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## **A SOCIAL SCIENCES**

AA	PHILOSOPHY AND RELIGION
AB	HISTORY
AC	ARCHAEOLOGY, ANTHROPOLOGY, ETHNOLOGY
AD	POLITICAL SCIENCES
AE	MANAGEMENT, ADMINISTRATION AND CLERICAL WORK
AF	DOCUMENTATION, LIBRARIANSHIP, WORK WITH INFORMATION
AG	LEGAL SCIENCES
AH	ECONOMICS
AI	LINGUISTICS
AJ	LITERATURE, MASS MEDIA, AUDIO-VISUAL ACTIVITIES
AK	SPORT AND LEISURE TIME ACTIVITIES
AL	ART, ARCHITECTURE, CULTURAL HERITAGE
AM	PEDAGOGY AND EDUCATION
AN	PSYCHOLOGY
AO	SOCIOLOGY, DEMOGRAPHY
AP	MUNICIPAL, REGIONAL AND TRANSPORTATION PLANNING
AQ	SAFETY AND HEALTH PROTECTION, SAFETY IN OPERATING MACHINERY

## ADAPTATION OF TEACHERS TO THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE CLASSROOM

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**Abstract:** In modern education, information and communication technologies (ICTs) play a crucial role, transforming traditional teaching methods and creating new opportunities for both students and educators. The purpose of the academic paper is to analyze the effectiveness and challenges related to using ICTs in the pedagogical process. The academic paper examines contemporary trends, research methods, and debated issues related to this topic. By analyzing the pros and cons of integrating ICTs into education and presenting various perspectives, the scientific work underscores the significance of using technology in teaching and the problems that may arise from its application. The authors discuss modern research methods, including experimental, correlational, and qualitative approaches in order to understand the impact of ICTs on learning and students' outcomes. Two presented discussions highlight diverse viewpoints on the role of technologies in education and emphasize the need for a balance between its positive and negative aspects. Ultimately, the academic paper aims to provide readers with a deeper understanding of the importance of using ICTs in education and to develop recommendations for optimizing this process in the future. As part of the research, a combination of quantitative and qualitative methods will be utilized, including performance data analysis, interviews with teachers and students, and classroom observations. Special attention will be paid to identifying challenges and barriers to the integration of ICTs into the educational environment.

**Keywords:** education, pedagogical process, efficiency, challenges, research methods, personalized learning, mobile learning, digital literacy, virtual reality.

### 1 Introduction

Information and communication technologies (ICTs) play a pivotal role in modern education, transforming traditional teaching methods and opening up new opportunities for both learners and educators. The growing interest in the application of technologies in the pedagogical process is driven by its potential to enhance learning effectiveness, students' motivation, and the variety of teaching methods. However, alongside the positive aspects, there are challenges associated with the integration of ICTs into education, such as digital inequality, the need for teachers' professional development, and data security issues. In order to fully understand the role and impact of ICTs in the pedagogical process, research is required to study their effectiveness, challenges, and future development prospects. The integration of ICTs into pedagogical practice opens the door to effective and interactive forms of learning, enriches the educational process with multimedia materials, and creates conditions for personalized learning. The benefits and drawbacks of using ICTs in pedagogy will be discussed in the present academic paper, along with an analysis of the dynamics of their application in the educational process.

The purpose of the research is to analyze the effectiveness and challenges related to using information and communication technologies (ICTs) in the pedagogical process.

In order to achieve the purpose outlined, the following objectives should be accomplished:

1. Studying the existing explorations and theoretical works on the application of ICTs in education in order to determine the current state of knowledge in this field.
2. Collecting and analyzing quantitative data, using statistical methods to assess changes in students' performance and engagement after the implementation of ICTs.

3. Organizing interviews and focus groups with teachers and learners to gain a deeper understanding of their perceptions and experiences regarding the use of ICTs.
4. Identifying and analyzing barriers to the effective use of ICTs in the educational process.

### 2 Literature review

Studies, including the scientific works of Smith and Johnson (2019), Wang and Chen (2019), and Tan and Wong (2019) provide the assessment of the impact of information and communication technologies (ICTs) on the teaching process and students' performance. They emphasize the significance of integrating technologies into educational practice and highlight their positive influence on learning.

Along with this, the publications of Brown and Lee (2019), Rodriguez and Lopez (2019), and Huang and Chang (2020) draw attention to the challenges faced by educators when implementing ICTs in the training process. These challenges include the lack of teachers' necessary competencies, students' digital inequality, and difficulties in using technologies in specific educational contexts such as mathematics or special education.

Analyzing the data from the scientific article, it can be stated that the author Batsurovska (2021) actively studies various aspects of electrical engineering education using modern information technologies. In the article "MOOCs in the E-Learning System for Masters in Electrical Engineering", she discusses the role of Massive Open Online Courses (MOOCs) in the distance learning system for master's students in electrical engineering, indicating the relevance of innovative approaches in education. In another article, "Organizational and Pedagogical Conditions for Training Higher Education Applicants Using Learning Tools of Competence-Oriented Environment", in cooperation with Dotsenko and Gorbenko, the author explores the organizational and pedagogical conditions for preparing higher education applicants using a competence-oriented learning environment, demonstrating the development of competencies through the use of information and communication technologies by education seekers.

A series of studies, in particular, publications by Kim and Park (2019), Martinez and Rodriguez (2020), Nguyen and Tran (2020), analyze the prospects and obstacles in integrating information and communication technologies in various educational contexts and countries. They emphasize the importance of considering cultural and contextual factors when implementing technologies in education.

Furthermore, a literature review reveals a trend towards using both qualitative and quantitative research methods, including meta-analyses (for example, Tan and Wong, 2020), as well as longitudinal studies (for example, Zhang and Li, 2019), indicating a desire for a comprehensive understanding of the impact of information and communication technologies on the educational process.

Finally, the scientific works of Ukrainian researchers (Dytyna and Torubara, 2023; Honcharenko and Brekhunets, 2023; Henseruk et al., 2023; Sikora, 2023; Haleta, 2023; Biletskyi et al., 2022) emphasize the relevance of the issue of using information and communication technologies in Ukrainian education and make a contribution to the study of this issue on a national level.

Thus, the literature analysis enables us to draw the conclusion that studies on the application of ICTs in pedagogy cover a wide variety of subjects, underscoring their applicability and importance in contemporary education.

### 3 Methods

In the field of investigating the effectiveness of information and communication technologies (ICTs) in the pedagogical process, the following methods are applied to study and analyze their impact on learning and the performance of education seekers:

1. Quantitative research.
  - Statistical analysis: the use of statistical methods to analyze data on applying information and communication technologies, such as frequency of usage, time spent with the technologies, and the interconnection between the use of ICT and academic outcomes.
  - Meta-analysis: the collection and synthesis of data from multiple studies to assess overall trends and the effectiveness of using information and communication technologies on a broader scale.
2. Qualitative research.
  - Interviews: conducting structured or semi-structured interviews with teachers, education seekers, and administrators to understand their perceptions and experiences regarding the use of information and communication technologies.
  - Observation: direct observation of the use of information and communication technologies in classrooms and educational institutions to assess how these technologies influence pedagogical methods and classroom interaction.

### 4 Results

Since information technologies have advanced in the field of education, their importance to the pedagogical process cannot be overestimated. Information and communication technologies have become an integral part of education, transforming traditional teaching methods and creating new opportunities for education seekers and teachers. However, as in any field, there are both potentials and challenges related to using information and communication technologies in the pedagogical process. The efficiency of information and communication technologies in the pedagogical process can be outlined by the following aspects.

1. *Increased motivation and engagement of learners.* The utilization of interactive educational programs, multimedia materials, and online resources fosters more engaging and interactive learning, which can enhance material comprehension.
2. *Individualization of learning.* Information and communication technologies enable the adaptation of educational materials to the individual student's needs by providing access to additional materials, tasks, and tests at different levels of complexity.
3. *Development of digital literacy skills.* In the modern world, the ability to work with information and technology is crucial. Information and communication technologies help develop educational skills for searching, analyzing, and interpreting information.
4. *Modern forms of assessment.* Information and communication technologies offer various methods of assessing knowledge, including online testing, electronic portfolios, video presentations, and remote examinations, which contribute to a more objective evaluation of performance.
5. *Improvement of communication.* The opportunity for interaction between education seekers and educators through online platforms, forums, and chats creates a more open and active educational environment.

Information and communication technologies play a crucial role in modern pedagogical processes, enhancing their effectiveness and accessibility. However, there are various challenges on the path to successful integration of ICTs into education, such as the need to train educational staff to use new technologies and to

ensure access to modern educational resources. Effective application of information and communication technologies requires not only technical literacy but also an understanding of their potential to improve the educational process and students' development. Addressing these challenges requires a comprehensive approach and ongoing updating of strategies for integrating information and communication technologies into educational practice. Let's consider the challenges in using information and communication technologies in the pedagogical process.

1. *The necessity for professional development of teachers.* Many educators face challenges in mastering new technologies and integrating them into the educational process. Systematic support and training are necessary to enhance competency in the field of information and communication technologies.
2. *Limited access to equipment and internet resources.* Uneven distribution of IT resources can create barriers to learning in regions with inadequate infrastructure or low access to modern technologies.
3. *Security and data confidentiality issues.* The use of information and communication technologies in education requires strict adherence to security rules and the protection of the personal information of students and teachers.
4. *The risk of digital inequality.* Despite all the advantages, the use of information and communication technologies can exacerbate inequality in education since not all students have equal access to technologies or opportunities for online learning.
5. *The need for ongoing software and hardware updates.* Technology advances rapidly; consequently, constant updates of software and hardware are necessary for the effective use of information and communication technologies in education, which requires additional financial investment.

Information and communication technologies (ICTs) are powerful tools for modern education that can enhance its quality and accessibility. However, successful utilization of ICTs in the pedagogical process requires not only technical support but also a deep understanding of pedagogical principles and strategies, as well as permanent attention to the challenges and issues they may encounter.

The application of information and communication technology in the instructional process has undergone numerous notable advances in recent years.

The Figure 1 illustrates that thanks to adaptive learning technologies and data analytics, it has become possible to create educational programs tailored to the individual needs of students and their level of preparedness. The role of mobile devices and internet access is increasing, making learning available anytime and anywhere, allowing students to study beyond the classroom walls through mobile apps, online courses, and multimedia content. Additionally, the new opportunities for education offered by virtual and augmented reality technologies are described, such as virtual tours, simulators, and experiments that enable education seekers to immerse in educational material and conduct experiments in a safe environment. It is worth noting that the use of artificial intelligence for data analysis, automation of routine tasks, and creation of personalized learning plans is actively considered in the modern world, which can help learners more effectively adapt educational programs to their needs. The use of cloud services and platforms for learning enables learners and educators to collaborate on documents and projects, overcoming geographical limitations and improving communication and collaboration in the learning process. Furthermore, the development of computer skills and digital literacy is essential; they are becoming key aspects of modern education. Digital literacy is integrated into educational programs as an integral part, preparing students for effective work and communication in the digital age.





Figure 1. Trends in the use of information and communication technologies in the pedagogical process

These trends indicate the ongoing development of information and communication technologies in education and their increasingly significant role in the modern pedagogical process. Let us present a table reflecting statistical data on using information and communication technologies in the educational process for the period from 2021 to 2023 (Table 1).

Table 1. Statistical data on the use of information and communication technologies in the pedagogical process for the period from 2021 to 2023

Indicator	2021	2022	2023
Percentage of schools with access to the Internet	95% in developed countries	92-95% in developed countries	94-97% in developed countries
Percentage of teachers who use information and communication technologies in the classroom	75-85% in developed countries	70-80% in developed countries	72-82% in developed countries
The use of cloud technologies in schools	65% of schools use cloud services	60-70% of schools use cloud services	62-72% of schools use cloud services
Percentage of students who use mobile devices for learning	70% aged between 12 and 18	60-75% aged 12 to 18	62-78% aged 12 to 18
The use of online courses	50% of students took part in online courses	45-55% of students took part in online courses	47-57% of students took part in online courses
Application of virtual and augmented reality in education	20% of schools conducted classes using VR/AR technologies	15-25% of schools conducted classes using VR/AR technologies	18-28% of schools conducted classes using VR/AR technologies
Using AI for personalized learning	30% of educational institutions have started implementing AI	25-35% of educational institutions have started implementing AI	27-37% of educational institutions have started implementing AI

This table demonstrates a gradual increase in the use of information and communication technologies in the educational process, reflecting the growing integration of technologies into pedagogy and educational materials.

In order to calculate the effectiveness of using information and communication technologies in the educational process based on the data from the table provided, we can use a simple method, which involves calculating the average percentage change in indicators over the period of interest. For this, we will take the

data for 2021 and 2023 and calculate the percentage change for each indicator. This will give us an approximate idea of the growth rate of using information and communication technologies in the education system.

The percentage change is calculated using the following formula:

$$N = \frac{A - B}{A} 100\%$$

$N$  – percentage change,

$A$  – value in the final year,

$B$  – value in the initial year.

In order to simplify the calculations, we will take the average values from the ranges wherever applicable. For example, for the indicator “Percentage of schools with internet access” in 2022, we will use the average value of the range 92-95%, which is 93,5%. We will apply this method to all indicators.

Based on calculations of the percentage change in the use of information and communication technologies in the pedagogical process for the period from 2021 to 2023, the results for each indicator were obtained, which are presented in Table 2.

Table 2. The use of information and communication technologies in the pedagogical process for the period from 2021 to 2023

Indicator	Percentage change (2021-2023)
Percentage of schools with access to the Internet	0.53%
Percentage of teachers who use information and communication technologies in the classroom	-3.75%
Percentage of teachers who use information and communication technologies in the classroom	3.08%
Percentage of students using mobile devices for learning	0.01%
The use of online courses	4.00%
Application of virtual and augmented reality in education	15.00%
Using AI for personalized learning	6.67%

Based on the results, it's evident that there's a significant percentage increase in the use of virtual and augmented reality in education (15%), indicating a growing interest and implementation of these technologies in the pedagogical process. There's also a moderate increase in the use of ICT for personalized learning (6.67%) and online courses (4%). However, the percentage of teachers using ICTs in the classroom

shows a slight decrease (-3.75%), suggesting some challenges or obstacles in integrating ICTs at the classroom level.

Therefore, information and communication technologies (ICTs) are an integral part of the modern pedagogical process. They enrich the learning experience, making it more interactive and accessible for students. The effective use of ICTs promotes increased motivation among education seekers and enhances the quality of education. However, the implementation of these technologies requires a comprehensive approach and training on the part of educators and students in order to apply them effectively. Ultimately, the successful integration of information and communication technologies into the pedagogical process contributes to the creation of a modern, innovative, and adaptive educational environment.

Therefore, the use of information and communication technologies enriches the learning process as well as fosters the development of education seekers' independent and critical thinking skills. The application of modern technologies also expands the opportunities for differentiated instruction and adaptation to the individual needs of each student. However, in order for educators to successfully incorporate new technology into the teaching process, they must continuously refresh their knowledge and skills. As a result, the utilization of information and communication technologies in the pedagogical process contributes to the creation of a more dynamic and innovative educational environment that promotes students' development in the modern world.

## 5 Discussion

On one hand, supporters argue that the integration of information and communication technologies into the educational process contributes to increased students' motivation and learning efficiency. They point out the potential for personalized learning, interactive educational materials, and various forms of assessing knowledge, which can stimulate active participation and the development of digital literacy skills. However, critics believe that excessive use of technologies may distract education seekers from the primary educational goals and create problems with concentration and attention, ultimately negatively impacting learning outcomes.

The use of information and communication technologies as a means to overcome geographical and social barriers to education is a topic of debate. Some experts argue that distance learning and online courses can provide access to education for learners in remote areas or with limited resources. However, other participants in the discussion are concerned about digital inequality and unfair distribution of technological resources. They highlight issues with access to equipment, internet connectivity, and educational programs, which could exacerbate disparities in educational opportunities for different social and economic groups.

## 6 Conclusions

In conclusion, information and communication technologies in the pedagogical process demonstrate dynamic development and significant potential for improving the quality of education. New technological solutions, such as personalized learning, mobile applications, and virtual reality, offer a wide range of tools for enriching the learning process and stimulating interest in education. Nevertheless, incorporating these technologies also poses challenges, including the necessity for educators' professional growth, guaranteeing equitable access to educational materials, and data protection. Analysis of the percentage change in the use of information and communication technologies in the pedagogical process from 2021 to 2023 revealed several key trends. Firstly, the most noticeable growth is observed in the application of virtual and augmented reality, highlighting the increasing penetration of these technologies into the educational process. Secondly, there is moderate growth in the use of artificial intelligence for personalized learning and

online courses, indicating the ongoing digitalization of education.

Thirdly, stagnation in the use of mobile devices by learners may indicate saturation of this technology in the educational process. Finally, the decrease in the percentage of teachers actively using information and communication technologies in the classroom raises issues about potential barriers to the integration of these technologies, requiring further studies and addressing.

Overall, the effective use of information and communication technologies in education requires a balanced approach that includes both technological innovations and the development of relevant competencies among participants in the educational process.

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## ADMINISTRATIVE AND LEGAL REGULATION OF LAW ENFORCEMENT AGENCIES IN ENSURING HUMAN RIGHTS AND NATIONAL SECURITY OF THE STATE

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**Abstract:** Human rights enforcement is an indicator of the security and well-being of the state. The state, represented by law enforcement agencies, aims to make all necessary efforts to reduce the risks associated with human rights violations and national security. On behalf of the state, law enforcement authorities are called upon to provide an appropriate level of protection and support both within society and the state itself. Until recently, security in the state and society was maintained exclusively by law enforcement agencies. However, a full-scale war has brought tangible changes to the everyday life of Ukrainian. For this reason, the administrative and legal regulation of law enforcement authorities' activities to ensure the human rights and national security of the state. This article aims to characterize the administrative and legal regulation of law enforcement agencies' activities to ensure the human rights and national security of the state.

**Keywords:** Management of finances, International project, Cost optimization, Global investments, Financial management, Financial strategy, Strategic financial planning.

### 1 Introduction

State authorities regulate various spheres of society's life, both in foreign and national policy, welfare issues, creation of favorable conditions for maintaining defense capabilities, as well as scientific and cultural development. They also ensure the security of the state and its citizens. Law enforcement agencies occupy a special place in the system of state authorities since their main duty is to ensure human rights and freedoms, as well as to protect the national security of Ukraine.

### 2 Literature Review

The issue of administrative and legal regulation of law enforcement agencies' activities on ensuring human rights and national security of the state has received sufficient attention in the scientific community. However, the current changes that are taking place in society and in the very nature of law enforcement activities require an additional review of the specifics of administrative and legal activities of law enforcement agencies for ensuring human rights and national security. R. Y. Shai (2014) reveals the nature and essence of law enforcement activities, as well as the prospects for modernization of such activities within the context of globalization. Dudchenko O. (2019) proposes to consider the law enforcement system as a set of closely interrelated elements that interact and form a certain integrity, and its activities are based on the relevant principles and principles.

The study by O. Svitlychnyy and Yu. Holodnyk (2023) focuses on improving the administrative and legal support of law enforcement agencies. A collective study by M. V. Kovaliv, S. S. Yesimov and Yu. R. Lozynskyi (2018) reveals the peculiarities of legal regulation of law enforcement in Ukraine. This research identifies theoretical, methodological, and practical issues in the field of legal and organizational regulation of law enforcement.

Considering the existing scientific research, the issue of administrative and legal regulation of law enforcement activities related to human rights and national security requires additional analysis and substantiation.

This study *aims* to characterize the peculiarities of administrative and legal regulation of law enforcement agencies' activities for ensuring human rights and national security.

### 3 Methods

Research methods include the method of legal analysis. This method is based on the study of the legislation that regulates the activities of law enforcement agencies related to human rights and national security. At the same time, this method reveals the peculiarities of ensuring human rights as a defining function of law enforcement agencies. The protection of the state's national interests also falls within the scope of law enforcement agencies. Therefore, it is vital to consider not only the specifics of such activities but also to identify the main areas that should be paid attention to first. The comparison method reveals the specifics of law enforcement agencies' activities while performing their direct obligations. This method is critical when it comes to the activities of domestic law enforcement agencies and law enforcement agencies of other countries since these agencies are known to be in close cooperation. They share everyday experiences, including in matters of human rights and national security.

### 4 Research results

Financial management is crucial in managing the finances of international projects since it shapes the company's strategic decisions both at the general level and within individual divisions. Consideration of financial aspects is a necessary element to ensure the success and efficiency of projects operating in a global context. Administrative and legal regulation of the activities of law enforcement agencies constitutes a set of legal instruments applied to ensure legal influence on social relations. The mechanism of this regulation includes administrative and legal means and encompasses regulation within the judicial system, police, prosecution, and other bodies constituting the law enforcement sphere. The application of administrative influence is a key element in the administrative and legal regulation of law enforcement activities (Bratel, 2018, pp. 93-94).

Law enforcement activity is the application of law by specialized agencies aimed at handling legally significant cases, detecting violations, and prosecuting individuals guilty of committing crimes. Additionally, law enforcement is defined as activities involving the application of coercive measures to offenders as defined by law, protecting the rights and lawful interests of people and legal entities (Shai, 2014, p. 15).

Legal regulation is defined as a process conducted by state bodies by applying legal norms and legislative provisions. It is a complex of other instruments that systematize and regulate social relations to legally establish and effectively implement, defend, protect, and restore violated rights (Lazur, 2009). Law enforcement agencies are part of the law enforcement system. According to O. Dudchenko, the law enforcement system is a set of closely related elements that form a certain integrity in interaction with each other. The law enforcement system is based on corresponding principles and principles (Dudchenko, 2019, p. 146).

Komirchyi P. O. notes that the law enforcement system is a social system since it reflects the unity and structuring of normative legal regulation in the law enforcement sphere. The organizational activities of law enforcement agencies are aimed at ensuring legality and maintaining public order in society (Komirchyi, 2020).

According to M. V. Kovaliv, S. S. Yesimov, and Yu. R. Lozynskyi, law enforcement agencies endowed with executive powers occupy a special place in the structure of the law enforcement system. The law enforcement activities of these agencies determine not only the content and structure of the state law enforcement system but also the content of the state law enforcement service (Kovaliv, Yesimov, & Lozynskyi,

2018, p. 297). Yu. Holodnyk emphasizes that law enforcement agencies guarantee the personal protection of citizens' rights, freedoms, and lawful interests. In addition, they are called upon to ensure national security in the state by carrying out assigned tasks.

