek.eu/) – created and supported by the European Commission for the formation of programming skills of education seekers and their improvement, initiative, and computational thinking, raising the level of distance education of both the teacher and the education student.

5. The importance of the characteristics of distance education.

European scientists emphasize the importance of the following characteristics of distance education:

−   the creation of an educational environment at a place convenient for the learner (Learning at Own Place/Location): distance education can be carried out in any place convenient for the learner (at the international level, regional level, local level) and even thanks to the availability of mobile devices while the student is on the move;
−   learning at own pace (Learning at Own Pace): distance learning of students often takes place in a part-time mode and students can study at a slow pace or intensively according to special programs;
−   learning at a time convenient for the student (Learning at Own Time): learning is offered according to a specific schedule during academic sessions. Educators can study, taking into account other obligations, at a time convenient for them in the conditions of remote mode (family, work, etc.) and limitations (illness or disability);
−   flexible educational framework (Flexible Teaching Framework): the concept of education, which supports flexible learning (Flexible Learning), can respond to internal and external changes and adequately respond to them; perceives the acquirers of the educational space as reflective and active subjects of learning, enables their experience, student interests, needs, learning styles and ability levels (Georgiadou, & Siakas, 2006). Such frameworks provide an opportunity for teachers and students to approach innovative, creative, contextually oriented solutions that will meet modern requirements for the quality of education.

6.   The following modes of distance education of the European Union countries.

Distance education in the education system of the countries of the European Union can be carried out in the following modes (Shunkov et al., 2022):

−   synchronous (all participants of distance education are simultaneously in the web environment of the educational system of the countries of the European Union of the educational process, using audio, video conference, chat, social networks, etc.). Synchronous mode facilitates real-time collaboration. Its advantage is that it is possible to attract participants at a certain time and instantly;
−   asynchronous (the educational process is carried out remotely in the education system of the countries of the European Union according to a schedule convenient for students using a forum, e-mail, blog, social networks, questionnaires, etc.). The asynchronous mode involves various means of information, video classes, and audio classes. With the help of this mode of education, students work at a time convenient for them, at their own pace, from different geographical locations.

The countries of the European Union, to introduce a new innovative level of education quality in the European dimension, are introducing precisely distance education technologies, which exist as one of the most effective in the system of the education sector during the pandemic and enable the support of continuous, accessible, high-quality education (Shparik, 2021).

The review of distance education in the countries of the European Union confirms that it reflects the "Digital Agenda for Europe" (Eufordigital, 2010) approved by the EU in 2010, covering the entire educational spectrum of learning areas - from the creation of electronic services for humanity to the creation of a secure, fast broadband network for the population. This approach is reflected in the high ranking of European countries by the level of development of ICT technologies (the ICT Development Index), where European countries occupy first places (Belan, 2018).

Having studied the ways of distance education development in the education system of the countries of the European Union, we will name the main principles of the distance education system: flexibility, creativity, openness, modularity, dynamism, continuity, adaptability.

With the help of telecommunications, for the purpose of saving and creating educational materials, supporting and organizing the distance learning process, the following applications are relevant: Student Information Systems (SIS), Learning Management System (LMS), Virtual Classrooms (VC), Learning Content Management Systems (LCMS), Assessment Management Systems (AMS), Virtual Learning Environments (VLE), Training Management Systems (TMS), eBooks Management Systems, Social Learning Systems, Massive Open Online Courses (MOOCs), Learning Analytics, etc.

Let's name the main LMS - Learning Management System - a software computer complex that is easy to use and designed to manage, develop, distribute online educational materials and provide access to them. In the visual learning environment, the following materials are created with an indication of the sequence of their study. The materials include projects for work in small groups based on the content and communicative component, individual tasks and other educational elements for students of education

Having studied the features of the application of distance education in the education system of the countries of the European Union, we substantiate the promising directions of the educational field in the development of distance education:

– creation of favorable conditions in institutions of higher education in order to ensure that students are ready to use distance learning;
– for all institutions of higher education, it is mandatory to establish specific volumes of learning material for the purpose of high-quality training of specialists using modern distance education;
– improvement and updating of the content component of institutional norms through the use of distance education and ensuring its quality functioning;
– formation and implementation of the state order in the distance education system for the training of specialists with higher education;
– popularization of the professionalism of education seekers and their experience, for obtaining higher education using information technologies of distance education;
– the use of distance learning technologies in the secondary education system in order to ensure the quality of knowledge acquisition of students in the higher education system;
– for employers who will provide jobs for future specialists who will study by distance education, the introduction of long-term or temporary benefits by the state (Cort, 2014).

Conclusions

The main characteristics of distance education are highlighted: learning at an individual pace, in a convenient format, in any city, at a convenient time; flexible pedagogical and educational frameworks that respond sensitively to internal and external changes; consideration by education of students' ability levels, various learning styles,

interests, needs, and experience. Various technological tools of modern distance education and the main possibilities of intensive development of distance education in the education system of the European Union countries are considered. The role of the European Association of Distance Learning Universities is shown. The requested educational projects within the framework of the Erasmus+ program were analyzed. The regimes in which distance education can be carried out in the education system of the countries of the European Union are listed. The review of distance education in the countries of the European Union confirmed that it reflects the "Digital Agenda for Europe" approved by the EU in 2010. This approach is reflected in the high ranking of European countries by the level of ICT development (ICT Development Index), where European countries occupy the first places.

Further research will be aimed at the analysis of educational projects within the framework of the Erasmus+ program.

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