Article 92 of the Constitution of Ukraine defines that the main tasks of law enforcement agencies stem from the content of regulatory legal acts (Constitution, 1996). The issue of ensuring administrative and legal activities has several problematic aspects, including a set of power-legal, organizational, and other legal forms and methods. These aspects require special attention, considering the specificity of the activities of the law enforcement agencies themselves (Holodnyk, 2023).

V. V. Makarchuk notes that in practically all democratic developed countries, there are new approaches and effective regulatory legal acts that regulate the provision of national security. The relevant regulatory legal acts contain an assessment of the country's security situation. They define tasks, programs, and measures to improve security in the country at the national level (Makarchuk, 2022, p. 220).

O. Voluyko and O. Drucek define law enforcement agencies as state formations whose tasks include control, supervision, pre-trial investigation, protection, and defense of all forms of property, rights, freedoms, and lawful interests of individuals and citizens, as well as other functions defined by the legislation (Voluyko & Drucek, 2020, p. 96).

Law enforcement agencies conduct their activities under the norms defined by the legislation. The professional activities of these agencies are primarily aimed at ensuring the realization of the constitutional rights and freedoms of people. Thus, in a democratic society, people, their rights, and freedoms are regarded as the highest value. However, the realization of human rights and freedoms is only possible with their provision at the state level.

V. V. Kovalenko emphasizes that understanding the content of one's rights and freedoms occurs not only in declarative terms but also in the possibility of material, legal, and other guarantees provided by the state and its agencies for consistent and comprehensive implementation (Kovalenko, 2020, p. 83). It is worth noting that law enforcement agencies carry out their activities guided not only by elements of coercion and punishment but also by such directions as provision and protection. In protecting human rights, law enforcement agencies aim not only to stop law violations but also to protect the violated rights, honor, and dignity of people, protecting their rights and freedoms. Considering this, the activities of law enforcement agencies play a significant role in ensuring the functioning of society. They protect the interests of the state and safeguard human and citizen rights.

As rightly noted by O. M. Muzychuk, law enforcement agencies should be divided into two main groups:

- Law enforcement agencies, including internal affairs agencies, prosecutor's offices, the Security Service of Ukraine (SBU), customs, and tax services, among others;
- Law enforcement bodies endowed with appropriate powers. These agencies are specifically created to ensure public order, protect the rights and freedoms of individuals from various criminal encroachments, and ensure the national security of the state (Muzychuk, 2017, p. 28).

The bodies of the national police of Ukraine are part of the law enforcement system that ensures the constitutional rights and freedoms of people, as well as exercises other powers defined by the Law of Ukraine 'On the National Police' (Law No. 580-VIII, 2024). G. V. Muliar, studying the activities of law enforcement agencies under martial law, emphasizes that the national police, under martial law, carries out the following activities:

- Enhanced public order protection regime in the state and security provision;
- Fighting against sabotage and reconnaissance groups;
- Ensuring the protection of strategically important objects, objects of critical infrastructure;
- Interaction with subjects of the TRO [Territorial Defense Forces];
- Supporting the activities of the military administration, other state authorities, their interaction, and cooperation (Muliar, 2023, p. 131).

According to V. H. Fatkhutdinov, the duties of the police in conditions of martial law include interaction with certain non-state entities that, together with the police, ensure the protection of human rights and national security (Fatkhutdinov, 2018, p. 175). While performing their professional duties, police authorities interact with the public. As S. V. Medvedenko notes, this is a socially necessary and coordinated step, as close cooperation can yield effective results (Medvedenko, 2020, p. 54).

It is worth emphasizing that various directions of activity determine the role of law enforcement agencies in ensuring human rights, namely:

- Ensuring the protection of human rights and freedoms as defined by the Constitution of Ukraine;
- Protecting the rights of individuals, their lives and health, and rights and freedoms regardless of age, gender, national or religious affiliation;
- Providing conditions for individuals to exercise their rights and legitimate interests;
- Avoiding limitations and other human rights violations and freedoms in their activities.

The administrative and legal regulation of the activities of law enforcement agencies in the field of ensuring human rights and national security of the state is carried out following legislative acts that affect the organization and coordination of their work. They aim to protect the violated rights of citizens and ensure security at the national level. For the implementation of law enforcement activities in the field of ensuring human rights, law enforcement agencies are guided by the Constitution of Ukraine, laws, and subordinate legislative acts. Such activities mustn't violate human rights and freedoms or affect national security.

Ensuring national security in the state is provided per the Law of Ukraine "On National Security of Ukraine." Adopted on July 21, 2018, the aforementioned legislative act regulates the activities of state bodies in the field of ensuring national security and defense, creates conditions for integrating policies and features of the activities of state authorities and other bodies, performing functions related to national security and defense. It defines the system of control and coordination of security and defense forces, as well as introduces a comprehensive approach to security and defense planning. This law introduces civilian control over authorities and forms the security and defense sector.

The national interests of Ukraine include:

- Democratic sovereignty and territorial integrity of the state;
- Development of the national economy and civil society;
- Integration of Ukraine into the economic, political, legal, and security space (Law 2469-VIII, 2024).

According to Article 12 of Law 2469-VIII, the security and defense sector in Ukraine consists of:

- Security forces, which include not only law enforcement agencies but also intelligence, state authorities of special purpose endowed with law enforcement functions, civil defense authorities;
- Armed Forces of Ukraine and other military formations;
- Defense industry complex;

- Civic associations and citizens actively involved in defending the state's security (Law 2469-VIII, 2024).

The problem of ensuring national security is one of the leading and most complex phenomena of social and political life. In modern society, the activities of law enforcement agencies are somewhat complicated by various situations and challenges. However, no matter what, a democratic society must be protected both from lawlessness within the country and from the influence of external factors that threaten not only the lives and health of citizens and the violation of their rights but also affect national security overall.

The cooperation of the police and other law enforcement agencies, first and foremost, must be aimed at results. This result is reinforced by the implementation of legislative initiatives in the field of security and defense, as well as in the field of societal protection. The events of full-scale intrusion have shown that it is necessary to act in a coordinated manner and towards results. Since the moment of full-scale intrusion, the police have remained open to the problems that have arisen in law enforcement activities. By working for results, they joined forces with other organizations to show that they have not only the full support of the public. Along with other structures, they continue to record the consequences of horrific crimes against human rights and violations of Ukrainian national security.

## 5 Discussion

According to the Constitution of Ukraine, people, their lives, health, honor, dignity, and safety are recognized as the highest social value (Constitution of Ukraine, 1996). Research on the administrative and legal regulation of law enforcement agencies' activities in ensuring human rights and national security requires the following measures:

- An improvement of the normative-legal base;
- An update on the current legislation regarding defining the system of law enforcement agencies and regulating their activities (Svitlychnyy & Holodnyk, 2023, p. 566).

Currently, in Ukraine, there are many issues mainly associated with the imperfection of the administrative and legal regulation of law enforcement mechanisms for preventing and stopping violations of law and order, carrying out other types of law enforcement activities aimed at protecting the rights and freedoms of individuals (Tanko, 2020, p. 47). The activities of law enforcement agencies, including the police and other subjects of the security and defense sector of Ukraine, still need to be regulated in the provisions of domestic legislation (Nikitin, 2022, p. 135).

Since law enforcement activities are an element of national security, the main purpose of such activities is primarily directed at their social purpose and place in the system of national security as a whole. The functional purpose of law enforcement agencies lies in the following measures:

- Defining the directions of activity and specific competencies, as well as acquiring special powers to protect human rights;
- Ensuring state and national security;
- Protection of the rights and freedoms of individuals and citizens.

Active cooperation between national law enforcement agencies and law enforcement agencies of European countries yields noticeable results. As correctly noted by V.F. Het, the defining feature of reforming the security and defense sector of any country lies in the functional ability to organize a common security space with other states (Het, 2017, pp. 107-108).

The law enforcement function of competent state bodies is defined as the protection of the rights and freedoms of individuals, society, and the state in general from external and internal threats. This function aims to ensure the security of the

individual, society, and the state. The main condition for ensuring the law enforcement function is an effective policy of law enforcement agencies. They must fulfill the duties entrusted to them for the state and for the benefit of the state (Kuchеровskyi, 2022, p. 26).

As noted by V. Omelchuk, the level of recognition, guarantee, and provision of human rights and freedoms indicates the democratic level of society, as it is achieved through the effective use of all available instruments of legal regulation, including administrative-legal influence. Realizing human rights in a tense military-political situation in Ukraine is particularly important (Omelchuk, 2018).

In modern society, the National Police, by performing a wide range of tasks, must ensure legality and order in the state and protect citizens, their rights, and legitimate interests, using a system of various forms of management and administrative-legal means (Kryzhna, 2019, p. 147).

The state should ensure dignified protection and security for its citizens at the legislative level. The state can be called a legal one only when it can recognize the existence of fundamental rights and freedoms for its citizens and ensure an opportunity to implement them in practice (Hromovenko, Tytska, 2021, p. 122).

## 6 Conclusions

We can conclude that the issue of administrative and legal regulation of law enforcement authorities' activities on ensuring human rights and national security of the state is extremely important in the modern society. The interaction of law enforcement agencies, including the police, bears productive results. Cooperation of law enforcement agencies with the security sector, the Armed Forces of Ukraine, and civil society organizations helps to respond in a timely manner to illegal actions that may affect not only society but also the national security of the state. The challenges posed by the full-scale invasion have not destroyed public confidence in law enforcement but rather strengthened it.

The studies by Ukrainian scholars have shown that even in such difficult conditions as these, law enforcement agencies are a vital force capable of taking any action to protect the security of people and the state. Law enforcement agencies must use all their skills and abilities to carry out their professional duties successfully. In this way, they not only gain the support of citizens but also contribute to ensuring the security and stability of the state, especially under martial law. It is noted that current circumstances are difficult for law enforcement bodies. They face new challenges and aspects that still need to be fully considered.

The police managed to stabilize the situation in the field of public security and establish a dialogue with the population, particularly in the areas of active hostilities. In addition to their regular professional duties, law enforcement officers were actively involved in ensuring public safety, delivering humanitarian goods, coordinating evacuations, providing first aid, and other essential aspects of their operations.

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**Primary Paper Section: A**

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## ADMINISTRATIVE OVERSIGHT OF CRITICAL INFRASTRUCTURE AND SOCIAL SECURITY PROTECTION

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**Abstract:** Among the global trends of modern societal transformations, processes intensifying the aspect of publicness in management, including security, occupy a significant place. This study aims to provide a comprehensive analysis of the role of public management mechanisms in ensuring the security of critical infrastructure objects and social security. In addition, the study seeks to explore variations of ways to optimise the situation. The work examines aspects of public management in the direction of security policy as a foundation for implementing state administration functions. The study considers the main problems, challenges, and achievements of the transformation process of the management paradigm towards publicness. It also examines the experience of developed countries in public management of processes ensuring the security of critical infrastructure, including its state-administrative, legal, and organisational aspects of provision. Finally, the main directions for strategic planning of developing the public management system for security processes in the context of globalisation are determined. The suitability and prospects of applying innovative electronic systems and the opportunities presented by modern means and technologies for optimising the public management system to ensure the security of critical infrastructure objects and social security are analysed. The research results have practical value for transforming the modern management system based on publicness and balanced development, optimising the security of critical infrastructure objects and social security, and forming state sectoral development programmes.

**Keywords:** geopolitics, transformational changes, globalisation, administration, optimisation, digitalisation.

### 1 Introduction

The intensification of globalisation and integration processes has led to new contemporary challenges requiring corresponding dynamic adaptive changes from state structures and local authorities. The concept of national security, currently positioned as an influential trend in transforming the management paradigm in the security field, is maximally implemented with elements of public management. The objective is to guarantee appropriate security for critical infrastructure objects and social security. It involves optimising organisational foundations and adopting effective means of execution and monitoring, which, when combined, provide the opportunity to protect national interests and optimise resource utilisation.

In light of current global challenges, there is a necessity for continuous updating and adaptation of security strategies and measures to ensure their guarantee, as well as the implementation of conditions to enhance the effectiveness of organisational and legal support in the sector.

The issue of public management in the context of the security of critical infrastructure and social security is a subject of active study by Ukrainian and foreign scholars. The works of contemporary scientists are dedicated to the study of the specifics of the functioning of innovative public management mechanisms (Chalapko, 2021; Panchenko, 2020), as well as the subjectivisation of security policy and its regulatory processes within the paradigm of state management (Poteriaiko, 2021). Ukrainian scholars tend to investigate the concept of public management in the field of security policy from the perspective of the complexity and intricacy of the issues (Popova, & Khromov, 2021; Parkhomenko-Kutsevil, 2020). In considering the essence of public management, some authors break it down into specific functional directions (Kukin, 2020).

Researchers emphasise that public management's potential in securing critical infrastructure objects and social security is revealed only based on the harmonisation of key socio-economic and political factors (Kostenko, 2020). The most comprehensive recent works are those of Zahurska-Antoniuk (2020), Klochko and Semenets-Orlova (2022), which present innovative approaches to managing security with the involvement of technological capabilities and digitalisation. Several scholars have considered various issues regarding the optimisation of organisational-legal and institutional foundations of public management (Chzhan, 2022; Prymush, 2022). Additionally, some contemporary domestic scientists have significantly contributed to the general methodology of forming the security concept (Podkovenko, 2021; Pavliutin, 2020).

Despite the scientific value of the published works, many issues in the researched problematics still need to be solved. These include the development of an algorithm for the successful adoption of modern public management capabilities for the security of critical infrastructure objects and social security in the context of global challenges and crisis phenomena, as well as the use of digitalisation opportunities. These issues require further scientific consideration.

### 2 Literature review

The scientific-methodological foundation of the researched issues has been laid by researchers whose scientific inquiries focus on implementing public management principles in the context of security for critical infrastructure and social security. In particular, Ukrainian scholars have thoroughly analysed the foundations of public management in the security sphere of state activity (Shopina, 2021), highlighted the conceptual bases of security strategy involving elements of public management (Pavliutin, 2021), and established the function of information tools in the state management system for the security of critical infrastructure and social security (Szczepaniuk et al., 2020).

Numerous publications on the research theme have been published in scientific and professional journals. Modern scholars have examined the information openness of the public management system as the basis for securing critical infrastructure and social security (Anwary, 2022), formed the main conceptual foundations of an effective public management system (Bonavolontà & D'Angelo, 2021), and emphasised the need to introduce actively digitalisation tools in the security sector (Putera et al., 2023).

Among the array of results from researchers' inquiries on the theme, it is necessary to highlight works that fundamentally substantiate the principles of effective implementation of public management in the context of contemporary challenges for Ukraine's national security (Gryshova et al., 2021). Meanwhile, some scholars focus on the complexities of introducing some aspects of public management in contemporary realities in the context of globalisation (Klijn & Koppenjan, 2020).

Despite the significance of researchers' scientific and practical achievements on the researched issues, there is a pressing need for the development of scientific research in aspects of the outlined problematics in order to ensure a stable trend of positive dynamics in the development of public management in the context of security for critical infrastructure and social security.

The study aims to analyse the role of public administration in critical infrastructure security and social security and the dynamics of the management paradigm's conceptual priorities in the current crisis conditions.



### 3 Materials and methods

The research was conducted following the principles of complexity and systematicity of scientific studies, which permitted the analysis of the research object as an integrated system with interconnections and interdependencies. Methods of analysis and synthesis were employed to identify factors and stages of development of the studied object, as well as its defining elements. Induction was used to forecast indicators of prospective development. The method of scientific abstraction was employed to form theoretical generalisations, refine the conceptual apparatus, highlight the main concepts and categories, and formulate the research conclusions. Formalisation facilitated the structuring of public management's principles, functions, tasks, and priorities in the security field for critical infrastructure objects and social security. The specification method was employed to ascertain the efficacy and suitability of enhancing the role of public management in security policy. It involved the identification of optimal solutions and conditions for optimising the public management system in the sector.

### 4 Results

Despite the rapid global socio-political dynamics, the state and society are positioned as the basic categories of national security. Critical infrastructure security and the social sector, as components of the state's national security system, are directed at minimising and avoiding existing and potential threats. Given the relevance of security and defence transformation, which are real challenges for the development of Ukraine in contemporary realities, it is essential to adapt the security system to the global trend of integrating public management technologies.

The contemporary concept of public management posits that the effectiveness of implementing the management paradigm hinges on establishing a transparent system of coordination between multi-level government bodies. In the context of providing guarantees for the security of critical infrastructure and social security, such an approach becomes particularly relevant. It necessitates the formation of a symbiosis between public management entities. The formation of a management system based on publicness necessitates consideration of the existing potential, the priority of guaranteeing security, adaptability to dynamic realities, and the synergy of security and management priorities.

In the context of the challenges in the security of critical infrastructure and social security in Ukrainian realities, public management requires a symbiosis of activities between state and local authorities, the private sector, and society. It should involve identifying threats and finding operational ways to overcome them within the powers and functionality defined by law. In this context, particular attention should be paid to preventive measures to ensure security and prevent threats at the stages of planning, organising, and controlling the implementation of management decisions. It should involve the capabilities of modern information systems and digitalisation tools, as well as a strict monitoring and control system. Primarily, the conceptual foundations of such cooperation are reflected in the trends of decentralisation, adaptability, and digital optimisation of management processes (Table 1).

In the management field in the security of critical infrastructure and the social sector, the primary priority of prospective development is the implementation of innovative digitalised management technologies. The risks of espionage using the latest technological capabilities, such as location tracking and personal data accumulation, necessitate the development of preventive countermeasures and a system for rapid response to threats and challenges. The primary concern is cybersecurity, which, given the mass digitalisation of information collection and processing systems, is now regarded as a prerequisite for national security. As cyber-attacks become more frequent and varied, the management system must employ the latest technological capabilities to protect critical infrastructure and

information. The ethical balance between human rights and national security thus assumes particular relevance.

Table 1. Public Administration Principles in Critical Infrastructure and Social Security

Principle	Features
Democracy	Increasing the importance of the role of public decision in the management process in critical infrastructure and social security
Decentralisation	Decentralisation of management processes
Strategic direction	Prioritising strategic priorities of critical infrastructure and social security
Systemic approach	Ensuring a balance between state regulation of the sector and market-based financing mechanisms
Adaptability	Regular review of the goals of the public administration system depending on the current challenges in critical infrastructure and social security

Source: compiled by the author

The implementation of innovative technologies is also appropriate in the security monitoring process. For instance, modern satellite systems enable real-time surveillance, creating the conditions for effective and rapid response to threats in critical infrastructure and social security.

The digital optimisation process involves not only the automation of some routine security management processes but also enables a significant increase in the openness and transparency of government management activities. In particular, mobile applications, chats, and unique platforms provide unhindered access to information about the activities of the government and state institutions, stimulating processes of public control and identifying current issues. Consequently, public management in critical infrastructure and social security involves digitalisation and the latest technologies, which significantly optimises the preventive protection system. However, it is necessary to anticipate potential risks related to digitalisation, such as breaches of confidentiality and cyber attacks.

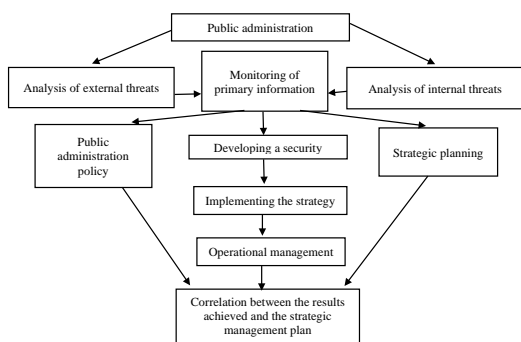
The reform of public management in the context of the security of critical infrastructure and social security entails a gradual adaptation of current legislation to new forms of interaction between society and the state, as well as the dynamics of the functionality of state authorities and local self-government bodies. Additionally, there is a need to develop effective strategies for the regeneration of state sovereignty, the stability of the socio-economic sphere, and the representation of a qualitatively new level of international legal status for Ukraine. The achievement of these objectives necessitates the development and implementation of state and regional development programmes for specific sectors, segments, and areas of national security based on publicness and open access for the public. The corresponding concept should include tools for active preventive protection and mitigating external threats.

Among the principal areas of public management in critical infrastructure and social security (Figure 1), monitoring and operational neutralisation of external and internal threats and dangers gain particular importance.

Furthermore, the role of public management in the security sector encompasses a broad spectrum of functions. These include controlling the implementation and development of innovative technological solutions in the security system of critical infrastructure and social security through their certification and licensing. Additionally, they include forming state programs to ensure national security, which should consolidate the synergy of efforts of the state, business sector, and society in this area.

An analysis of Figure 1 reveals that enforcing public management to ensure the security of critical infrastructure and social security necessitates monitoring for objective analysis, forecasting, and systematic evaluation of security criteria and potential threats. Such monitoring forms the basis for the operational performance of measures to prevent, identify, and neutralise challenges to Ukraine's national security.

Figure 1. Public Administration Process Algorithm in Critical Infrastructure and Social Security



Source: compiled by the author

In light of Ukraine's European and Euro-Atlantic development trajectory, there is a recognised need to integrate and develop principles and standards of public management regarding national security that are successfully applied in developed countries. In order to achieve comprehensive analytics of the possibilities and appropriateness of implementing global security standards and requirements, it seems appropriate to use a preventive application of comparative research methodology in the management issues related to the security of critical infrastructure and social security, which possesses features of universality and complexity. In light of the above, the preliminary development and analysis of a geo-economic national model and the formation of a classification typology of situational variables by type of management culture and national security provision system are appropriate. The proposed approach will prevent deformations of public governance in structure, strategy, functionality, and socio-cultural individual characteristics in the practical adoption of foreign experience into domestic realities (Troštianska et al., 2019).

It is important to note that optimising the public management system in the context of the security of critical infrastructure and social security involves implementing a decision-making modelling system that allows for the timely prediction of potential negative consequences and risks. In order to build a systematic model of public management in the security sector, it is essential to adhere to the following principles: openness, uncertainty, adaptability, compatibility with regional and global management systems, and the ability to filter measures within the developed management process algorithm.

The enhancement of public management effectiveness in this field necessitates the presence of fundamental prerequisites for implementing innovative technologies and management tools, systems for rapid response to threatening destructive factors, and regular expertise in the effectiveness of the strategic course. Concurrently, the stages of forming the public management system should reflect the primary objective of the process, namely the internal and external integration of departments, organisations, and structures within the security sector.

Consequently, the public management system in critical infrastructure security and social security is more comprehensive than optimising legal norms and monitoring. An innovative approach to public security management encourages collaborative efforts between society and the state, leveraging the full potential of digitalisation and technological solutions. It is anticipated that public management's potential in general state management will be enhanced. It will undoubtedly give rise to

new challenges and risks, yet it will also significantly intensify the effectiveness of national security policy.

## 5 Discussion

Scholars in relevant scientific fields are convinced that one of the most effective means for optimising the national security system is the active use of public management processes (Putera et al., 2023). In the works of researchers (Bonavolontà & D'Angelo, 2021), attention is drawn to the need for developing practical tools for public management processes to maximise the potential of interaction between society and the state in the sector of security provision for critical infrastructure and social security. According to some scholars (Szczepaniuk et al., 2020), such a concept should mitigate the imbalance in the studied area across regional and profile dimensions.

Some scientific works consider the possibility of digitising a significant portion of management processes in the security sector (Klijn & Koppenjan, 2020). According to researchers (Babuta et al., 2020), the main goal of the digital transformation process in public management of the security sector is the accumulation, protection, and optimal use of data arrays. Researchers emphasise that insufficient access to modern technologies and unpreparedness for their practical implementation are the most significant factors limiting the potential for digital transformation within the public management system in the studied sector.

Researchers (Mandel & Irwin, 2021) emphasise the need to ensure interaction between bodies of different levels of management, society, and business based on the principles of democratic balanced growth. Such an approach will accelerate the quality positive dynamics of the transformation process of the management paradigm in the security field for critical infrastructure and social security. At the same time, scholars (El-Muhammady, 2021) identify specific prerequisites for forming an effective public management system in the context of national security, among which the availability of an appropriate resource base and society's readiness for dynamic changes are fundamental.

The actualisation of the researched issue, according to scholars (Degli Esposti et al., 2021), is positioned in parallel with the trend of increasing dependency on sector-specific requirements on the system of management decisions and, in this context, the principle of publicness should form the foremost priority. In the context of unstable realities today, public management has significantly expanded its functioning scope, demonstrating the effectiveness of implementing innovative technological solutions and digital optimisation opportunities in the studied field. Scholars (Zágon & Zsolt, 2021) in this regard, focus on the vector of optimisation of public management in ensuring the security of critical infrastructure and social security, the creation of effective mechanisms, and the conduct of comprehensive measures to prevent aggression, localise, and mitigate the consequences of conflict situations.

In the field of information security, researchers (Robinson et al., 2021) have identified the necessity of implementing comprehensive measures to protect the national information space, integrate Ukraine into the global information space, and identify and mitigate the effects of violations of the information space and information expansion.

Most contemporary scholars espouse the primary objective of management policy in the security of critical infrastructure and social security as the formation of active external communication. The fundamental prerequisites for attaining this objective are resolving existing interstate disputes and maintaining a stable internal environment which guarantees national security. In this context, public management is regarded as an efficacious instrument for optimising existing approaches and introducing novel methodologies for ensuring an appropriate level of security.

## 6 Conclusion

The study demonstrated that public management is pivotal in implementing the national security concept. Collaboration between society and government authorities, a robust approach, and a clear framework for establishing strategic priorities for transforming the security system of critical infrastructure and social security, in light of global digitalisation and the necessity for effective control, enable the comprehensive and timely optimisation of the public management system in the context of security guarantees.

The study examined the main achievements of the transformation process of the management paradigm in the vector of security policy. These include the digital optimisation process and the integration of society into forming the management security paradigm. At the same time, challenges and risks related to the studied process were identified. These include cybercrime and the lack of adequate normative-legal support for practical orientation.

The experience of developed countries in public management processes in the field of security of critical infrastructure and social security convincingly demonstrates that the main directions of strategic planning for the development of the public management system for security processes in the context of globalisation should include the application of innovative electronic systems, modern means, and technologies for optimising the public management system.

The study's findings have practical value for transforming the modern management system based on publicness and balanced development to optimise the national security sector and form state sectoral development programmes.

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## ADVANCED LEARNING TECHNOLOGIES FOR HIGHER EDUCATION

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**Abstract:** The relevance of using modern educational technologies in higher educational institutions is increasing yearly, especially under the digitalisation and globalisation of the educational process. These technologies, including digital media communications, online platforms, and virtual and augmented reality (VR and AR), play a key role in improving students' quality of education and professional training. The study aims to assess the effectiveness of using modern educational technologies in higher educational institutions, with the object of the study being the educational processes in which these technologies are applied. The research methodology includes a literature review, questionnaires and surveys, a pedagogical experiment with control and experimental groups, and a statistical data analysis. The study's results showed that using digital media communications and online platforms significantly increases the interactivity and accessibility of educational resources, promoting active student engagement in the learning process and improving their academic achievements. Virtual and augmented reality (VR and AR) create immersive educational environments that facilitate a more profound understanding of the material and enhance student motivation. Distance learning requires the development of digital and communication skills, which is especially important in the context of the COVID-19 pandemic. The pedagogical experiment confirmed that the experimental groups of students taught using modern technologies showed better results than the control groups, who were taught using traditional methods. The practical significance of the obtained results lies in developing recommendations for the optimal use of modern educational technologies in higher educational institutions to improve the quality of education and professional training of students.

**Keywords:** modern educational technologies, digital media communications, online platforms, virtual reality, augmented reality, distance learning, digital skills, communication skills, higher education.

### 1 Introduction

In recent years, higher education institutions have faced the necessity to adapt to a rapidly changing digital landscape. Implementing modern educational technologies has become an integral part of the development strategies of universities worldwide. Digital media communication technologies, online platforms, and virtual and augmented reality (VR and AR) provide new opportunities for improving the quality of education and increasing its accessibility (Batsurovska et al., 2021; Kaplan & Haenlein, 2016). At the same time, implementing these technologies faces several challenges, such as insufficient preparedness of teachers and students to use new tools and teaching methods (Norkobilovna & Turakulova, 2020). It underscores the need for a systematic approach to training and developing digital competencies. Virtual and augmented reality, for example, can significantly enhance student engagement and facilitate a more profound understanding of the material (Garibli & Garibli, 2021). Distance learning, which has become particularly relevant in the COVID-19 pandemic, requires developing digital and communication skills to ensure an effective educational process (Jackson, 2021; Kolbina & Oleksenko, 2020). Despite numerous studies, there is a need for further assessment and optimisation of these technologies in higher educational institutions (Finin, 2018). This study aims to provide a comprehensive analysis of the application of modern educational technologies and their impact on the quality of education and professional training of students.

In recent years, modern educational technologies have become increasingly relevant and in demand in higher education institutions. In the context of the rapid development of digital technologies and the globalisation of the educational process,

universities must adapt and integrate innovative teaching methods to improve the quality of education and the professional training of students. The literature emphasises that digital media communications and online platforms play a crucial role in ensuring the accessibility and interactivity of the educational process (Batsurovska et al., 2021; Kaplan & Haenlein, 2016). However, the implementation of modern technologies faces several problems and challenges. One such problem is the need for more competence of teachers and students in using new tools and teaching methods (Norkobilovna & Turakulova, 2020). In addition, there is a need to assess the effectiveness of various technologies, such as virtual and augmented reality (VR and AR), in enhancing students' academic achievements and motivation (Garibli & Garibli, 2021; Vaganova et al., 2020). There is a need for systematic study and evaluation of the effectiveness of these technologies to develop recommendations for their optimal use in educational institutions. Therefore, this study aims to provide a comprehensive analysis and evaluation of the impact of modern educational technologies on the quality of education and the professional training of students in higher education institutions.

This study aims to investigate and evaluate the effectiveness of using modern educational technologies in higher education institutions to improve student's quality of education and professional training.

**Objectives:**

1. To analyse the system of training specialists using modern learning technologies.
2. To conduct a pedagogical experiment with the participation of control and experimental groups of students to assess the impact of modern teaching technologies (online platforms, VR and AR technologies, interactive teaching methods, etc.)
3. To test experimentally the effectiveness of the proposed technology.

### 2 Recent research and publication analysis

#### 2.1 Digital media communication technologies and competence-based approach

Batsurovska et al. (2021) study the technology of acquiring competencies by bachelor's degree students in a digital media communication environment. The publication emphasises the importance of digital media communications for enhancing students' competencies. Batsurovska (2021) explores the technological model for training master's degree students in electrical engineering. The work shows that digital tools contribute to a more profound mastery of professional skills. Norkobilovna & Turakulova (2020) describe the competency-based approach of teachers when implementing modern educational technologies. The study shows that this approach promotes the practical adaptation of teachers to new educational technologies. Bilous & Demianuk (2022) analyse the conditions and methods of implementing modern technologies in education. The authors argue that the digital education transformation increases students' professional training levels. Garibli & Garibli (2021) investigate the application of modern educational technologies and their impact on national interests. The work emphasises the importance of a competency-based approach to education development. The studies highlight the importance of digital media communications and a competency-based approach to improve the quality of higher education. A competency-based approach allows students and teachers to apply the acquired knowledge and skills professionally and effectively.

#### 2.2 Using online platforms and e-learning

Batsurovska et al. (2022) describe the technology of using 3D models of electrical engineering in laboratory work. Nagayev et al. (2021) investigate the impact of online platforms on the

organisation and management of the educational process. The authors emphasise that modern technologies promote active student engagement in educational activities. Babenko et al (2023) analyse the impact of the online environment on creating coursework. Kaplan & Haenlein (2016) examine the impact of massive open online courses (MOOCs) and miniature private online courses (SPOCs) on higher education. The authors argue that these technologies can significantly change traditional educational models. Hulivata & Nikolina (2019) describe the features of implementing educational content using modern technologies. Hevlych & Neskorodieva (2022) investigate the use of distance educational technologies in modern learning. Kolbina & Oleksenko (2020) analyse the implementation of distance learning in Ukraine. The study highlights the importance of online platforms for the continuous educational process. Kruty et al. (2019) investigate methods of e-learning for students. The authors emphasise that such methods contribute to improving the educational process. Online platforms and e-learning significantly enhance the interactivity and accessibility of educational resources (Kovalenko & Hontarenko, 2023).

### 2.3 Virtual and augmented reality (VR and AR) in education

Garibli & Garibli (2021) investigate the application of VR and AR technologies in the educational process and their impact on student engagement. Vaganova et al. (2020) analyse methods of applying VR and AR in adult education. The authors argue that such technologies create more immersive and interactive educational environments. Dauitbayeva et al. (2022) examine the role of web technologies in the educational process and their impact on teaching. Smagulov & Hajmuldanov (2019) describe methods of using VR and AR technologies for student testing. The authors emphasise that VR and AR technologies significantly improve the quality of education. Priadko et al. (2022) analyse the features of using multimedia technologies, including VR and AR, in the educational process. Eshaliyev & To'rayev (2019) investigate modern trends in the use of information technologies, including VR and AR, in the educational process. Virtual and augmented reality technologies significantly enhance the level of engagement and the quality of learning. They create immersive educational environments that facilitate a more profound understanding of the material.

### 2.4 Digital and communication skills in distance learning

Jackson (2021) investigates the impact of virtual technologies on education during the pandemic. Kolbina & Oleksenko (2020) analyse the experience of implementing distance educational technologies in Ukrainian universities. Safari & Noori (2019) consider the challenges of the educational system from the perspective of modern technologies. The authors emphasise the importance of digital skills for effective learning. Bettinger et al. (2017) analyse the impact of virtual classrooms on student success. The study shows that digital and communication skills significantly affect academic performance. Gorbenko & Kim (2021) study the technology of using 3D models for laboratory work, highlighting the importance of digital skills for successful task completion. The work confirms the necessity of developing digital and communication skills in the learning process. Salomova (2021) investigates the use of modern information technologies in the educational process. Dakaliuk (2020) analyses information and communication technologies to activate independent student work. The authors argue that digital and communication skills contribute to more effective learning in the context of distance education. Digital and communication skills play a crucial role in distance learning. Virtual technologies ensure the continuity and quality of the educational process despite external constraints.

## 3 Research methods

*Comparative analysis.* Comparative analysis is conducted to identify differences and similarities in using modern technologies in different educational systems and institutions.

*Questionnaires and surveys.* The method of questionnaires and surveys among students of higher education institutions is used to collect primary data.

*Experimental research.* A pedagogical experiment is conducted to assess the effectiveness of modern technologies in the educational process. The experiment results are compared to determine modern technologies' impact on education quality.

*Statistical analysis.* Statistical analysis methods include calculations of average values, analysis of variance (ANOVA), correlation analysis and other methods.

## 4 Research results

A pedagogical experiment was conducted during the study on implementing modern teaching technologies in higher education institutions. The experiment involved 217 students from various specialities over one academic year. The specialities involved were 174 "Automation, Computer-Integrated Technologies and Robotics", 172 "Electronic Communications and Radio Engineering", 051 "Economics/International Economics", 073 "Management/Management of Organisations and Administration", 013 "Primary Education". The control group comprised 108 students, while the experimental group comprised 109 students taught using modern educational technologies.

The experiment was conducted in three higher education institutions:

1. National Technical University "Igor Sikorsky Kyiv Polytechnic Institute" (34 students in the experimental group and 33 students in the control group).
2. Taras Shevchenko National University of Kyiv (35 students in the experimental group and 36 students in the control group).
3. Ivan Franko National University of Lviv (40 students in the experimental group and 39 students in the control group).

The experimental group was taught using modern technologies, including online platforms and virtual and augmented reality, while the control group was taught using the standard programme. The experiment lasted two semesters of the 2023–2024 academic year and included three stages: diagnostic, formative, and control (Table 1).

Table 1. Experimental Research Structure

Experiential learning stages	Key objectives
1. Diagnostic	Determining the initial level of student's knowledge and skills
2. Formative	Checking the effectiveness of using modern technologies in education
3. Control	Assessment of students' knowledge and skills

Source: compiled by the author

Calculating the average value of a single indicator:

$$U = \frac{T+P+K+S}{n} \quad (1)$$

U – a unified indicator of the level of training specialists using modern teaching technologies in higher education institutions,

T – the quality of students' theoretical training,

P – the quality of students' practical training,

K – the quality of professional training based on modern technologies,

S – students' self-assessment,

n – the number of areas in which measurements were made.

The objective is to define the criteria and levels of specialist training using modern teaching technologies in higher education institutions. The following section will describe the criteria for training specialists using modern teaching technologies in higher education institutions.

Table 2. Content of Components for Assessing the Status of Education and Training of Specialists Using Modern Technologies in Higher Education Institutions

Title	Assessment	Assessment description	Calculation method
Part I. Checking the state of education and training of specialists using modern technologies			
Checking the quality of theoretical training of students	Assessment of students' knowledge based on the results of semester control.	The percentage indicators characterising students' theoretical training are presented. The diagnostics are carried out by analysing the scores in the disciplines provided by the educational programme.	$T = \frac{N}{N_{max}} \cdot 100\%$ T – the percentage of the quality of students' theoretical training; N – the initial score in the discipline for the semester; N <sub>max</sub> – the maximum number of points in the discipline per semester
Checking the quality of students' practical training	Assessment of students' knowledge based on the results of internships.	Diagnostics are performed by analysing the scores of the results of the internships provided by the educational programme.	$P = \frac{M}{M_{max}} \cdot 100\%$ P – percentage of the quality of practical training of students; M – the initial score for the internship; M <sub>max</sub> – the maximum number of points for the internship
Checking the quality of professional training based on modern learning technologies	Assessing the skills of using modern technologies in the educational process.	Assessment is conducted through practical assignments and projects in which students demonstrate the application of the technologies they have learnt.	$K = \frac{Q}{Q_{max}} \cdot 100\%$ K – a percentage indicator of the quality of professional training of students based on modern teaching technologies; Q – a quality indicator based on the results of practical tasks and projects in which students demonstrate the application of the studied technologies; Q <sub>max</sub> – the maximum number of points on the self-assessment scale
Part II. Examining the state of education and training of specialists using modern technologies			
Self-esteem of higher education students	Testing skills and knowledge of using modern technologies in the educational process through a questionnaire.	The assessment is carried out by self-assessment of the skills of using modern technologies in the educational process (Appendix A)	$S = \frac{L}{L_{max}} \cdot 100\%$ S – the percentage of quality of skills and knowledge on the use of modern technologies in the educational process through self-assessment; N – quality indicator on the self-assessment scale; N <sub>max</sub> – maximum number of points on the self-assessment scale

Source: compiled by the author

Table 3. Overview of Levels of Specialist Training Using Modern Teaching Technologies in Higher Education Institutions

Criterion	Level	Description
Criterion 1: Knowledge of digital technologies	L1a	Basic knowledge of the critical concepts and principles of digital technologies.
	L2a	In-depth understanding of key aspects of digital technologies, including software and hardware.
	L3a	Expert knowledge of all aspects of digital technologies, including the latest trends and developments.
Criterion 2: Skills in working with online platforms	L1b	Ability to use the basic functions and tools of popular online learning platforms.
	L2b	Confident use of online platforms for educational activities, interaction with other participants in the educational process and assessment of progress.
	L3b	High proficiency in online platforms, including adaptation and customisation for specific educational purposes.
Criterion 3: Using virtual and augmented reality technologies	L1c	Basic skills in working with virtual and augmented reality tools in the educational process.
	L2c	Confident use of VR and AR to create interactive learning materials and conduct practical classes.
	L3c	Expert knowledge of virtual and augmented reality technologies, including the development and integration of own applications and training scenarios.
Criterion 4: Digital communication skills	L1d	Basic verbal and written communication skills in a digital environment, including email and instant messengers.
	L2d	Ability to communicate effectively, actively participate in distance learning using videoconferencing and other digital tools, and analyse own performance.
	L3d	High level of communication competence in the digital environment, including organising and managing online discussions, projects and collaborative work.

Source: compiled by the author

Three levels of specialist training using modern technologies in higher education institutions are defined:

1. *High level (90-100%)*. Students demonstrate deep and comprehensive knowledge of digital technologies. They know the basic concepts and understand the latest trends and developments using virtual and augmented reality technologies. They can develop and integrate their programs and scenarios, creating fully immersive educational environments. A high level of digital communication skills includes organising and managing online discussions and projects, coordinating

collaborative work, resolving conflicts, and ensuring effective interaction among all participants in the educational process.

2. *Intermediate level (75-89%)*. Students have confident knowledge of digital technologies, including understanding various types of software and their functions. They can effectively use technologies to solve educational tasks and develop simple programs or projects. Confident use of virtual and augmented reality technologies. Students can create complex, interactive educational materials and conduct virtual tours and laboratory work. The ability to effectively

communicate in a digital environment, including conducting distance classes, using video conferencing and other digital tools to organise online lessons and interact with students.

3. *Basic level (60-74%)*. Students have basic knowledge of digital technologies, including the basic concepts and principles of working with software and hardware. They understand what software and hardware are and how they interact. The ability to use the basic functions of popular online platforms, such as course registration, viewing educational materials, and participating in online discussions. They understand how platforms are organised and what opportunities they provide. Basic skills in virtual and augmented reality tools: they can be used to create simple interactive materials and apply them in educational situations. Basic skills in verbal and written communication in a digital environment.

The essence of training specialists using modern teaching technologies in higher education institutions lies in integrating digital tools and methods to improve the quality of education.

- Online platforms such as Moodle, Coursera, and others allow the organisation of the educational process in a virtual environment. They provide access to educational materials and enable online classes, testing, and interaction between students and teachers. These platforms allow students to learn at their convenience, review materials, and receive instant feedback.

- Virtual and augmented reality technologies create interactive educational materials and simulations, allowing students to immerse themselves in learning and explore complex concepts in a safe and controlled environment.
- Interactive methods, such as interactive whiteboards, educational games, and simulations, promote active student engagement in the learning process. These methods stimulate critical thinking, problem-solving, and collaboration among students.
- An important aspect of training specialists is developing digital competencies, such as the ability to work with software, analyse data, program, and use various digital tools in professional activities.
- In the learning process, students study theoretical foundations and apply modern technologies in practice. It includes performing practical tasks, projects, and laboratory work using VR, AR, online platforms, and other digital tools.

Table 4 presents the average indicators before and after implementing the proposed teaching technologies in the experimental groups EG-1, EG-2, and EG-3 and control groups CG-1, CG-2, and CG-3. The values of the indicators of the levels of training of specialists using modern teaching technologies in higher education institutions, namely primary (R 1), secondary (R 2), and high (R 3), are provided.

Table 4. Average Values of the Indicators of Training Specialists Using Modern Teaching Technologies in Higher Education Institutions in the Experimental and Control Groups in Percentage Terms

Groups	Before the experiment (%)			After the experiment (%)			Increase (%)		
	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>
CG-1	62,9	63,6	63,1	69,2	67,8	73,8	6,3	4,2	10,7
CG-2	62,4	61,7	60,1	71,1	70,3	68,9	8,7	8,6	8,8
CG-3	60,8	61,9	60,8	65,9	77,1	71,2	5,1	15,2	10,4
Average	62,03	62,40	61,33	68,73	71,73	71,30	6,70	9,33	9,97
EG-1	61,1	60,7	60,2	88,2	79,5	82,8	27,1	18,8	22,6
EG-2	61,3	62,2	62,3	85,4	77,2	78,8	24,1	15	16,5
EG-3	61,8	63,4	61,8	79,9	86,2	81,3	18,1	22,8	19,5
Average	61,40	62,10	61,43	84,50	80,97	80,97	23,10	18,87	19,53

Source: compiled by the author

The experimental study showed a significant increase in the indicators of specialist training using modern teaching technologies in higher education institutions. In the experimental groups (EG-1, EG-2, EG-3), there was a substantial increase in student training levels after the introduction of modern educational technologies compared to the control groups (CG-1, CG-2, CG-3), where the training was conducted using the traditional programme. In the experimental group EG-1, the initial level increased by 27.1%, the intermediate level by 18.8%, and the high level by 22.6%. In group EG-2, the increase was 24.1% for the initial level, 15% for the intermediate level, and 16.5% for the high level. Group EG-3 showed an increase of 18.1% for the initial level, 22.8% for the intermediate level, and 19.5% for the high level. The control groups also demonstrated an increase in indicators, but it was significantly lower. In group CG-1, the increase in the initial level was 6.3%, the intermediate level 4.2%, and the high level 10.7%. In group CG-2, the increase in the initial level was 8.7%, the intermediate level was 8.6%, and the high level was 8.8%. In group CG-3, the increase in the initial level was 5.1%, the intermediate level 15.2%, and the high level 10.4%.

Thus, the experimental groups showed significant improvement in indicators after the introduction of modern teaching technologies, indicating an increase in the effectiveness of the educational process due to the use of these technologies. The most significant increase was observed in group EG-2, which is associated with more intensive use of technologies and better adaptation of students to new teaching methods. The increase in indicators in group EG-1 is minor compared to other experimental groups, possibly due to the initial level of student preparation, making further significant improvement

challenging. Group EG-3 also demonstrated a substantial increase, especially in the intermediate level indicator, indicating the successful application of technologies to improve students' knowledge with an intermediate level of preparation. In the control groups, where traditional teaching methods were used, the increase in indicators was significantly lower, confirming the effectiveness of modern technologies in improving the quality of education.

Figure 1 presents the histogram of the levels of specialist training using modern teaching technologies in higher education institutions in experimental and control groups before and after the experiment.

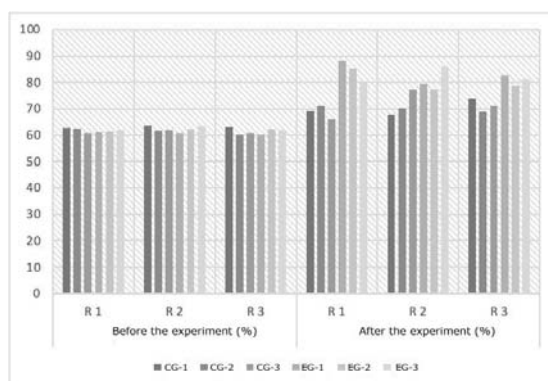


Figure 1. Histogram of the Levels of Training of Specialists Using Modern Teaching Technologies in Higher Education



Institutions in the Experimental and Control Groups before and after the Experiment

Experimental group 1 (EG-1) showed an increase in the initial level by 27.1%, the intermediate level by 18.8%, and the high level by 22.6% due to the implementation of modern educational technologies. In experimental group 2 (EG-2), the initial level increased by 24.1%, the intermediate level by 15%, and the high level by 16.5% due to the active use of digital technologies. Experimental group 3 (EG-3) demonstrated an increase in the initial level by 18.1%, the intermediate level by 22.8%, and the high level by 19.5% due to advanced educational methods. In the control groups, where traditional teaching methods were used, the increase in indicators was significantly lower. It confirms the effectiveness of modern teaching technologies in improving the quality of education. The comparative histogram of the average levels of specialist training based on modern teaching technologies in higher education institutions in the experimental and control groups before and after the experiment is presented in Figure 2.

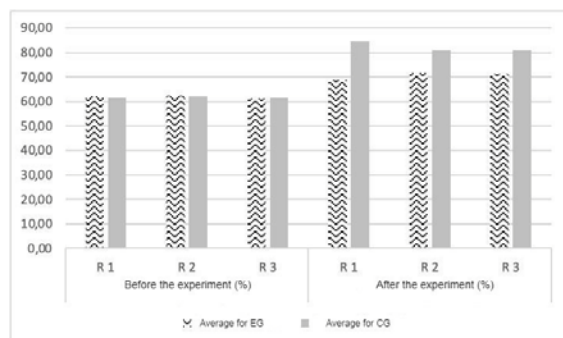


Figure 2. Comparative Histogram of the Average Levels of Specialist Training Based on Modern Teaching Technologies in Higher Education Institutions in the Experimental and Control Groups before and after the Experiment

Experimental group 1 (EG-1) showed an increase in the intermediate level from 61.40% to 68.73%, indicating the high effectiveness of modern educational technologies. Experimental group 2 (EG-2) demonstrated an increase in the intermediate level from 62.40% to 71.73%, confirming the importance of actively using digital resources. In group EG-3, the intermediate level increased from 61.33% to 71.30%, which confirms the successful application of advanced teaching methods. In the control groups (CG-1, CG-2, CG-3), where traditional methods were used, the increase in indicators was significantly lower. It underscores the advantages of modern technologies in improving the quality of education.

For a more detailed analysis, we analysed variance (ANOVA) to determine the statistical significance of differences between the groups.

#### Explanation of calculations and statistical analysis.

The following data were used in the analysis:

1. Average values of specialist training indicators (R1, R2, R3) before and after the experiment for experimental (EG) and control groups (CG).
2. Growth of indicators (difference between values before and after the experiment).

For each indicator (R1, R2, R3), the average values before and after the experiment, as well as the average growth, were calculated:

- *Average values before and after the experiment:* the calculation was carried out by averaging the values for all groups (EG and CG separately) before and after the experiment.

- *Average growth:* growth was calculated as the difference between the values before and after the experiment.
- *Statistical analysis ANOVA:* ANOVA (analysis of variance) tests the significance of the difference between groups. The difference in the average values of the indicators before and after the experiment was tested to see if it was statistically significant.
- *F-value:* shows the ratio between the mean squared deviations between groups and within groups.
- *p-value:* the probability that the observed differences between groups occurred by chance.

The results of the ANOVA statistical analysis are presented in Table 5.

Table 5. Results of ANOVA Statistical Analysis

Level	F-value	p-value
R1	15,647	0,0027
R2	26,637	0,0004
R3	38,920	0,0001

The results show that the differences in indicators before and after the experiment are statistically significant ( $p\text{-value} < 0.05$ ) for all three levels (R1, R2, R3). It confirms that the implementation of modern teaching technologies significantly impacted the indicators of specialist training. The results of the statistical analysis (ANOVA) showed that the implementation of modern teaching technologies significantly impacted the indicators of specialist training.

## 5 Discussion

The use of modern educational technologies in higher education institutions is becoming an increasingly important aspect of the educational process. Various studies show that the integration of digital media communications, online platforms, virtual and augmented reality (VR and AR), and distance learning contributes to improving the quality of education and enhancing the professional training of students (Batsurovska et al., 2021; Kaplan & Haenlein, 2016). Virtual and augmented reality (VR and AR) technologies in education have also shown positive results. Garibli and Garibli (2021) note that VR and AR create immersive educational environments that increase student motivation and promote a deeper understanding of the material. Vaganova et al. (2020) confirm that such technologies are particularly effective in adult education, improving the comprehension and retention of educational material. Distance learning, which became relevant during the COVID-19 pandemic, requires special attention to developing digital and communication skills. Jackson (2021) and Kolbina and Oleksenko (2020) emphasise that these skills are critically important for successful distance learning. However, Safari and Noori (2019) note a need for constant updating and adaptation of educational programmes to meet modern requirements.

However, there remain questions that require further study. For example, it is necessary to explore in more detail the impact of specific technologies on different categories of students and to develop methodological recommendations for their practical application in various educational contexts. In addition, it is essential to consider cultural and social aspects when implementing new technologies in the educational process (Hevlych & Neskorođieva, 2022). Thus, modern education requires a comprehensive approach to integrating new technologies that provide not only technical but also methodological and pedagogical support for teachers and students.

## 6 Conclusion

The use of modern educational technologies in higher education institutions plays a crucial role in improving the quality of education and the professional training of students. Studies have shown that digital media communications and online platforms significantly enhance the interactivity and accessibility of the

learning process. Virtual and augmented reality (VR and AR) technologies create immersive educational environments that facilitate a more profound understanding of the material and increase student motivation. Distance learning requires the development of digital and communication skills, which is especially important in the context of the COVID-19 pandemic. A pedagogical experiment confirmed that students taught using modern technologies demonstrated better academic results than traditional teaching methods. Further research should be aimed at developing methodological recommendations for the practical application of modern educational technologies.

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#### Primary Paper Section: A

#### Secondary Paper Section: AM, IN

## Appendix

### Appendix A. Questionnaire for Self-Assessment of Skills in Using Modern Technologies in the Educational Process

#### Instructions:

Please rate your skills in using modern technology in the classroom according to the following criteria. Select the answer that most closely matches your skill level for each question.

#### Criterion 1: Knowledge of digital technologies

What is your knowledge of the basic concepts and principles of digital technologies?

- I have basic knowledge and understand the basic concepts.
- I have a deep understanding of the critical aspects of digital technologies.
- I have expert knowledge and understand the latest trends and developments.

How well do you know your software and hardware?

- I understand the basic functions and principles of operation.
- I use technology effectively to solve learning problems.
- I develop innovative solutions to improve the learning process.

#### Criterion 2: Skills in working with online platforms

How would you rate your skills in using the basic functions of the most popular online platforms?

- I can use the basic functions (registering for courses, viewing materials).
- I can create and deliver courses, upload materials, and conduct webinars.
- I can adapt and customise platforms for specific educational purposes.

How do you assess your skills in interacting with learners through online platforms?

- I maintain contact and interaction with learners.
- I effectively track learner progress and provide feedback.
- I analyse the effectiveness of learning and make improvements.

#### Criterion 3: Use of virtual and augmented reality technologies

How would you rate your skills in using virtual and augmented reality tools?

- I can use basic tools to create simple interactive materials.
- I can create complex and interactive learning materials, virtual tours and labs.
- I develop my own apps and scenarios for VR and AR training.

How effectively can you integrate VR and AR into the learning process?

- I use VR and AR to create basic learning materials.
- I integrate VR and AR into the learning process to provide hands-on learning.
- I create fully immersive learning environments and analyse their effectiveness.

#### Criterion 4: Digital communication skills

How would you rate your basic verbal and written communication skills in a digital environment?

- I can use email and instant messengers to communicate.
- I can effectively conduct remote classes using video conferencing.
- I organise and manage online discussions and projects.

How confident are you in organising and managing online discussions and projects?

- I coordinate collaborative work in a digital environment.
- I resolve conflicts and ensure effective interaction between all participants.
- I develop strategies to improve digital communication in the educational process.

Thank you for your participation!

## ALDOUS HUXLEY'S "BRAVE NEW WORLD" AND "GULLIVER'S TRAVELS" BY JONATHAN SWIFT IN THE LIGHT OF INTERTEXTUAL DIALOGUE

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**Abstract:** Aldous Huxley is regarded as one of the most prominent successors of Jonathan Swift in English literature, particularly in terms of employing the satirical method. Despite the evident affinity between Huxley's "Brave New World" and "Gulliver's Travels" by Swift, the intertextual relationships between the two works have yet to receive thorough scholarly attention, which highlights the relevance of the present article. Its purpose is to determine the features of the transformation of Swift's model of reality in Huxley's novel "Brave New World". The study comprises the following tasks: to emphasise the motif of travelling as a pivotal concept in the author's universe; to analyse the peculiarities of the external world representation as it is perceived by the protagonists; to trace the specifics of the evolution of the worldviews of both the main characters and the potential reader who can relate the texts to his current reality. Relying on the theory of intertextuality put forward by J. Kristeva, we consider the literary work an open text engaging in dialogic interaction with other texts, facilitating the creation of new meanings. Thus, through a dialogue with his renowned predecessor, Aldous Huxley guides his readers back to a familiar text. In the process of reading, a recipient not only gains insights into the text but also attains a heightened comprehension of his own identity. This involvement prompts reflective contemplation, nurturing a more profound understanding of both the self and the surrounding reality. Both works share a common topic of exploring the world through the experience of travel, which forms the foundation for the representation of the author's ideas. The protagonists, Gulliver and John the Savage, learn the world and undergo enlightenment by visiting different countries and encountering new forms of social life. As the denouement approaches, both John the Savage and Gulliver reach the conclusion of humanity's inevitable moral and spiritual decline. However, unlike Swift, who in "Gulliver's Travels" leaves a faint glimmer of hope, Huxley in "Brave New World" is full of apocalyptic predictions and tragic despair about the future of human civilization.

**Keywords:** dialogue, dystopia, identityimage, interpretation, intertextuality, narrative, plot, protagonist, satire, structure, travel.

### 1 Introduction

Aldous Huxley's dystopian book "Brave New World" (1932) holds a significant place in the author's legacy. The novel has gained widespread acclaim among readers and scholars for its ability to provide both entertainment and intellectual challenge, satire and lyrics, fantasy and reality. As of now, the book has been a subject of lots of different studies. The high interest in it proves the topicality of the issues raised as well as their longlasting power are still valid, especially since most of the author's predictions regarding the future of mankind have come true today. Not surprisingly, the ideas and images of "Brave New World" have been reinterpreted in the writings of the younger generation of dystopian writers, in particular Stanislaw Lem, Michel Welbeck, and others.

At the same time, as Peter Firchow claims, "the novel has not lacked for literary fosters" (Firchow, 1984). Most researchers agree that Huxley was inspired to write his book by a number of authors, including William Shakespeare, Herbert Wells, Anatole France, Yevgeny Zamyatin, James Joyce, and others. Regarding Zamyatin, widely recognised as the father of dystopian literature, it's questionable whether his "We" (1920) had any influence on "Brave New World". Huxley claimed he had not heard of "We" when he started writing his book, which initially was meant to be a parody of Herbert Wells' "Men Like Gods" (1923). In the letter to Kethevan Robberts (May 18, 1931), Huxley noted: "I am writing a novel about the future Brave New World, on the horror of Wellsian Utopia and about a revolt against it" (Huxley, 1969). In fact, "Brave New World" became a polemical response to Wells' model of an ideal scientific society in "Men Like Gods".

Huxley's disapproval of Wells' book and utopias in general explains his preference for Swift's satirical tradition, which also had a great influence both on the idea of "Brave New World" and its creative manifestation. Scholars (Arfred Ward (1930), David Daiches (1960), Harold Watts (1969), Chris Ferns (1980),

Peter Firchow (1984), Jerome Meckier et al. (2006), etc.) emphasise mainly the ideological similarity of Swift and early Huxley. For example, Ward considers Huxley to be "the most shattering satirist after Swift" (Ward, 1930). The author of "Brave New World" is referred to by Firchow as a moralist of "the old Swiftian school" (Firchow, 1984). Ferns pays attention to the closeness of Huxley's "temperamental affinities" with Swift (Ferns, 1980). In his opinion, it was Swift whom Huxley chose as his mentor in "Brave New World" (Ferns, 1980). Notable in this respect is Huxley's letter to G. Wilson Knight (August 15, 1931), in which the sender writes that he has been "preoccupied with a difficult piece of work – a Swiftian novel about the Future, showing the horrors of Utopia". He adds that it is "a comic book – but seriously comic" (Huxley, 1969). Thus, in his literary debate with Wells, Huxley applies Swift's satirical approach. He sees it as the most potent defence against utopian views about the beneficial role of science in the development of mankind. On the other hand, in defining "Brave New World" as a "Swiftian novel", the author manifests his conscious intention to introduce connections between his book and Swift's writings, in particular "Gulliver's Travels".

The above arguments prove how closely Huxley's and Swift's books are related to one another. Because of the lack of special studies on this subject, we consider it relevant to study the novel "Brave New World" from the perspective of an intertextual dialogue with Swift's book. The aim of this article is to single out peculiarities of the transformation of Swift's model of world presentation in Huxley's novel. In the study, particular emphasis is given to the evolution of the worldviews of both the main characters – through whose eyes the outer world is portrayed – and the potential reader, who can find ways to see the relevance of the text in the immediate context. In this regard, Wolfgang Iser's theory of aesthetic response proves to be useful. According to it, the essence of a literary work arises from the interplay between the text and the reader, conceived as "an effect to be experienced" rather than an "object to be defined" (Iser, 1978). This implies that during the act of reading, a recipient not only acquires insights concerning the text but also gains a deeper understanding of his own identity. This engagement stimulates reflective thinking, fostering a more profound understanding of both oneself and the surrounding reality.

In the article, we employ ideas of Julia Kristeva, whose work "Word, Dialogue, Novel" (1986) first introduced the term 'intertextuality'. Kristeva's theory contends that no text is isolated; rather, each one exists in connection with others, forming a "mosaic of quotations". The scholar promotes a dynamic view of expressions within texts, seen not as fixed meanings but as intersections of textual layers. This perspective fosters a dialogue among various forms of writing, embracing the reader, the author, and the interplay of historical and contemporary cultural contexts. By emphasising these complex relationships, Kristeva's theory transcends traditional notions of authorship and literary interpretation, portraying them as multifaceted and continuously evolving processes.

Our study is further enhanced by taking into account the modern viewpoints of Polish scholar Zofia Mitosek. She brings in a refined understanding of intertextuality that stands apart from Kristeva's approach. Mitosek's focus is on the connection between the author's intentions and their deliberate efforts to link their work with those of writers of the past. In her analysis, she divides intertextuality into two distinct forms: global (unconscious) and limited (conscious). Regarding the former concept, it "consciously ignores the writer's intention, equating him with any speaker, and understands the intertext as a holistic context, the linguistic experience surrounding each person. In this context, writing and literature are seen as a special concentration, interesting enough to be well-established and subject to research reflection" (Mitosek, 2004). From a scholarly perspective, the very concept of limited intertextuality as a

conscious literary tool is far more effective. In this case, as the Polish scholar asserts, we are speaking of “playing texts, styles, and poetics that cause semantic effects associated with double speech: dialogue, repetition, imitation, and involvement of what has already been said and what exists in art and cultural tradition as a field of unceasing relationships and applications” (Mitosek, 2004). We believe this concept is relevant given Huxley’s task to create a “Swiftian novel” and his later acknowledgement of Swift as having the main literary impact on “Brave New World” (Ferns, 1980).

The purpose of writing this article is to examine the intertextual dialogue between A. Huxley’s “Brave New World” and J. Swift’s “Gulliver’s Travels”, thereby shedding light on the connections, influences, and thematic parallels among these two eminent literary works. Through this exploration, the aim is to deepen our understanding of both texts, unraveling the layers of meaning embedded within them and uncovering how they resonate with each other across time and context. This intertextual analysis serves to enrich our appreciation of the themes, motifs, and societal critiques present in both “Brave New World” and “Gulliver’s Travels”, offering fresh insights into their significance and relevance in the literary canon.

## 2 Literature review

In his research paper, Hossain (2022) investigated Aldous Huxley’s Brave New World, delving into the portrayal of a post-human totalitarian society known as the “World State”. This society does not allow natural conception and birth, instead treating humans as commodities to be hatched, conditioned, fertilized, and manufactured in large quantities through processes like Bokanovskification. The paper explores how this system of power deviates from normality and celebrates the mass replication of humans, drawing parallels to Jean Baudrillard’s concept of simulation and simulacra as elucidated in his 1981 work “Simulacra and Simulation”. Through this analysis, the study aims to provide a critical appraisal of the novel’s themes and implications.

In his research paper, Arif (2023) investigated the dichotomy presented in Aldous Huxley’s Brave New World, delving into the exploration of utopian idealism and its transformation into dystopia. The paper scrutinized the portrayal of a world devoid of sickness, pain, or limitation, juxtaposed against the backdrop of a civilization governed by strict rules and codes. Arif examined the central question of why utopian aspirations often give rise to tyranny, oppression, and the lust for power. Furthermore, the research analyzed the contrasting facets of Huxley’s world, highlighting the magnificent civilization and comfort juxtaposed with the gloomy existence dominated by strict control and insipid routines.

In his scientific work, Kroll (2022), delved into the depths of Jonathan Swift’s “Gulliver’s Travels”, recognizing its enduring relevance beyond the simplistic tales of Lilliput. He explored how Swift’s satirical masterpiece continues to resonate socially and politically, even after three centuries. Kroll’s analysis sheds light on how contemporary audiences interpret and engage with satire, seamlessly drawing parallels between Swift’s critiques and modern societal structures. In turn, Abdeldjalil and Chaabane (2023) investigated the portrayal of social stability in dystopian fiction, particularly focusing on how governments aim to maintain control over citizens through various conditioning mechanisms. They use Aldous Huxley’s “Brave New World” as a prime example to highlight dystopian features such as the absence of individual freedom, artificial happiness, and biological manipulation.

In his research paper, Harpreet et. al. (2024) investigated the enduring relevance of Jonathan Swift’s “Gulliver’s Travels” in the contemporary digital era. The study delves into the profound insights offered by Swift’s narrative, exploring parallels between the satirical themes of the novel and the complexities of our digital society. Through an interdisciplinary approach, the paper examines how Swift’s critique of human nature and reason

resonates with the ethical and moral dilemmas of today’s digital landscape, emphasizing the timeless significance of classic literature in understanding and navigating modern technological challenges. Additionally, Gong (2021) investigated Swift’s intricate manipulation of dual focalization in “Gulliver’s Travels”. The analysis reveals a narrative dynamic where Gulliver’s character, portrayed as gullible and influenced by others, merges with a detached Gulliver-narrator who observes events with empirical detachment. This parallel extends to Swift’s commentary on English-Irish relations, with the novel serving as a parody of colonial travel accounts. The study suggests that Gulliver’s warnings, conveyed through character and narrator, serve as Swift’s admonitions to both Irish and English audiences regarding intellectual blindness and governmental neglect.

In turn, Volkan (2023), investigated the concept of posthumanism as a critical response to the perceived limitations of humanism. His focus was on critical posthumanism, which emphasizes critical discourses rather than technological advancements. This anti-anthropocentric theory challenges the humanist ideology by rejecting the centrality of humans in Western thought and practices and criticizing the human dominance of nonhuman entities. Volkan’s analysis delves into how Jonathan Swift’s “Gulliver’s Travels” anticipates posthumanist themes by deconstructing and destabilizing traditional notions of human bodies and reason, thus shedding light on the early emergence of posthumanist ideas in the eighteenth century.

## 3 The methods that were used

The analysis of literary sources was carried out in order to identify common and distinctive features between the works of Jonathan Swift and Aldous Huxley in the context of their satirical approach to scientific progress and its consequences for society. Such an analysis made it possible to understand how they highlight the danger of the destructive influence of scientific progress on society and human nature through their literary works.

The method of systematization was used to analyze the data related to the realization of the theme of travel and the promotion of the main characters in the works of Jonathan Swift and Aldous Huxley. This method made it possible to systematize various aspects of the journey in both works, including their significance for plot development, character development, and thematic expression.

The method of generalization was used to systematize and analyze the differences in the ways in which the authors depict the interaction of the main characters with the world around them in the works “Brave New World” and “Gulliver’s Travels”. This method made it possible to identify three ideological and semantic parts in both works, which reflect three levels of experience of the main characters of a civilized society.

## 4 Research results

### 4.1 Travel as a form of representing and understanding the world

Despite being representatives of two distinct epochs, the Enlightenment and Modernism, both Swift and Huxley exposed the speculative theories of their time in their works, especially in terms of the advantages of scientific progress. Actually, those became the subject of their satire in the books. It is important to emphasise that Swift was among the first ones to question the enlighteners’ trust in the ultimate power of reason, thus encouraging his countrymen to develop critical thinking. However, Swift’s contemporaries did not appreciate his writings. Consequently, he may be seen as a writer who was ahead of his time. Huxley claimed that the century in which Swift lived was “hard and virile: machinery, Taylorization, the highly-organized division of labour, specialization, and humanitarianism had not yet begun to produce their dehumanizing effects” (Huxley,

1937). He was convinced that if Swift lived in the twentieth century, he would have been “the adored, the baroneted, and the Order-of-Merited author” (Huxley, 1937). With these words, Huxley highlighted the relevance of Swift’s satire in the “routine-ridden, mechanized world of the 20th century” (Huxley, 1937), when the dehumanisation processes became apparent in all their absurdity and danger.

In this aspect, Huxley’s “Brave New World” has come to be recognised as the most dramatic example of how science and technology have permanently altered modern civilization. In the book, following the epistemological concept, the narrator demonstrates the narrowness and limitations of science. As a property of ratio-based objective reality, it does not reflect inner-personal existence. In the essay “Do What You Will”, Huxley argues that science “is no ‘truer’ than common-sense or lunacy, than art or religion. It permits us to organize our experience profitably; but tells us nothing about the real nature of the world to which our experiences are supposed to refer” (Huxley, 1937). The author’s convictions determined the ideological line of “Brave New World”, which is considered “a kind of byword for a society” where “the values (or unvalues) of scientific technology are dominant” (Fircchow, 1984). The above-cited words could also be referring to “Gulliver’s Travels”, the current relevance of which does not require confirmation.

It is interesting to note that in the early 1940s, Huxley had the idea to depict reality through the eyes of Gulliver’s grandson, who was travelling through the eighteenth century (Huxley, 1969). That means that the thought of creating a “new Gulliver”, modified by the realities of the modern industrial world, has haunted the author. Its primary implementation can be observed in the novel “Brave New World”. From this perspective, Swift’s book is regarded as a predecessor text that establishes a pattern or algorithm for the perception and evaluation of cultural objects. It shapes the way we interpret and categorise phenomena, defining what is considered good or bad, right or wrong. In Huxley’s novel, Swift’s text serves as a cultural code, which the author frequently alludes to in his writing. While the connections between “Brave New World” and “Gulliver’s Travels” might not be immediately obvious, but they are detected throughout Huxley’s work, both in the thematic content and the overall structure.

The key common aspect of both works is the authors’ use of travel as a means of representing the objective world that opens up to the protagonists. It provides an opportunity to compare and evaluate various nations, implying the contrast principle. Moreover, Swift includes the word “travel” in the title of the book, indicating the criteria by which the plot-event content is conveyed. Therefore, the main principle of world representation is shaped by the protagonist’s progress as they evolve while travelling and acquire experiences that are deemed the most significant knowledge. In this regard, “Gulliver’s Travels” may be viewed as an implementation of Lockean empirical conception that places a high value on sensations and the individual’s experience of the world. At the same time, Swift goes beyond Locke’s theory as he also satirically mocks it in the book.

When it comes to Huxley’s “Brave New World”, the concept of travel does not seem to be a dominant component in the novel plot structure, since its protagonist, John the Savage, emerges only in the final one-third of the book. This makes the work a rather unconventional one, making it hard to categorize it without raising a discussion. In addition, the narrative of the novel is impersonal (the so-called third-person narrative), although for utopian or dystopian fiction it is common to rely on a first-person narrative. Traditionally, the protagonist is the narrator through whose eyes the reality is assessed, as one can see in “The City of the Sun” (1602) by Tommaso Campanella, “New Atlantis” (1627) by Francis Bacon, “Time Machine” (1895) by Herbert Wells, “We” by Yevgeny Zamyatin, and others. Despite the fact that Huxley doesn’t follow the tradition closely, there is a kind of unity in his work, ensured by a single

philosophical and artistic idea that runs through the whole text. This is what makes the book original and unique.

For Huxley, the travel acts as a means of showing the main character’s growth in self-awareness. He concentrates on how the individual’s mind sees the surrounding and how the surrounding may effect changes in his convictions. In this regard, Huxley’s personal travel experiences, as recorded in the book “Jesting Pilate”, are noteworthy. Drawing attention to the diversity of the world as well as instances of standards deviations in various nations, the author believes that the major responsibility of the traveller is to “distinguish between harmless perversions and those which tend actually to deny or stultify the fundamental values”. According to Huxley, one can be tolerant towards the first, but there “can be no compromise with the second” (Huxley, 1926). As we can see, for Huxley the man’s capacity to defend humanistic values is of primary importance. Therefore, it determines the essence of the main character of “Brave New World”, which in its turn resonates with Swift’s idea of Gulliver.

In the next section, we will consider the ways the authors implement their strategy for depicting the protagonists’ advancement in their respective worlds.

#### **4.2 Stages of the protagonists’ progress in the world: from ignorance to awareness and revolt**

In both “Brave New World” and “Gulliver’s Travels” one can distinguish three ideological and semantic parts that stand for three perspectives of civilised society and, hence, three levels of the protagonists’ experience of the outside world. While in Swift’s book every country is shown to have a specific model of government, mainly a monarchy, Huxley depicts the so-called “World State”, a monopolistic authority, as the personification of the totalitarian dictatorship that rules the entire planet. Other types of political organisations that might exist (except for the Indian reservation) are not detected. Despite this difference, both works heavily rely on the concept of understanding the world through the creative “author-hero-reader” triangle. In the framework of the triangle, the main concepts of the works unfold, and the texts’ strategy is implied.

As it has already been mentioned earlier, in “Brave New World” it is the author who takes over the functions of the narrator, shaping the readers’ opinion according to his liking and attitude. The author unfolds the narration in a grotesque and sarcastic manner, demonstrating his contempt to the fundamental principles of civilised society despite its obvious prosperity and high standard of living. Therefore, the reader’s reaction as an outside observer is modelled by the author’s feelings. However, at the initial stage, the recipient is unlikely to identify himself with the robot-like beings of the new world and, as a result, they may disregard possible threats looming over them and their current environment. If we examine this situation through the perspective of Swift’s model, it reminds us of Gulliver’s stay in the country of Lilliput. As a law-abiding Englishman, the protagonist of “Gulliver’s Travels” fails to recognise an expanded projection of his country in the customs and habits of the little creatures. It demonstrates his limited awareness and low level of comprehension of the outside world.

This idea can be supported by events unfolding during Gulliver’s audiences with the King of Brobdingnag in the second part of Swift’s book. We follow the scene when Gulliver himself behaves like a Lilliputian, proudly telling the noble monarch about the achievements of the British government in foreign and domestic policy. According to him, the House of Peers is famous only because it includes the “Persons of the noblest Blood, and of the most ancient and ample Patrimonies”. They are “the Ornament and Bulwark of the Kingdom; worthy Followers of their most renowned Ancestors, whose Honour had been the Reward of their Virtue” (Swift, 2005). Gulliver’s panegyrics are a manifestation of the blindness and slavish obedience of a man who sees neither others’ nor his own faults. Hence, he does not realise the hidden irony of the shrewd giant’s questions. The

pinnacle of the situation is Gulliver's conclusion that the king is a man of "narrow Principles and short views" (Swift, 2005).

As regards John the Savage, the main hero of the "Brave New World", he was born on the territory of an Indian reservation. The boy learned about a wonderful country from his "mechanical" mother, whose nostalgic memories were filled with sadness for everyday things and emotions rather than for home, friends, or loved ones. She missed wonderful games, delicious dishes, "the lovely music that came out of a box," "the light that came when you pressed a little thing in the wall"; "the pictures that you could hear, feel, and smell as well as see"; "a box for making nice smells"; babies "in lovely clean bottles"; mountain-like houses, and, most importantly, a sense of happiness, when people are "never lonely, but living together and being so jolly and happy" (Huxley, 2002). Linda's story is an implementation of one more perspective of the New World, namely, from the standpoint of a human being who, like Gulliver (in the eyes of the giant monarch in the second part of Swift's book), is an organic part of society, or rather a cog that accidentally fell out of the huge mechanism to which it was attached. As we see, the woman neither knows nor wants to know about another "happiness". Linda's character serves as an example of how standards can negatively affect one's conscience.

In this context, the problem of the natural immunity of John, the direct recipient of Linda's memories, becomes relevant. Despite the fact that the boy was raised among Indians from infancy, he was captivated by his mother's tales and developed a great desire to visit the perfect society. Not surprisingly, while talking to Lenina, following Shakespeare's Miranda, he exclaims, "O Brave New World that has such people in it ... Let's start at once" (Huxley, 2002). In contrast, being aware of the real state of things, the reader does not share John's admiration and sees his behaviour as a consequence of him having a 'foggy mind'. As a result, the boy unintentionally becomes identified with his primitive mother, who embodies all the disgusting customs of mechanised civilization. However, Huxley makes the situation more challenging by introducing the psychological motivation of the hero's sympathy for the far-off "wonderful world". Because of the unfriendly and even hostile attitude of the reservation's natives, who do not accept Linda's immoral lifestyle, John the Savage finds himself in a state of complete isolation, he is an example of "the stranger among his own people and one of their own among strangers" principle. Since he is in the position of the Other, i.e., Not-I, the boy is looking for a place where he can experience human happiness to its fullest. He finds comfort in Shakespeare's works, using them to assess and understand the world around him, yet he can't seem to find integrity and consistency in all what he hears, sees, or reads. The vanity and misconception of John's ambition comes through the quotation from "The Tempest", in which he defines "Brave New World" civilised society in the same way Shakespeare's Miranda does. This statement turns out to be deeply ironic after the terrible truth about this new world is learned and John himself faces the hardships befalling him, making him choose between being and having.

In the third part, one witnesses the mechanised society through John's eyes. That is when the protagonist goes through the stage of awakening, similar to what Gulliver did when he visited the country of Laputa and the Houyhnhnms, intelligent horses. Similarly to Swift, Huxley employs the principle of 'estrangement' – a literary technique that presents familiar things in an unfamiliar or strange way to enhance perception of the familiar. It suggests that the main character is primarily an observer rather than a participant in events – a man to whom reality is revealed without any conditions, as it truly is. The examples are the scenes of John discovering the scientific advancements of the New World. The boy gazes upon huge laboratories, numerous mechanisms, helicopters, and synthetic music boxes in stunned amazement. His reactions are akin to those of Gulliver, whose responses, observation and interactions with the projectors provide a sensible perspective, helping the reader to understand Swift's critique of the Academy of

Projectors. By describing familiar aspects of scientific endeavour and innovation in a both peculiar and exaggerated manner, the authors encourage readers to reflect on their world and its potential absurdities.

However, while Swift emphasises the absurdity of scientific technologies, Huxley sees them as a threat to humanity. In the preface to the second edition of the novel, outlining its topic, Huxley states that he is more concerned with "the advancement of science as it affects human individuals" than with "the advancement of science as such" (Huxley, 1947). According to the author, the natural sciences are the only ones that may bring about qualitative changes in society; instead, the sciences of matter can destroy life or make it extremely difficult and burdensome. In this regard, he argues: "This really revolutionary revolution is to be achieved, not in the external world, but in the souls and flesh of human beings" (Huxley, 1947). Thus, by emphasising the importance of the human factor, A. Huxley "tries to warn humanity against mechanistic thinking, which can lead not only to a complete loss of freedom but also to the destruction of civilization" (Devdiuk, 2020).

The satire in both books reaches its climax during its final stage of the journey. Its effect is intensified by the contrast principle: in "Gulliver's Travels", the protagonist is horrified acknowledging similarities between people and ugly yahoos, as opposed to perfect horses; in "Brave New World", it is John's disgust and revulsion that emphasise the repulsive nature of the civilised society, especially since they come after his blind admiration for an ideal country. Describing crowds of almost completely identical soulless beings planned for a particular function, Huxley hints at their similarity to monkeys. It is noteworthy that Huxley, a satirist and master of animalization, frequently uses the images of monkeys in his writings (for example, in "Ape and Essence", "After Many a Summer Dies the Swan", and others), showing the modern man "as the perennial Yahoo, always inclined toward self-degrading animalistic behavior" (Meckier et al., 2006). We cannot help but notice the similarities between the ape-like people in "Brave New World" and Swift's Yahoos. Both works emphasise the hideous appearance of the "half-humans", which symbolically stands for the imperfection of human nature on the whole. It is not surprising that their ugly looks evoke the protagonists' hatred and repulsion. The passage that follows illustrates Gulliver's first impression of the Yahoo: "For as to those filthy Yahoos, although there were few greater Lovers of Mankind, at that time, than myself; yet I confess I never saw any sensitive Being so detestable on all Accounts; and the more I came near them, the more hateful they grew, while I stayed in that Country" (Swift, 2005). In his turn, John the Savage in "Brave New World" cannot stop vomiting when he sees one hundred and seven "heat-conditioned Senegal Epsilons working in a foundry"; thirty-three "delta females, long-headed, sandy, with narrow basins, and all within 20 millimeters of 1 meter 69 centimeters in height", carving screws; two sets of Grammar Plus dwarfs putting together dynamos in the assembling room, etc" (Huxley, 2002). John was strongly impressed by what he had seen. He suddenly broke away "from his companions and was violently retching, behind a clump of laurels, as though the solid earth had been a helicopter in an air pocket" (Huxley, 2002).

All the same, unlike the lower castes, the highest castes of the New World are immaculate in every way. They are intelligent, tall, and attractive. Drawing a parallel to Swift's Houyhnhnms, they live a planned lifestyle, balancing work and recreation, as well as avoiding love passions. In this context, one cannot help but mention the methods of genetic engineering and programming of individuals' social functions in their embryos, which can be seen as a modernization of the Houyhnhnms' practise of strict birth control in order "to keep the race from degenerating" (Swift, 2005). At the same time, both the lower and the higher castes lack the most valuable human right: the ability to make their own choices. In this aspect, it makes absolutely no difference whether they look mostly like ugly monkeys or smart horses, for they are no longer considered

humans, but rather merely controllable cogs of a huge mechanism. It is important to mention that mechanical civilization is devoid of political strife, religious wars, and other kinds of means for revolt, just like the country of intelligent horses in "Gulliver's Travels". There is no place for destabilising acts that might threaten the country's equilibrium. The fact that makes it especially disturbing is that slaves "do not have to be coerced, because they love their servitude" (Huxley, 1947). The only thing that can defeat people's "love of servitude," as Huxley claims, is a "deep, personal revolution in human minds and bodies" (Huxley, 1947). Nonetheless, as it is shown in the novel's third part, the author is sceptical of this probability in the conditions of the 20th century.

The turning point in John the Savage's journey is his encounter with the mysterious leader of the utopian state, Mustafa Monde. He exposes John to the deepest secrets of country control, revealing all the hidden mechanisms involved. Both the listener and the reader are astounded by Mustafa's revelations. When John realises the truth about false happiness, he yells in sorrow and anger, "But I don't want comfort. I want God, I want poetry, I want real danger, I want freedom, I want goodness. I want sin" (Huxley, 2002). The boy's ambitions are doomed because he has no way to make them come true. After losing all hope, John the Savage commits suicide. The above scene is reminiscent of Gulliver's dialogue with Master Houyhnhnm, in which the protagonist admits the imperfection of his own country, realising how ugly his fellow citizens are. He is horrified to see them as the direct descendants of Yahoos: "When I thought of my Family, my Friends, my Countrymen, or human Race in general, I considered them as they really were, Yahoos in Shape and Disposition, perhaps a little more civilized, and qualified with the Gift of Speech; but making no other Use of Reason, than to improve and multiply those Vices, whereof their Brethren in this Country had only the Share that Nature allotted them" (Swift, 2005).

Given these revelations, Gulliver's subsequent progress makes no sense. Forced to leave the country of the Houyhnhnms, he returns home, finding refuge and comfort in the companionship of horses. One can clearly see the irony behind the author's intent, as he does not share his character's sentiments, nor his the extremities. As Huxley concluded, for Swift, "the charm of the country of the Houyhnhnms consisted, not in the beauty and virtue of the horses, but in the foulness of the degraded men" (Huxley, 1937). Huxley's ruminations resonate with Swift's intentions as a writer. Considering the main idea of the book, in his letter to Alexander Pope, he wrote that "the whole building" of his Travels was erected to prove the "falsity of that definition animal rationale; and to show it should be rationis capax" (Williams, 1963). Actually, it is in the concluding part of "Gulliver's Travels", where satire reaches its pinnacle, that Swift effectively strips away the veil of prejudice from human eyes, thereby encouraging individuals to cultivate their ability to reason and think for themselves.

As for the final scene in Huxley's work, there is not the faintest suggestion of literary game in it. John the Savage's death is symbolic; it poses a serious challenge to humanity, which is threatened by the loss of authenticity in technocratic reality. Huxley, like Swift, attempts to convey to readers the idea that the fictional nations he writes about could be their own. In this sense, the novel proves to be a message to both contemporary and future generations about the danger of being captured by illusions and of becoming totally immersed in a mechanistic world (Eskedal, 2019). Thus, both texts make us reconsider who we are and where we are going, encouraging potential readers to reevaluate their attitude toward the world around them before it is too late.

## 5 Discussion

We agree with Hossain (2022) regarding Aldous Huxley's portrayal of a post-human totalitarian society in "Brave New World". The author points out that this society, known as the "World State", deprives people of the possibility of conception

and natural birth, viewing them as commodities that can be bred, coaxed, fertilized, and mass-produced through processes such as Bokanovskification. We also agree that the technological replication of humans in the novel reflects important aspects of the modern world, where reality and illusion are gradually merging.

We partially agree with Arif (2023) regarding his analysis of Aldous Huxley's novel *Brave New World*, which reveals the duality of the presented world. On the one hand, this world impresses with its grandeur, brilliance, and luxury, creating the impression of an ideal embodiment of perfection, where the disconnection from pain and suffering is replaced by comfort and pleasure. On the other hand, the author reproduces a picture of life controlled by rigid rulers, where people are divided into castes according to the qualities and abilities of the body, and where most human actions become mechanical processes, detached from essence and value. Analyzing these aspects, we understand how the novel criticizes totalitarian regimes that pretend to be defenders of civilization, democracy, and freedom, and also emphasizes that a civilized society does not sufficiently take into account such basic human needs as love and understanding.

We agree with Kroll (2022), regarding the enduring relevance and complexity of Jonathan Swift's "Gulliver's Travels". Kroll astutely acknowledges that beyond its superficial portrayal, the satirical masterpiece delves into profound social and political themes that resonate with contemporary audiences. He aptly highlights how modern Gen Alpha students, immersed in a culture of postmodern cynicism and satirical humor, readily connect with Swift's critique of societal norms and power dynamics. Through insightful analysis, Kroll underscores the timeless nature of satire, illustrating how Swift's imaginative portrayal of Gulliver serves as a mirror to both past and present cultural contexts. We also agree with Abdeldjalil and Chaabane (2023), regarding the portrayal of social stability in dystopian fiction. Their exploration highlights how governments manipulate citizens to maintain control, sacrificing individual needs for the sake of societal order. Their analysis, particularly using Aldous Huxley's "Brave New World" as an example, underscores the dystopian elements of artificial happiness and biological manipulation, shedding light on the complexities of social conditioning for stability.

We partially agree with Harpreet et al. (2024) on the significance and unexpected relevance of Jonathan Swift's *Gulliver's Travels* in the context of the digital age. Despite the fact that the work was created in the 18th century, the story of Lemuel Gulliver's imaginary travels still fascinates and offers unique insights into modern society. As for exploring the relationships between Swift's critique of human nature, cultural relativism, and reason versus irrationality, we agree that these issues reflect contemporary challenges and dilemmas in digital life. Therefore, *Gulliver's Travels* can be an interesting basis for evaluating and understanding our digital age. However, we do not fully agree with the opinion that *Gulliver's Travels* serves only as a background for evaluating the modern technological and communication spheres. The observation that the digital era shares a significant amount of similarities with the themes of Swift's work may be highly intriguing; however, it is imperative not to confine the work solely to this perspective. Furthermore, we hold the belief that it is imperative to explore additional aspects and themes of the work, which may be equally intriguing and significant in comprehending contemporary society.

We agree with Gong (2021) on the analysis of the dual focalization manipulation in the second part of the essay. They point out the importance of examining the role of the hero Gulliver and the narrator in conveying Swift's warnings to the Irish and English peoples.

We agree with Volkan (2023), regarding the significance of posthumanism as a critical response to the perceived limitations of humanism. Volkan's analysis of "Gulliver's Travels" from a posthumanist perspective sheds light on how Jonathan Swift's



work anticipates and reflects these critical themes, illustrating the early emergence of posthumanist ideas in the eighteenth century through its deconstruction of human bodies and reason.

## 6 Conclusion

Thus, the analysis of "Brave New World" in the light of intertextuality has proven its close connection with Swift's "Gulliver's Travels". Through the dialogue with his famous predecessor, Huxley activates the reader's perception redirecting him to an already familiar text and constantly referring to it. In this way, "Brave New World" introduces the reader to the already existing cultural environment. In terms of the theory of intertextual relations, "Brave New World" is viewed as an example of limited intertextuality as it suggests Huxley's conscious imitation of Swift's book, or at least some of its aspects.

The two works' shared topic of world knowledge provides the framework for the presentation of the authors' ideas. Their plots are based on the idea of progress and development of the protagonists, who are the proponents of the writers' views. While exploring new places and encountering new things, Gulliver and John the Savage become more aware of the world. As a result, their worldviews undergo profound transformations.

By analogy with "Gulliver's Travels", in Huxley's book outlines three perspectives on the world representation. They symbolise the three stages of the main characters' assessment of their surrounding, which range from admiration to disgust. Thus, both works' concepts revolve around the ideas of evolution, regress, and exposure. In the end, Gulliver and John the Savage reach the same conclusions regarding the moral and spiritual decline of humanity. Nevertheless, unlike Swift, who still leaves a faint glimmer of hope for the future, Huxley's work is full of apocalyptic predictions and tragic despair. The study of "Brave New World" from the perspective of intertextual dialogue with Swift emphasises a prophetic aspect of Huxley's work regarding the tragic destiny of mankind.

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## Primary Paper Section: A

## Secondary Paper Section: AJ

# ANALYSING THE ROLE OF EXTERNAL POLITICAL INFLUENCES ON THE EUROINTEGRATION AND NATION-BUILDING IN UKRAINE AND LITHUANIA FROM 1990 TO 2021

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**Abstract:** The Republic of Lithuania's experience examining foreign policy's impact on European community integration processes is considered exemplary for Ukraine due to shared initial characteristics, historical proximity, and the relatively recent experience of modern statehood in Ukraine and Lithuania, despite significant historical achievements. This article examines the impact of foreign policy on state-building and European integration processes. It has been demonstrated that there is a considerable discrepancy between the two states regarding their existing local self-government systems and their interaction with state authorities. This research aims to conduct a comparative analysis of the impact of foreign policy factors on the development of Eurointegration and state-building processes in Ukraine and Lithuania between 1990 and 2021. The study identified the countries that exerted the most significant influence on the state-building process in Lithuania and Ukraine after 1990 in the context of developing democratisation. The study revealed the essence of the interests, strategies, and methods of influence of the various countries involved, which either motivated or hindered the processes of state-building and Eurointegration. The study showed that Russia exerted the most destructive influence on the state-building process in Lithuania and Ukraine after 1990. This influence was exerted through significant political, financial-economic, religious, informational-psychological, diplomatic, and military levers of pressure. The prolonged influence of tense relations with Romania, Hungary, Slovakia, and Moldova was identified. The fundamental concepts of state-building in Lithuania and Ukraine during the period under study were elucidated.

**Keywords:** state-building processes, European integration, decentralisation reform, the Republic of Lithuania, Ukraine.

## 1 Introduction

The final decade of the 20th century was characterised by significant geopolitical shifts precipitated by the collapse of the totalitarian communist system. In the context of this historical event, numerous states underwent a process of re-emergence and re-assertion of their independence. Despite the prevailing optimism, the nascent democratic state-building process in the newly independent countries was met with external political challenges and obstacles from the former centre. The Kremlin effectively began to impede the democratisation process in the countries of the former USSR and the related socialist bloc. It was achieved by exporting its authoritarian model of managed democracy, which aimed to form a powerful integration entity as a counterbalance to the European community. The control of Ukraine and Lithuania was identified as a critical objective within Russia's foreign policy strategy.

In light of Russia's full-scale invasion of Ukraine, the issues under examination have gained particular importance in historical-political circles. Many researchers, including those from international institutions, have devoted considerable attention to the role and impact of foreign policy in the state-building processes of Ukraine and Lithuania, which have been identified as representative countries of active democratic state-building and aspirations for integration into the globally developed environment. However, contemporary researchers are confronted with the challenge of analysing the impact of external political factors on the development of state-building in Lithuania and Ukraine within the context of Eurointegration and democratic processes. Moreover, the question of identifying the countries that have most influenced the state-building process in Ukraine and Lithuania post-1990 in conditions of democratisation remains unresolved. It includes differentiating and comparing their strategies, interests, and methods of

influence. The historical experience of foreign policy formation, which highlights the main principles and conceptual foundations of Eurointegration and state-building processes, is presented in the works of several scholars. It is considered appropriate to identify the impact of neighbouring countries as catalysts or obstacles to the examined development processes of Lithuania and Ukraine. It will involve assessing the extent and degree of their direct or background influence.

## 2 Literature review

Many scientific and legal studies of state-building processes, frequently conducted within an interdisciplinary framework, as well as the search for practical ways to improve them, are focused on studying and adapting the experience of foreign states from the post-Soviet space. In addition, the selection of countries studied, their specific geographical location, historical characteristics, traditions, affiliation to particular legal systems, and political associations in the context of similar studies are conditioned by the adjacent object and the specific subject of a particular study (characteristic of comparative legal research) (Trabucco, 2017; Petryshyn, 2013; Astrauskas, 2015).

The empirical basis of the study comprises literary sources, monographs, and scientific articles authored by European, Lithuanian, and domestic scholars, including Andrushchenko (2005), Appatov and Makan (1999), Bezeha (2012), Vidnianskyi and Martynov (2011). Several scholars analyse the historical prerequisites for democratic state-building in Lithuania and Ukraine, while other researchers focus on studying the potential historical conceptuality of Eurointegration processes. In light of the current processes of transformation of the socio-political environment, which are being influenced by open aggression by a neighbouring state in the heart of the European community, the scholars' findings possess specific theoretical-methodological potential. However, they require practical testing and optimisation in today's realities to be fully realised.

This study aims to provide a comparative analysis of the impact of foreign policy factors on the development of European integration and state-building processes in Ukraine and Lithuania from 1990 to 2021.

## 3 Materials and methods

The research process involved utilising a diverse range of scientific methodologies, philosophical approaches, and principles of scientific knowledge, enabling a comprehensive analysis of the subject matter.

Among the general scientific methods employed, the systemic method was used to characterise the specifics of the influence of foreign policy factors on the state-building and Eurointegration processes in Lithuania and Ukraine as a functional dynamic system. The functional method was employed to identify the objectives and tasks of the researched processes and their functional purpose. The sociological method was employed to generalise the empirical information about the specifics of the practical implementation of state-building and Eurointegration processes. Meanwhile, the historical method permitted the investigation of the distinctive characteristics of their evolutionary progress. The comparative-legal method differentiated the characteristics of the evolution and development of the influence of foreign policy factors on the Eurointegration and state-building processes in Ukraine and Lithuania from 1990 to 2021.

## 4 Results

A comprehensive comparative analysis of the impact of foreign policy factors on Eurointegration and state-building processes in

Ukraine and Lithuania from 1990 to 2021 necessitates a more nuanced understanding of the initial data context and the circumstances in which Lithuania and Ukraine found themselves at the time of independence restoration. Following the Declaration of Independence, both countries formed new governments and adopted new constitutions.

After the dissolution of the Soviet Union, Lithuania proclaimed the restoration of the independent Lithuanian state, initially established in 1918. The 1992 Constitution of Lithuania outlines three fundamental principles: a democratic form of governance, independence from external control, and national sovereignty. The Constitution of Lithuania, in its modern iteration, devotes considerable attention to local self-government and its internal and external administration.

As the inaugural republic to proclaim independence, Lithuania was at an advantage over Ukraine in restoring constitutional legitimacy. During this period, Ukraine experienced a constitutional crisis, with the Constitution of independent Ukraine only being adopted in 1996. It is acknowledged that Ukrainian state figures have made significant contributions to the country's independence. However, the natural restoration of Ukrainian statehood can only be considered in the temporal factor of 2014, with adopting a decisively pro-European national development course. In contrast, Lithuania made this choice much earlier, enabling it and other Baltic countries to join the European Union in 2004 (Trabucco, 2017; Petryshyn, 2013; Astrauskas, 2015).

State-building and European integration in Lithuania are conventionally divided into four stages, as presented in Table 1.

Table 1. State-building and European Integration of Lithuania

Period	Features
1990-1997	Implementing administrative-territorial reform, establishing a decentralised system and gradually simplifying it, and redistributing powers
1997-2005	Initiating a discussion on developing regional policy and addressing the issue of administrative oversight of decentralisation and democratisation processes
2005-2010	Ensuring the preparatory process for implementing a series of legislative decisions to support European integration and state-building processes
Since 2010	Eliminating district administrations and establishing regional development councils, economically oriented social development, active European integration policy

Several distinctive features must be considered to comprehend the underlying causes of Ukraine's "lag" in implementing state-building reforms and adopting European norms of social development.

In the late 1980s, Lithuania saw the formation of reformist movements to establish national rights, democratic principles, a free market, and implement European requirements and norms for state-building (Mahomedov, 2022; Solodkyi & Rakeru, 2016). Conversely, Ukraine, geographically and historically more closely tied to Russia, saw the efforts of national movements historically fail and suffer significant losses due to the harsh reactions of the Soviet and later Russian authorities. Given the challenging conditions for development, the phenomenon of Ukrainian nationhood and statehood was weaker than that of Lithuania.

Furthermore, it is notable that historically, Lithuania had closer cultural and religious ties with Western European countries. A significant proportion of the Lithuanian population adheres to Catholicism, mainly due to the prolonged influence of the Polish Catholic Church. Moreover, the Lithuanian language belongs to the Indo-European language family's Baltic group, which

facilitated Lithuania's distancing from the Soviet Union in this regard. These factors significantly influenced the processes of state-building and the formulation of Lithuania's foreign policy development course. State institution reform is only possible with the involvement of civil society and its active transformation (Mahomedov, 2022; Solodkyi & Rakeru, 2016).

Following the international recognition of Lithuania's independence, the country initiated a process of closer ties with the EU and NATO. It is important to note that at that time, there was virtually no opposition to the Western development course in the country. Furthermore, domestic political debate was focused on developing an integration algorithm into the European community. In 1991, Lithuania commenced an active policy of rapprochement with the EU and NATO. In this context, the country joined the North Atlantic Cooperation Council and became eligible for EU support programmes. In its interactions with neighbouring countries, Lithuania established the Baltic Assembly, a parliamentary cooperation body on the path to membership in the European Union and the North Atlantic Alliance (Skryl, 2015; Chuhaiev, 2006).

In 1994, Lithuania officially declared its intention to join NATO, and in 1995, it signed the Europe Agreement to establish an association similar to Ukraine's Association Agreement with the EU. Nevertheless, the external aspect of integration into the European community was less significant than implementing a series of crucially necessary political and economic reforms. Lithuania, like Ukraine, was characterised by lingering post-Soviet influence in the 1990s. It manifested in the priority of the state sector in the economy, a high level of centralisation, and a critical mismatch of national legislation with European norms and requirements.

These circumstances precluded a rapid integration with the EU and NATO, necessitating significant domestic political efforts to reform and transform socio-political processes through the Association Agreement. By 1999, Lithuania had fully met the political criteria for EU membership, having made significant progress in establishing a functional market economy. The unwavering commitment and radical nature of the reform efforts resulted in Lithuania's accession to both the EU and NATO by 2004, which was highly supported by the population.

The practical application of Lithuania's experience in addressing systemic issues in Ukraine necessitates the consideration of both global and local factors currently adversely affecting the effectiveness of reforms. For Ukraine to successfully pursue its constitutionally entrenched irreversible European and Euro-Atlantic course, it is essential to adopt a range of normative-legal acts in synergy with the implementation of actual practical measures for integrating the fundamental values of a democratic society. The state power and local self-government must interact and bear responsibility equally within their respective reach.

A review of the impact of foreign policy factors on the Eurointegration and state-building processes in Lithuania and Ukraine reveals that Russia was the least interested in the democratisation and European integration of both countries following the dissolution of the Soviet Union. Russia's strategy towards Ukraine was characterised by adaptability and a multifaceted approach. Russia initiated an anti-Ukrainian campaign even before Ukraine declared independence to stoke interethnic tensions in areas densely populated by national minorities. It was achieved by using the language issue as leverage. In 1994, Ukraine began its European integration process in response to significant external pressure from Russia, signing the Partnership and Cooperation Agreement with the EU.

Russia's response to Ukraine's moves towards Eurointegration involved an increased use of soft power methods, including the protection of the Russian national minority and Russian speakers. This strategy managed to slow the state-building pace towards a European development course. Putin's strategy to absorb Ukraine through a combination of soft and hard power

failed during the Revolution of Dignity in 2013–2014. In the aftermath of this failure, Russia exploited the socio-political crisis in Ukraine to launch a hybrid armed aggression.

In addition to Russia, other neighbouring countries also demonstrated their interests regarding Ukraine, with strategies frequently aligning with Russia's. Despite most conflicts being resolved by the late 1990s, negative trends occasionally resurfaced actively (Mahomedov, 2022; Solodkyi & Rakeru, 2016).

In 1990, Romanian extremists initiated anti-Ukrainian propaganda campaigns. The occurrence of severe economic crises in Ukraine and Romania, coupled with Romania's aspirations for EU and NATO membership, compelled the leadership of both countries to initiate the formation of stable, good neighbourly relations in 1995. It was achieved by signing a bilateral political agreement on 2 June 1997, confirming the borders' inviolability. Subsequently, an agreement on cross-border cooperation was adopted, although the issue of Romanisation remains unresolved. Notably, despite the persistence of differences, 2014 represented a pivotal year in the evolution of Ukrainian-Romanian relations. Romania was among the first EU member states to ratify the Association Agreement with Ukraine. In 2014, a minor border traffic agreement was also concluded, significantly contributing to forming new positive bilateral dynamics in the relationship.

Similarly to Romania (Solodkyi & Rakeru, 2016), Moldova sought to gain access to the Black Sea by annexing the southeastern part of Bessarabia, which fuelled autonomist aspirations among Moldovans in Ukraine. Nevertheless, the lack of organisation among Moldovans prevented the development of anti-Ukrainian sentiments, and the contentious issues in Ukrainian-Moldovan relations regarding creating joint crossing points on the Ukrainian-Moldovan border were resolved.

In the context of relations with Hungary, the national factor had the most negative impact, as the rights of the Hungarian national minority remain questioned. Despite the conclusion of bilateral agreements between Ukraine and Hungary during the 1990s, with the support of Russia, separatist sentiments were fostered among the Rusyn people, who demanded autonomy and cultural and administrative separation of Transcarpathia from Ukraine. Following Hungary's accession to the EU and NATO, the rhetoric surrounding the issue abated. In contravention of Ukrainian law, Hungary distributed a significant number of Hungarian passports in the region with the support of Russia. Furthermore, the Hungarian government exercises control over the media and exerts a significant influence over the financing of local Hungarian entrepreneurs (Medynskiy & Kapchos, 2016).

The Slovak Republic also influenced the development of state-building and Euro-integration processes in Ukraine. In the 1990s, Slovak nationalists, with the support of Russia, promoted separatist sentiments in Transcarpathia, with manifestations continuing to the present day. Undoubtedly, in the context of joint development and the resolution of crises, by the 2000s, the countries had established constructive dialogue and cooperation, particularly in the spheres of energy, economics, and political-diplomatic relations. Nevertheless, the Slovaks' inclination towards Russophilia contributed to strained relations during the initial decades of independence. The bipolar stance of the Slovak Republic impeded the establishment of effective interactions, including at the diplomatic partnership level.

From the inception of democratic state-building in Ukraine, Poland has demonstrated consistent and active support for Ukraine's pro-European stance. Despite historical and conceptual divergences, Poland has positively influenced Ukraine's state-building and Euro-integration processes. Polish policymakers have comprehensively assessed the potential advantages, disadvantages, risks, and opportunities associated with Ukrainian state-building. Despite encountering numerous challenges, they have remained unwavering in supporting Ukraine as it pursues its European future. Poland has assumed the role of a lobbyist

for Ukraine's interests within the EU, most notably in 2005 and 2014, playing a significant role on the international stage.

In contrast, Belarus's situation has been markedly negative. Russia's geopolitical absorption of Belarus and its authoritarian political regime have led to an irreversible deterioration in relations with Ukraine (Skryl, 2015; Chuhaiev, 2006).

In analysing the impact of external political factors on the Euro-integration and state-building processes in Ukraine and Lithuania from 1990 to 2021, it is crucial to note that the most dangerous was the underestimation of the negative influence of Russia and Belarus. These nations' strategies of external political influence on Ukraine convincingly demonstrate that the Soviet identity of political elites and ethnicity, the Russian language, and various economic-energy dependency factors facilitated Russia's interference in Ukraine's internal and external affairs. These circumstances have contributed to the emergence of diverse geopolitical sentiments among the Ukrainian population (Mahomedov, 2022; Solodkyi & Rakeru, 2016).

Currently, Lithuania is engaged in shaping the EU's Eastern policy. The country's primary initiative regarding Ukraine is the official recognition of Ukraine as a candidate for EU membership during Lithuania's second presidency of the Council of the European Union, scheduled for 2027. Vilnius aims to assume the role of the principal European expert on reforms in Ukraine while simultaneously advocating for the country's interests within the EU.

## 5 Discussion

Several researchers have posited that the Republic of Lithuania's experience studying the impact of the external political situation on the processes of integration into the European community is indicative for Ukraine due to the presence of common starting characteristics, historical proximity of the states, and the relatively short experience of modern independence in Ukraine and Lithuania, despite significant historical contributions.

Contemporary scholars (Kotsur, 2019; Kotsur, 2020) posit that, in contrast to Lithuania, national movements in Ukraine have historically suffered losses due to the harsh response of the central authority and a series of policies (russification, destruction of Ukrainian schools). Consequently, the Ukrainian nation and statehood were weaker than those of Lithuania. As these scholars posit, the dynamics of optimisation transformations remained negligible for a considerable period, with most reforms being perceived as ineffective.

According to researchers (Mahomedov, 2022; Solodkyi & Rakeru, 2016), despite a range of destructive influences, socio-political transformations acted as a driving force for a radical change in the format of relations in external political activity and terms of cooperation with global institutions to ensure sustainable development towards Euro-integration in both Lithuania and Ukraine.

According to Khakhula (2015), an analysis of the historical prerequisites for democratic state-building in Ukraine, in a comparative aspect with the Baltic countries, allows a focus on studying the potential of the historical conceptualisation of Euro-integration processes. Scholars argue that pressure from aggressively-minded neighbouring states has significantly delayed the processes of effective state-building and Euro-integration in Ukraine.

Meanwhile, as scholars (Masyk, 2020) believe, Lithuania serves as a prominent example of a country that, despite its size, is an active player in the region. This state has defined its strategic goals and values, implemented necessary structural reforms, and found its place in the architecture of NATO and the EU. It supports democratic transformations in the region and is a partner capable of supporting them even in difficult times.

Drawing on Lithuania's experience (Skryl, 2015; Chuhaiev, 2006), the prospective development trajectory for Ukraine

should include the optimal refinement of public management models and further maximal integration into the European environment.

## 6 Conclusion

The analysis of the strategies of foreign policy factors on the Euro-integration and state-building processes in Ukraine and Lithuania during the period from 1990 to 2021 reveals that, in contrast to Lithuania, Ukraine had complex foreign relations with the majority of its neighbouring states, which significantly impeded its European and democratic progress. During the 1990s, most countries, except Poland, pursued a rather assertive foreign policy towards Ukraine. This policy shared many similarities with the foreign policy strategy of the Russian Federation. It manifested itself in several ways, including territorial claims, the exploitation of national and language issues, and the incitement of separatism. Subsequently, the integration of most of these countries into Euro-Atlantic structures compelled them to relinquish their aggressive foreign policy aspirations and adopt a strategy of soft power through which they pursue their interests in Ukraine.

Concurrently, European integration became a pivotal factor for Lithuania, significantly influencing the country's development and serving as the primary catalyst for socio-political reforms and economic growth. Following the Copenhagen criteria, Lithuania underwent a legislative reform process, bringing the country closer to the level of a consolidated democracy.

The study yielded a series of conclusions regarding the potential for reform in the context of Euro-integration processes in Ukraine, drawing on Lithuania's experience. The current crisis has presented various challenges to Ukraine's adherence to the Euro-integration course. However, the country has successfully mitigated these threats due to the strong international support for democratic state-building processes.

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## Primary Paper Section: A

## Secondary Paper Section: AB, AD

## CULTIVATING CRITICAL THINKING IN STUDENT LEARNING: TEACHING STRATEGIES AND EDUCATIONAL METHODS

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**Abstract:** The digitalisation of modern society necessitates the differentiation between true and false information. Using technologies to develop critical thinking in acquiring a school education is becoming increasingly relevant in this context. Today's educators must teach students to analyse information flows, comparing, evaluating, and synthesising them. The research aims to study the potential of innovative pedagogical approaches and strategies for developing students' critical thinking. The article examines methods and techniques for developing critical thinking in schoolchildren. It has been established that to achieve the stated goal, teachers must effectively combine exploratory, research, problem-solving, and creative approaches and methods in their work process, with the educational process organised in the format seeking solutions to problematic questions. It has been found that modern digital platforms, particularly MozaBook and Coggle, are positioned as practical tools for developing students' critical thinking skills through STREAM technology, which combines the project-based learning method with an integrated approach. It is emphasised that projects are an essential educational tool for forming life competency skills, including self-education. Prospective directions for research development have been identified. The article demonstrates that the contemporary educational environment necessitates a specific focus on advancing critical thinking, identifying strategies for its development, identifying strategies for its development, and exploring and implementing innovative technologies and methodologies.

**Keywords:** interactive methods, learning approaches, pedagogical concept, digital platforms, inclusive educational environment, teaching foreign languages, institutions of higher education, pedagogical technologies, methods of teaching foreign languages.

### 1 Introduction

The educational process in schools today involves the implementation of a range of innovative approaches, techniques, and tools that enable the intensification of students' positive motivation towards acquiring new skills, abilities, and knowledge, as well as the basics of analysis, systematisation, and interpretation of information for subsequent application in real-life situations.

The assertion of John Dewey, a prominent American thinker, is of significant and enduring relevance. He posits that the fundamental goal of the modern education system is not the immediate acquisition of knowledge by students but, instead, primarily, the development of skills for critical thinking, which allows for the optimal awareness of the dynamics of circumstances and the formation of a problem-solving strategy. It is evident today that a student who is effective in critical thinking quickly masters various methods of interpretation and assessment of educational information and is capable of structuring it, identifying contradictions, and arguing their vision. The development of students within this concept creates the prerequisites for their future successful implementation in educational and professional activities. In this context, the issue of effectively forming critical thinking skills in the general education environment, within the framework of the inclusive educational environment and New Ukrainian School's establishment, acquires particular relevance.

Educational approaches, strategic conceptual principles, methodology, and specific tools for developing critical thinking skills in the educational environment are described by several scholars, teaching practitioners, and methodologists, including Pometun & Remekh (2020), Siryk et al. (2021), Ruban (2023), Hubina (2017). Numerous publications by contemporary

researchers are dedicated to the description of the multifaceted aspects of the process of forming and developing critical thinking skills in teaching, including Saukh (2021), Nikitina (2022), Shkvyr & Yunchyk (2023). The appropriateness of developing critical thinking from the preschool age, with the continual complication of tasks and analysed situations, remains a topic of discussion and needs to be fully resolved.

### 2 Literature Review

The prerequisites for the successful development of a digital society, with a priority on the information space, are fundamentally based on skills for quick data processing and making constructive decisions. The dilemma of the genesis of critical thinking within the general education environment has been thoroughly investigated in professional, scientific sources. In particular, the issues surrounding the definition of critical thinking and the identification of its essence are analysed in detail in the publications of Zakablukovska & Lupiiko (2023), Huzar & Lionenko (2021).

Researchers such as Latsys (2023), Pometun and Nestor (2020) have focused on developing, optimising, and adapting methodologies for developing critical thinking in educational recipients based on innovative approaches. Scholars such as Djamas and Tinedi (2021) and Setyawan et al. (2020) have concentrated on the implementation of interactive methods and digital technologies within the inclusive educational environment as a means of enhancing students' critical thinking abilities.

Some researchers (Warsah et al., 2021; Putri et al., 2020) have highlighted the potential of digital educational resources in fostering self-education and critical thinking skills within an integrated education system. In contrast, Supriyatno et al. (2020) concentrate their scientific inquiries on the functionality of targeted software tools and their implementation in the educational process in the inclusive educational environment.

It is essential to acknowledge that the scientific interest in the definition of critical thinking has recently undergone a significant evolution, mainly due to the rapid pace of social change, the transformation of educational benchmarks, and the global processes of educational environment integration. In light of the paramount importance of fostering critical thinking skills during the school education process, there is a pressing need for a more comprehensive understanding of theoretical and practical information on the subject matter. This study aims to identify the possibilities of innovative pedagogical approaches and strategies for developing students' critical thinking.

### 3 Methods that have been applied

Several theoretical research methods were employed to achieve the research goal, including studying the categorical and methodological apparatus, analysis and synthesis, comparison, and generalisation. The phased nature of the research involved analysing the psychological-pedagogical base of scientific works and publications, characterising the potential of methodological approaches in pedagogy regarding the formation of critical thinking, and identifying maximally suitable strategies within the general education environment. Furthermore, the potential of digital platforms and interactive methods for fostering critical thinking skills in students was evaluated.

### 4 Research results

Critical thinking is a scientific cognitive process that finds expression in the ability to reasonably and objectively analyse information or a situation and evaluate, differentiate, and substantiate its authenticity. Its key components include the ability to differentiate complex problems into more superficial

elements, skills in searching for interconnections between them and the consequentiality of influence, analytics of authenticity and authority of information sources, forming logical conclusions, and justified assumptions regarding the variability of the situation or perception of information. Furthermore, the capacity to analyse one's assumptions by identifying one's weaknesses and strengths, making appropriate adjustments, and generating new approaches, unconventional solutions, and ideas is considered essential.

Critical thinking is vital for identifying manipulations, making effective decisions, and promptly resolving problems. Consequently, the urgency of searching for innovative approaches and tools in the psychological-pedagogical concept regarding its effective formation in school-age is evident.

A synthesis of various conceptual approaches to defining the essential basis of critical thinking reveals that in pedagogical practice, critical thinking is positioned as the antithesis of dogmatic thinking. This identification is based on the understanding that critical thinking is an independent, logical, and creative cognitive process. The specific properties of the

outlined type of thinking include individuality and social orientation, which provide the ability to comprehend and substantiate one's position on specific issues. It also includes the capacity to produce new ideas and unconventional solutions, subjecting problems to critical analytics, effectively reinterpreting them, and forecasting potential outcomes. It includes taking actions, analysing actions and forecasting potential outcomes (Djamas & Tinedi, 2021; Setyawan et al., 2020).

Strategic pedagogical approaches to developing critical thinking skills constitute a system of methods, approaches, and techniques aimed at optimising the skills of analysis, synthesis, and evaluation of information to solve specific problems. The goal of the strategy for the advancement of critical thinking is to enable the ability to logically analyse information, comprehend its essence and context, and form justified conclusions. Several psychological-pedagogical concepts for developing critical thinking exist, which can be effectively integrated into the educational process in the general education environment, both as a comprehensive system and individually (Table 1).

Table 1. Effective Strategies for Developing Critical Thinking of Secondary Education Students

Strategy	Features	Example
Open questions	Encourages students to analyse information and draw conclusions	Instead of a clear answer to a problem in the exact sciences, a description of the method of finding it
Interactive games	Motivates students to think and strive for victory and stimulates motivation to master specific knowledge	Interactive exercises, crosswords, and puzzles. Digital platforms MozaBook and Coggle
Problem-based learning	Demonstrating the practical relevance of the problem, brainstorming, evaluating options, weighing pros and cons and making a decision	Inform students about the problem and ask them to collect information helping to reveal its essence and find solutions
Productive debate	Finding relationships between ideas, comparing different points of view, and finding similarities and differences. Disputing one's logic and accepting the arguments of an opponent	Involve students in an active discussion to identify the advantages and disadvantages of each solution to a particular problem and to find the truth
Classifying ideas	Evaluating ideas, selecting the most optimal ones, and exploring the variability of solutions independently	Sort their opinions according to specific criteria (accurate, biased, authoritative; ambiguous, rational)
Learning from failure	Encouraging students to draw constructive and optimistic conclusions from mistakes	Reflect on what factors prevented them from doing a good job and what or who can help them find inspiration
Learning from queries	Activation of students' work and interest, formation of higher-order thinking	At the beginning of each lesson, students formulate questions to be answered by themselves
Collaboration	Fosters independence and initiative, encourages students to learn from each other, look at different points of view, develop and defend their ideas	Allocate some time in the lesson for interpersonal communication between students to exchange opinions on a controversial issue

Source: compiled by the author based on (Ruban, 2023; Latsys, 2023; Supriyatno, et al., 2020).

The active impact of digital technologies on the inclusive educational environment has led to the development of innovative methods for cultivating critical thinking involving modern technologies, digitalisation potential, and artificial intelligence tools. Several resources have been identified as effective means for progressively optimising students' critical thinking. Specifically, these include targeted software such as MozaBook and Coggle (Zakablukovska et al., 2023; Huzar et al., 2021; Latsys, 2023).

Innovative approaches to teaching English within educational programmes in the digital age are the basis for the prospective development of pedagogy and language education. The utilisation of interactive platforms, online resources, mobile applications, and other digital tools can significantly optimise the motivation of learners, develop their communication skills, and facilitate effective and intensive mastery of the English language.

Strategies such as Open questions, Interactive games, Problem-based learning, Productive debate, Classifying ideas, Learning from failure, Learning from queries, and Collaboration create new opportunities for the individualisation of the learning process and for improving the quality of education in mastering

English. The use of innovative educational approaches, English teaching methods, and pedagogical technology tools promotes the acquisition of the fundamental concepts of the synergy of fluent English proficiency and communicative competence, the skills of independent acquisition of new knowledge, and the development of personal creative potential in the process of teaching foreign languages in higher education institutions.

MozaBook is a valuable tool for developing critical thinking in secondary education students. The digital educational environment of MozaBook serves as targeted educational software of the Mozaik system, functioning as an auxiliary means for carrying out pedagogical activity. MozaBook synergises the theoretical foundation and practical, interactive toolkit, combining the functions of presentation programs and content-based curriculum work. Furthermore, the software framework enables educators to create their content and students to create digital notebooks. Additionally, the available media library is a promising means for developing critical thinking within the MozaBook environment.

In contrast, Coggle is software that allows the creation of digital mind maps. This resource's practical application involves localising material around a particular definition. The creation of

a mind map is regarded as an effective method for optimising the development of critical thinking, as it allows for the organisation of concepts, ideas, and facts into a logical structure, visually depicting the interconnections between various components of the information field through analysis and synthesis. Furthermore, forming a mind map facilitates the active generation of discoveries, approaches, and ideas for solving a particular issue, expanding the spectrum of alternative solutions. Using a mind map facilitates information visualisation, stimulates creative thinking, develops analytical skills, and improves communication processes in the inclusive educational environment.

Among those engaged in primary education, the new educational technology STREAM, which integrates project-based and interdisciplinary learning approaches, is currently gaining popularity. This approach favours the integration of branches of scientific knowledge into a unified system for study on a common platform (Saukh, 2021; Nikitina, 2022; Shkvyr & Yunchyk, 2023). STREAM represents a comprehensive, holistic, and distinctive educational approach integrating science, technology, reading, engineering, arts, and mathematics. This approach enables learners to apply theoretical knowledge in practical contexts, facilitating conceptual understanding. The organisation of the educational process using STREAM technology allows teachers to test new teaching strategies, alter perspectives, enhance the educational process within the classroom, and diversify extracurricular activities with students. Implementing this technology involves using several critical educational platforms, including Wakelet, Sway, Thinglink, Scratch, LearningApps, and Canva. These platforms allow educators to create student projects and develop materials for presentations. STREAM technology helps educators to foster critical thinking skills in their students.

In order to develop critical thinking skills in students, it is essential to analyse the methodological basis of the priority concepts. Research, heuristic, and problem-solving methods are optimal, allowing students to express their thoughts freely, communicate effectively, and discuss tolerantly. The social orientation of the phenomenon of critical thinking conditions the interconnection between the defined skills. In this context, educators are expected to create a positive psychological environment and facilitate the integration of individual, paired, and group work in the inclusive educational environment (Pometun et al., 2020; Siryk et al., 2021; Ruban, 2023).

Various techniques and methods have been identified that help educators actively develop critical thinking skills in students. These include the lecture method, heuristic conversation, hypothesis formulation and testing, dialogue, discussion, stimulating creative development, and interactive learning. Conferences and seminars also possess the necessary functionality, actively contributing to developing cognitive and research skills and communication culture.

It is also worth noting the potential of the educational game, which, under proper organisation and motivation, actively influences the process of forming critical thinking skills in students. The educational gaming potential should be based on forms of dialogic interaction, characterised by a focus on mastering knowledge, skills, and practical abilities, creating an individual style of behavioural responses and communication, and fostering initiative and independence in solving educational problems of the inclusive educational environment (Saukh, 2021; Nikitina, 2022; Shkvyr & Yunchyk, 2023).

An integrated strategy for forming and developing critical thinking skills in students should provide for the possibility of regular formative assessment of the level of advancement of necessary skills within the specified concept. Students' activation of their thinking and the formation of personal views motivate a more profound realisation. Such an approach constitutes the core of education for developing critical thinking skills. Students develop the capacity to think analytically, apply practical skills

in the learning process, and argue and evaluate information, distinguishing between fact and fiction.

Another crucial condition for the effective development of critical thinking skills in students is the transformation of the educator's stance from seeing oneself as the sole accurate source of information. Following the requirements of the modern educational concept, the teacher should assume a position that encourages students to generate thoughts that differ from their own. The goal of pedagogical activity, in this context, is to enable students to master the skills of effective information processing, with the definition of critical thinking being regarded as an independent, individual formation. The role of the educator is to create an environment in which students can formulate answers deliberately. Furthermore, educators should challenge the stereotypical beliefs surrounding the inclusion of various gadgets in the learning process. The Internet is currently regarded as a convenient and comprehensive source of knowledge, and students must develop the ability to manage the flow of information effectively. It can be achieved in an informationally secure environment like the classroom.

An effective process for developing critical thinking anticipates the student's right to make mistakes. Developing critical thinking skills in general education involves using a logical thought component to identify cause-and-effect relationship violations. In this context, working on mistakes transforms into an analytical process involving experience accumulation. Psychological and pedagogical practice demonstrates that the fear of making a mistake leads to stereotypical thinking, which is the antithesis of critical thinking. The educator should perceive a student's mistake as part of diagnostic research, an opportunity to identify situational difficulties and view errors as an integral component of the educational process. The ability to logically justify one's position, form effective decisions, solve problems productively, and collaborate with others in communicative interaction are considered competencies related to developing critical thinking skills in the general education environment.

Consequently, the educational process at the current stage of the development of the information society should be directed not only towards students mastering a system of scientific truths, facts, and behaviour models. It also entails the development of students' critical thinking qualities that allow them to meticulously differentiate necessary information and use persuasive argumentation based on reliable data and facts. The defined qualities enable precise expression, deeper thinking, logical reasoning, and unbiased judgment.

In recent times, over 200 leading successful companies worldwide, including the Intel Foundation, Microsoft Corporation, Apple, and Ford Motor Company Fund, have developed an integrated list of skills that will be necessary prerequisites for future success. Among these, the primary roles are attributed to adaptability, responsibility, creativity, media literacy, communication and interaction skills, as well as critical and systematic thinking (Warsah et al., 2021; Putri et al., 2020).

In light of the considerations above, it is assumed that students must acquire critical thinking skills early to effectively realise their potential in global digitalisation and integrate the information environment. Such skills will provide the foundation for their ability to solve problems, make and justify decisions, navigate a dynamic information flow, analyse, verify and re-evaluate received information, and establish the truth of statements. Consequently, the contemporary process of developing the general education environment should anticipate integrating traditional and innovative pedagogical approaches to form practical critical thinking skills in students.

## 5 Discussion

The Boston Center for Ethics and Education scholars developed the fundamental methodology for forming and developing critical thinking skills (Noris & Saputro, 2022). Scientists, educators, and psychologists are analysing the specifics of



implementing this technology into the educational process. These include Pradana et al. (2020) and Noris et al. (2022).

In examining the work of contemporary researchers, it is worth noting the contributions of Ramdani et al. (2021). Furthermore et al. (2023) highlight the vector orientation of pedagogical approaches to developing critical thinking skills, with the education system in the USA and other developed countries serving as an illustrative example. One such vector involves the implementation of a separate targeted course in the educational process, during which students process a set algorithm of thinking and form the corresponding skills to apply it. An alternative approach, proposed by the scholars above, is directed at forming critical thinking skills by transforming the general organisational structure of the educational process, in which informational material is positioned not so much as a source of knowledge but as 'raw material' for the independent 'extraction' of necessary knowledge and skills.

Some scholars (Sinaga & Setiawan, 2022) argue that a practical methodology for developing and enhancing critical thinking should be based on three fundamental principles: the information density of educational material, the social significance of the subject matter, and the communicability, motivation, and scientific nature of the material in the inclusive educational environment. Sinaga and Setiawan (2022) posit that critical thinking is an individual and independent phenomenon, manifesting in discussions, public speeches, and debates. Consequently, the scholars argue that the communicative skills of students play a pivotal role in the success of mastering critical thinking. Sinaga and Setiawan (2022) emphasise that the methodology for developing the skills under investigation creates optimal conditions for students to understand and evaluate facts and regularities, form a conscious choice, model processes, and resolve problems in a situational manner.

The stance of Dykhne et al. (2021) appears to be valid insofar as it is evident that classical pedagogical theory does not envisage an automatic algorithm for ensuring the formation of students' critical thinking skills. However, it does define certain pedagogical preconditions for the efficiency of the process. In their 2022 publication, Aristin and Purnomo identify the need for pedagogical strategies to meet specific demands in the researched direction. According to the researchers, educators must provide opportunities to practice critical thinking skills, allowing students to contemplate and produce various ideas and solutions actively. Furthermore, educators should actively encourage students' active participation in the educational process, stimulating the ability to make effective critical decisions.

The methodology for developing critical thinking skills necessitates meticulous preventative preparation on the part of the teacher, optimal planning, and the effective implementation of program tasks. Modern researchers (Zuniari et al. 2023; Anwar & Setyaningrum, 2021) have established that the algorithm for effectively forming critical thinking in the inclusive educational environment involves a particular phased approach, initiated in 1956 by the U.S. psychologist B. Bloom. The scholars have identified five critical thinking levels: knowledge, understanding, practical application, analysis, synthesis, and evaluation. These levels are based on targeted strategies for progressing critical thinking through interactive technologies and digital resources, which B. Bloom developed.

Contemporary scientists, specifically Maknun (2023), have discovered that theoretical aspects of implementing interactive methods for forming critical thinking in the educational environment presuppose a scientific methodology for making decisions. Scientists analyse a range of exercises that are positioned as favourable for developing all components of B. Bloom's taxonomy. Maknun (2023) concludes that the existing work of pedagogical approaches in the context of strategies for advancing critical thinking in students is of particular importance, with a particular focus on digital platforms. Scholars are convinced that modern software tools represent a unique

example of an integrated digital educational environment that synergises diverse instruments and sources of information.

Despite the substantial body of research on developing critical thinking in students, more practical applications of contemporary interactive digital potential in real educational contexts, with subsequent analyses of its effectiveness, still need to be made. This outlined vector forms the perspective for further research.

## 6 Conclusions

The theoretical analysis of innovative strategies and pedagogical approaches for intensifying the formation of critical thinking skills in students within the educational process has identified the necessity of their formation in the contemporary educational environment through digital capabilities. Moreover, the effectiveness of the process is seen as attainable only if the teacher employs a comprehensive approach that synergises traditional methodology, innovative solutions, and the creation of a conducive psychological environment. In this regard, educators must possess adaptability that is not constrained by dogma, intensifying the process of students mastering critical thinking skills.

The research has established the essence of critical thinking in contemporary actual perception. It lies in the ability to objectively and qualitatively analyse information and form conclusions. The relevance of the investigated definition is explained by the dynamics of learning processes and the global transformation of educational values. The article demonstrates that the contemporary inclusive educational environment necessitates educators' attention to fostering active critical thinking, seeking avenues for advancement, and creating and adapting innovative technologies and methodologies.

To achieve the objective above, teachers must integrate exploratory, problem-solving, and creative approaches and methods throughout the pedagogical process and structure the educational experience as a search for variations in problem-solving. The research revealed that modern digital platforms, such as MozaBook and Coggle, are practical tools for developing critical thinking. Additionally, the STREAM technology, which possesses an integrated approach and project-based learning, is a promising area for further exploration. The research findings indicate that projects are valuable educational tools for encouraging all students in the class and developing life competencies, including self-education skills. It is considered a promising avenue to explore innovative methods for developing critical thinking in students to achieve maximal adaptation to advancing the general education environment in Ukraine in the post-war recovery period.

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## DEVELOPING SOCIAL AND CITIZENSHIP SKILLS THROUGH INTERACTIVE ENGAGEMENT IN SENIOR PRESCHOOLERS

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**Abstract:** The individual's social and civic education process is a complex, dynamic process of coordinated interaction between the individual, the state, and society. In the preschool years, children form their personality, values, and competencies, which, in synergy, will determine their attitude towards themselves and the surrounding world and will influence their actions and behavioural responses. The primary role of developing an active social and civic stance is to help children to self-identify and function successfully. The article highlights the issues of the formation and development of social and civic competence in senior preschoolers in the context of communicative activities. Various approaches to the definition of social and civic competence have been identified. The specificity of the factors influencing the transformation of these concepts in the contemporary conditions of social progress has been outlined. Theoretical analytics have been implemented, based on which the essence of the basic categories of the researched problematics has been defined. A pedagogical technology involving interactive teaching methods has been developed to form social and civic competence in communicative activities among senior preschoolers. The effectiveness of training based on the technology above has been evaluated. The research results can be helpful in preschool education institutions, parents, and educators of senior preschoolers.

**Keywords:** civic competence, citizenship, competence, socialisation, social competence, social and civic competence.

### 1 Introduction

Social and civic competence is conceptualised as a multifaceted process of an individual's interaction with society and the state. The definition of its essence, goals, and potential unites ethical, value-based, and spiritual orientations with the objective conditions of development of modern society and the state. Ukraine's active European integration and the corresponding modernisation of the national education system actualise developing a competent, conscious future citizen in socialisation and civic stance.

In light of contemporary pedagogical trends in the development of senior preschoolers' personalities, it is imperative to implement in-depth analytics of the influence of their socio-cultural environment on the formation and progression of value orientations, life competencies, and moral feelings. In the innovative educational vector "Child in Society" in the State Standard of Preschool Education (2021), social and civic competence is identified as a key competence, the main qualities laid down in the preschool age. In the context of the outlined problems, the formation of civic and social competence of senior preschoolers in the modern socio-cultural environment is considered particularly relevant.

A significant body of contemporary scholarship is dedicated to studying the unique characteristics of forming and developing civic and social competence in children during their developmental period. Some researchers, such as Kosenchuk (2022) and Komashko and Shulha (2023), have emphasised that the effectiveness of the process above directly determines the speed and quality of the formation of national and ethnic identity in the younger generation. Some researchers (Oresheta, 2013) posit that communicative competence is the fundamental principle underlying the formation of the competence under study in preschool children.

The general issues about the researched problematics are comprehensively addressed in the works of several contemporary scholars (Tushynska & Rudnytska, 2023; Horban, 2019). The process of forming social and civic competence in preschool children is accompanied by several challenges and risks, which are reflected in the works of Staenna (2012). At the same time, further scientific examination of the practical methods of implementing the concept of forming social and civic competence in preschool children is needed.

This study aims to analyse the specifics of communication activities in forming senior preschoolers' social and civic competence in the modern socio-cultural environment. Within the framework of this goal, the corresponding research objectives were formed:

1. To conduct a theoretical analysis of the essence of the main categories of the problem and the degree of its research.
2. To conduct a pedagogical experiment, which includes the stating, formative and control stages.
3. Based on the data obtained, propose a pedagogical technology for forming senior preschool children's social and civic competence regarding communication activities.
4. To experimentally test the effectiveness of the proposed technology.

### 2 Literature review

Several scientists, educators, philosophers, and administrators have explored the impact of communicative activity on forming social and civic competence in young people. Significant contributions to understanding citizenship in the context of contemporary socio-political transformations include those by Dziubenko (2023) and Matsenko (2020). These publications focus on the essence of citizen education, the ways and methods of its practical implementation, and the challenges it faces.

In the view of Tarabasova (2023), the social and civic stance of the younger generation should be initiated in preschool. Scholars examine issues related to civic education and the formation of civic consciousness of the individual (Rohalska, 2008; Oliinyk, 2022). These scholars pay particular attention to the psychological justification of patriotic education for citizens. The works of Zimakova and Manzhelii (2020) and Davydova (2023) substantially contribute to identifying the essential content of preschoolers' socialisation process in the socio-cultural contemporary environment. Research on the formation of value orientations and moral education (Sichkar, 2012), personality-oriented learning (Bobro, 2024), and the phenomenon of civil society and ethnic self-identification (Sukhomlynskyi, 2003) are also significant in the context of the researched problematics.

### 3 Materials and methods

The research was conducted by the principles of complexity and the systematic nature of scientific investigations. This approach enabled the research object to be analysed as an integral system with various interconnections and interdependencies. Several general scientific research methods were employed to achieve the research objectives, including analysis, synthesis, induction, deduction, and experimentation.

The research involved the application of analytical and synthetic techniques to identify the fundamental aspects, approaches, and critical factors influencing the development of social and civic competence in younger preschool children. The inductive method was employed to establish prospective directions for the evolution of the investigated process. Deductive reasoning was applied to identify the primary direction of developing the definition of social and civic competence, considering Ukraine's integration into the global community.

The experimental studies involved implementing a controlled experiment to evaluate the proposed technology's effectiveness for forming social and civic competence in preschool children and comparing the relevant indicators.

#### 4 Results

The socio-cultural environment represents a set of conditions for the functioning of society and is positioned as the main prerequisite for the harmonious progress of the individual. In its development, the individual is integrated into communication and relationships with the surrounding environment, developing civic and social activity. Cultural and national identification and spiritual values are shaped by the way of life and the surrounding environment, which impacts the upbringing in synergy.

Social and civic competence definitions are included in the conceptual Recommendations of the European Parliament and the Council of Europe "On Key Competencies for Lifelong Learning" (2006). At the same time, the normative-legal basis of the outlined problematics in Ukraine is formed by the Constitution of Ukraine, the Laws of Ukraine "On Preschool Education", "On Education", and the Strategy of National and Patriotic Education (2019). In particular, the Law of Ukraine "On Education" (2017) assigns the state the responsibility of creating the necessary conditions for young people to obtain social and civic education.

The State Standard of Preschool Education (2021) stipulates that the outcome of fostering social and civic competence is the child's value attitude towards themselves, their rights and the rights of others, a valuing attitude and respect for the cultural heritage of the Ukrainian people, as well as the presence of ideas about the rules and methods of effective interpersonal interaction. The overarching objective of the "Child in Society" educational programme is to develop social and civic competence.

The foundation of social and civic competence in senior preschoolers is based on the principles of humanism. At the age of 5-6 years, there is intensive development and assimilation by the child of the social experience of the senior generation (Kosenchuk, 2022; Komashko & Shulha, 2023).

In light of the above, it is imperative to emphasise the pivotal educational objectives of fostering social and civic competence in senior preschoolers. These objectives encompass the encouragement and motivation of children to communicate in the state language, the formation of knowledge about the state and folk symbols of Ukraine, the expansion of children's horizons in the domains of traditions, customs, values, authentic everyday life, as well as the development of an interest in their lineage and homeland, a sense of respect and pride for their people. Furthermore, developing social and civic competence in senior preschool children encompasses fostering empathy, independence, creativity, and initiative (Rohalska, 2008; Oliinyk, 2022).

Social and civic competence formation in senior preschool-age children occurs directly in communicative activity. It is provided by knowledge of communication rules and behavioural reactions, skills of concentration and overcoming difficulties, critical thinking, the ability to make decisions, and the demonstration of communicative possibilities and teamwork.

The scientific discourse defines communication as a multifaceted process that establishes and develops interpersonal contacts. This arises from the need for joint activity and information exchange, the formation of common interaction strategies, and the perception and understanding of other individuals (Kosenchuk, 2022; Komashko & Shulha, 2023). Effective communication is predicated on the principles of mutual respect and an awareness of the needs of the interlocutors, which is fundamental for the organisation of joint activities. Successful communication

involves establishing personal contact through creating a friendly atmosphere, which is vital for the safe interaction of all parties.

However, in the context of communication among senior preschool-aged children, certain personal qualities of the participants present challenges. These difficulties may include an inability to find adequate words or forms to express one's emotions and problems with active listening and understanding the interlocutor's needs. These communication features are partially attributable to the psychological characteristics of senior preschoolers (Zimakova & Manzhelii, 2020; Davydova, 2023). In order to meet the social and state needs in the upbringing of individuals capable of maintaining tolerant relations and resolving conflicts based on mutual respect and understanding, it is necessary to utilise effective educational models for developing awareness and behaviour in the spirit of tolerance, as well as for developing the ability to tolerate expressing one's emotions and feelings (Tushynska & Rudnytska, 2023; Horban, 2019). The process of developing civic and social competence in senior preschoolers in the context of communication requires educators to carefully plan and implement, based on the specifics of the age group, to ensure a deep understanding and application of the principles of tolerance (Zimakova & Manzhelii, 2020; Davydova, 2023).

The experimental phase of the study was conducted with a group of senior preschool children, which consisted of 32 children. The experiment's methodology involved interactive means, which has been demonstrated to be a practical approach for developing communication skills as a foundation for social and civic competence. Among the interactive technologies used, those most suitable for the studied age group were chosen: virtual games, online platforms, and role-playing games.

At the control stage, final testing, in the form of a children's survey, was conducted following the same plan as the initial questionnaire but in an online game format. The control survey was carried out to identify the difference in results after the implementation of the experiment, that is, the introduction of interactive technologies during the formative stage of the experiment.

After the research, the effectiveness of the implemented pedagogical experiment was evaluated. The results were analysed using mathematical statistics, and a summary was prepared. The results were interpreted to determine the extent to which the studied markers had increased or decreased at all levels of communication skills formation.

In order to facilitate the appropriate organisation of diagnosing the skills of effective communication in senior preschoolers, an orientation was chosen towards the interdependence of such essential components of forming social and civic competence as empathy and national self-identification. A survey method was employed to identify the formation level in the group of senior preschoolers. The results of the survey indicated that the levels of empathy exhibited by the respondents were distributed as follows: 7 children (22%) exhibited a high level of empathy, 16 children (50%) exhibited a medium level of empathy, and nine children (28%) exhibited a low level of empathy. In contrast, the levels of national self-identification exhibited by the respondents were distributed as follows: 10 children (31%) exhibited a high level of national self-identification, 14 children (44%) exhibited a medium level of national self-identification, and eight children (25%) exhibited a low level of national self-identification. The overall result of the diagnostic survey indicates a tendency for children to be selective in their expressions of empathy, with a certain level of ethnic and national-cultural self-identification.

In the descriptive phase of the experiment, a control group and an experimental group were selected to implement the pedagogical experiment. Both groups consisted of the same number of senior preschool children (a total of 32 children). The descriptive experiment aimed to identify the effectiveness of involving the potential of interactive means (within the proposed

pedagogical technology) in forming social and civic competence in senior preschoolers in communicative activities. Among the interactive technologies employed, those deemed most suitable for the age group under study were selected: virtual games, online platforms, and role-playing games.

Observation of the representative group of senior preschool children was conducted through simulation-role-playing, recreating various situations in a playful form. The utilisation of the potential of play permitted the creation of an informal situation, which increased interest in the situation. Furthermore, it facilitated a thoughtful application of acquired knowledge and skills in personal practice, which was assimilated at the subconscious level.

The observation concluded that integrating interactive technologies into pedagogical practice to foster social and civic competence in senior preschool children is effective. The

effectiveness of this integration was assessed in terms of interaction and self-expression.

The following main results were identified for the representative control group across the differentiated levels: a high level of empathy was observed in 3 children (19%), a medium level in 8 children (50%), and a low level in 5 children (31%); a high level of formation of national self-identification was observed in 8 children (50%), a medium level in 4 children (25%), and a low level in 4 children (25%).

The results of the experimental group of senior preschool-age children who participated in activities regarding the trial of interactive technologies in pedagogical practice indicated that ten children (62%) exhibited a high level of empathy, four children (25%) observed a medium level, and 0 children (0%) recorded a low level. The results are presented in Table 1.

Table 1. Framework of Effectiveness Levels of Involving Interactive Technologies in Pedagogical Practice to Form Social and Civic Competence of Senior Preschoolers in Experimental and Control Groups

Study groups	Indicator	High, persons	Medium, people	Low, persons	Total
EG	Empathy	10	4	2	16
	National self-identification	12	4	0	16
CG	Empathy	3	8	5	16
	National self-identification	8	4	4	16

To evaluate the effectiveness of forming social and civic competence based on the proposed pedagogical technology, the efficiency coefficient (K.eff.) was used as a relative magnitude of the sum of indicators of its actual state to the maximum possible (specified) in the theoretical model (Ostroverkhova, 2014). In this case, the maximum possible indicator is taken as the total number of children in the group, and the indicator of the actual state is the number of children with a high level of the studied indicators:

$$K.eff. = A1/N1 (1)$$

where K.eff. – efficiency coefficient based on the results of initial control; A1 – a qualitative indicator of learning outcomes; N1 – a maximum possible indicator of the quality of preparation. For the empathy indicator in the experimental group of children,  $K.eff. = 10/16 = 0.625$ . For the national self-identification indicator in the experimental group of children,  $K.eff. = 12/16 = 0.75$ .

According to the generally accepted methodology (Ostroverkhova, 2014), values of  $0.50 < K.eff.level \leq 0.65$  indicate a nominal level,  $0.65 < K.eff.level \leq 0.85$  is a medium level of efficiency of the pedagogical method. Considering the indicators of the control group (0.19 and 0.5, respectively), we can assert the proven effectiveness of the proposed pedagogical technology.

Integrating interactive technologies into developing social and civic competence in preschool children can significantly enhance the quality and efficacy of this process. An analysis of the outcomes of an experiment conducted through the practical application of interactive approaches in a play-based format revealed notable discrepancies between the baseline indicators of the level of skill development under investigation.

In particular, the representative (control) group demonstrated significantly lower levels of empathy and the formation of national self-identification than the experimental group. It was established that the playful form of interaction with the educator does not cause discomfort in preschool children because the fairness and usefulness of the rules are beyond any doubt. The game rules fulfil the function of painless behaviour management for senior preschoolers.

The results indicate the issue's relevance and the appropriateness of using interactive technologies to visualise complex concepts and employ game elements. These technologies make learning more engaging and comprehensible for senior preschoolers. Furthermore, using these technologies affects the formation of social and civic competence and improves communication skills.

## 5 Discussion

Several scientists and educators have studied the education of the younger generation in the context of developing social and civic competence.

The pedagogical foundational concepts of legal and moral education, as well as the primary means, principles, and methods of forming and developing civic qualities of the personality in the current conditions of modernity, have been developed in the studies of Lebedyk (2020) and Bukhun (2021). The scientists consider civic education to form a sense of belonging to the nation, devotion to the motherland, and prioritising public interests over personal ones.

According to Rudenko and Lianytisia (2023), civic feelings are built based on children's relationships with their immediate surroundings and the example of adults. The scientists posit that the primary objectives of patriotic education for senior preschoolers are acquiring knowledge about state symbols and values, historical facts, traditions, customs, and cultural features of their people. Furthermore, they emphasise the significance of communicative competence in preschoolers as a foundation for developing social and civic competence.

The senior preschool age is the optimal period for actively fostering civic qualities. Researchers (Kuzemko & Kosenchuk, 2021) emphasise the necessity of establishing the foundations of social and civic education during this age. It is worth concurring with the scholars' view that the conceptual foundations of humanism and effective communication constitute the basis for forming civic and social competence. The fundamental elements of this latter concept are fostering spiritual and value orientations within a personality-oriented approach.

In her scientific research, Ponimanska (2006) identifies the critical prerequisites for the successful formation and development of civic and social competence in senior preschoolers. These include social adaptation and orientation and

integrating the individual's social and personal experience. The scholar posits that a child's social and civic competence is an integral characteristic of the personality, comprising emotional-motivational features, social activity, and a humanistic direction of personal development.

The problems of forming social competence through interactive interaction and its connection with emotional intelligence have been addressed by Zimakova and Manzhelii (2020), Davydova (2023), and Bobro (2024). The scientists reflect on the role of practical communication principles, which are the basis of social interaction. In particular, Bobro (2024) emphasises the necessity to develop humanitarian, axiological, and ethical aspects of the digital transformation of educational systems. The researcher posits that the effectiveness of educational projects is contingent upon their creative potential, encompassing the utilisation of unconventional solutions that, on the one hand, facilitate the introduction of "educational" novelty and, on the other, present interest for participants in the educational process.

Furthermore, Tushynska and Rudnytska (2023) identify the organisational and pedagogical conditions for developing social and civic competence in senior preschool children through local history studies. The conditions identified by the authors include, in particular, the use of games and exercises that will activate the child's needs in developing social and civic competence. The researchers posit that using didactic games, play activities, and methodologies facilitates the enhancement of children's learning material assimilation, diversification of their educational activities, and the creation of more engaging learning environments.

The analysis of the sources above indicates that the skills of non-violent communication can be developed through the utilisation of interactive technologies. Consequently, studies about the specific characteristics of utilising interactive technologies within the educational context (research conducted by Bida, Komar, Osadchenko, Pyrozhenko, Pometun, Piekhot, and other scholars) are worthy of particular attention.

## 6 Conclusion

The formation of social and civic competence in senior preschool children is an essential component of the contemporary educational process. Contemporary research provides compelling evidence of the necessity of shaping child development's emotional and social spheres, as social and civic competence is actively formed in preschoolers through interpersonal contact with the surrounding socio-cultural environment.

The research demonstrated that the implementation of interactive technologies in forming social and civic competence in senior preschoolers can significantly improve the quality and efficiency of the process. The experiment results, conducted through the practical application of interactive approaches in a play-based format, revealed substantial differences between the primary indicators of the level of formation of the skills under investigation. In particular, the representative (control) group exhibited significantly lower empathy indicators and national self-identification formation than the experimental group. The obtained results not only attest to the relevance of the issue but also to the appropriateness of using interactive technologies for visualising complex concepts and employing game elements, which makes learning more engaging and comprehensible for senior preschoolers and also impacts the level of formation of social and civic competence and the improvement of communication skills.

The research presented here needs to exhaust the full range of factors influencing the development of social and civic competence in senior preschoolers during communicative activities. There is a clear need for further investigation into the interactional aspects of social and civic education within the preschool and primary education systems.

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## DIVERSE LANGUAGE EDUCATION ACROSS THE EUROPEAN UNION

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**Abstract:** Multilingualism in education in EU countries is a crucial element for building an open, tolerant, and globally-oriented society. Knowledge of several languages opens doors to a broader range of professional opportunities, fosters international cooperation and trade, promotes understanding and respect for other cultures, and forms the foundation for peaceful coexistence and mutual understanding in the modern world. The study aims to identify the main trends and pathways for developing multilingualism in EU countries. The research employs general scientific methods (analysis, synthesis, generalisation) and specific research methods (statistical, graphical, monographic). The significance of multilingualism for developing international education, enrichment of cultural perception, peaceful coexistence, and mutual understanding is established. Significant programs promoting international educational cooperation, cultural exchange, and the development of language skills in EU countries are highlighted and characterised. The increasing demand for learning multiple foreign languages in the EU and specific countries is noted. A description of the leading educational materials and resources supporting studying different languages in the European Union is provided. The experience of individual EU countries in implementing multilingual education is discussed. Problems of language education in the context of multilingualism in EU countries are identified, and the ultimate solutions are proposed.

**Keywords:** multilingualism, education, European Union, language skills, cultural diversity, language policy, communicative competence.

### 1 Introduction

In the European Union (EU) countries, multilingualism in education is a strategy to support and develop the use of multiple languages in teaching and interaction among people of different cultures. Students can learn various languages, such as English, French, German, and Spanish, and use them for communication, learning, and development. Multilingualism in education promotes cultural diversity and understanding of other cultures and languages. It fosters the development of language skills that become important in globalisation and international interactions.

### 2 Literature review

The beginning of the 20th century is characterised by the intensification of migration processes worldwide and the concentration of a significant portion of multilingual populations in various countries, particularly in the European zone. Therefore, many scholars and practitioners look for new ways to develop language policy based on multilingual competence and interlingual connections (Cenoz, 2013; Gorter & Cenoz, 2017; Duarte & van der Meij, 2018; Aubakirova et al., 2019; Duarte et al., 2020). Several publications address the differences between language policy at the European level and the actual practice at the national level (Yağmur, 2016). The importance and significance of multilingualism in European integration and globalisation in modern Ukraine are also being studied (Panasenko, 2019).

The issue of peaceful coexistence among all citizens of the European community is currently very acute, as reflected in research by scientists from various countries (Vinarchyk, 2020). The effectiveness of the European Commission's strategy, "Multilingualism: An Asset for Europe and a Shared Commitment," adopted in 2008, is examined over time (Hägman, 2010; Dendrinis, 2018; Tardieu & Horgues, 2019). Young people's attitudes towards European multilingualism and their perspectives on learning, knowing, and practising foreign languages in Europe are also studied (Domilescu & Lungoci, 2020; Dockrell et al., 2021). Much attention is paid to studying the experience of implementing polylingual education in European countries and ways to modernise the teacher training system (Tleuzhanova et al., 2020; Bilozir, 2020). Scholars have reached a common viewpoint that multilingualism is a typical

aspect of the daily lives of the majority of the world's population but requires consideration of various aspects, including linguistic features, individual and societal circumstances, socio-psychological factors, and more (Montanari & Quay, 2019).

This study aims to identify and substantiate the conditions for supporting multilingualism in EU countries, which will contribute to developing a multilingual and culturally diverse society.

### 3 Research methods

The study employs theoretical analysis, synthesis, comparison, systematisation of theoretical and research data, and generalisation of philosophical, psychological, and pedagogical literature to determine and justify the didactic conditions for forming communicative activities of future foreign language teachers. It also monitors and evaluates the effectiveness of language education programmes to determine their success and identify opportunities for improvement.

### 4 Research results

Technological development in the modern era defines human life in a more dynamic informational world thanks to global connectivity and interdependence, the availability of many means of international communication, and a multilingual and multicultural world of interaction. Digital technologies have pervaded almost the entire world and continue to grow and spread, requiring knowledge of languages. In the context of the development of the modern world, a person, in addition to their native language, must know many foreign languages. Multilingualism becomes a need of the individual and a condition for their existence in society. It is why multilingualism and multilingual education have gained particular importance in recent decades. The successful development of any country depends on many factors, but education has been and will continue to be the key to the future success of the country and the world as a whole.

The main component of educational policy is language policy. Recognising the importance of multilingual education, the European Union's language policy provides for the preservation and development of the native languages of EU countries and proficiency in at least two foreign languages. Technological development in the modern era defines human life in a more dynamic informational world thanks to global connectivity and interdependence, the availability of many means of international communication, and a multilingual and multicultural world of interaction. Digital technologies have pervaded almost the entire world and continue to grow and spread, requiring knowledge of languages. Multilingualism becomes a need of the individual and a condition for their existence in society. This is why multilingualism and multilingual education have gained particular importance in recent decades. The successful development of any country depends on many factors, but education has been and will continue to be the key to the future success of the country and the world as a whole.

Today, around 7,000 languages are spoken worldwide. However, half of the planet's population speaks only six native languages, and by the end of the century, about 90% of all languages may be replaced by dominant ones. The harmonious coexistence of 24 official languages is one of the most characteristic features of the European project. Multilingualism is not only an expression of the cultural identity of EU countries but also contributes to preserving democracy, transparency, and accountability. A legislative act can enter into force once it has been translated into all official languages and published in the Official Journal of the EU. Significantly, provisions relating to the EU's language regime can only be changed by a unanimous vote in the EU Council. The EU aims to promote language learning but has limited influence on education and language policy, as these



issues fall under the competence of individual EU countries. In 2016, over one-third (35.4%) of adults in the EU-28 did not know any foreign language. The same share (35.2%) reported knowing one foreign language, while just over one-fifth (21%) knew two foreign languages (EC, 2024).

Multilingualism is a situation in which a person knows not just one but several languages. It can be characteristic of individuals and communities where several languages are used in everyday life, communication, government and business affairs, education, and culture. The degree of language proficiency and functionality can vary and have different sociocultural and political consequences (Cenoz & Gorter, 2018).

Multilingualism is essential in preserving cultural diversity, as it promotes the preservation and development of different languages and cultures. Each language reflects the unique identity and thinking of the people or groups who use it. Multilingualism allows people to communicate, learn, and understand different cultures through their languages. Preserving linguistic diversity is crucial for maintaining traditions, history, literature, and other cultural aspects transmitted through language. Furthermore, multilingualism fosters mutual understanding between different cultures and nationalities, reducing potential conflicts and enhancing tolerance and mutual respect. Therefore, multilingualism is critical to preserving cultural diversity, as it helps safeguard and develop humanity's linguistic and cultural heritage.

The European Parliament strives to ensure the highest possible level of multilingualism in its work. Based on the 24 official languages that form the public face of the EU, the total number of language combinations rises to 552, as each language can be translated into 23 others. Currently, over 600 staff members are involved in written translation, and more than 270 are involved in oral translation, which meets the needs of the 705 members of the European Parliament for written and oral translation. Within EU institutions, only three working languages are mainly used: English, French, and German. The total cost of written and oral

translation services in EU institutions is about 1 billion euros per year, less than 1% of the EU budget or just over 2 euros per citizen. Following the successful celebration of the European Year of Languages (2001), the Council of Europe declared 26 September as the European Day of Languages. It is an updated briefing version published in 2019 (EPRS, 2022).

Many EU countries require or require the study of various foreign languages in schools. For instance, English is studied in many schools, and other common EU languages include French, German, and Spanish. Some EU countries have special programs to support language development, especially among minority languages and languages with regional or official status in certain regions.

Exchange programs for students and teachers promote cultural exchange and language skills development by staying in another EU country. Developing educational materials and resources that support studying different languages helps students develop their language skills and cultural understanding. All these measures aim to support multilingualism in education, to prepare students for life in a multilingual world, and to emphasise the importance of language and cultural diversity in the European Union.

Several exchange programs for students and teachers are available in European Union countries to promote international educational cooperation, cultural exchange, and language skills development (Table 1).

These exchange programs provide unique opportunities for students and teachers to gain new experiences, develop language skills, deepen their knowledge, and enrich their cultural perceptions. In 2021, 88% of upper secondary school students in the EU were learning English as a foreign language: this share was 97% in general programs and 79% in vocational programs. In 2021, nearly half (49.5%) of all upper secondary school students were learning two or more foreign languages (EU, 2024a).

Table 1. Programmes to Promote International Educational Cooperation, Cultural Exchange and Language Development in the EU

Programme	Highlights of the programme
Erasmus+	It provides opportunities for study, internships, teaching, and cooperation in education, training, youth, and sports. One component is language courses and intercultural training to support language development and intercultural cooperation.
Comenius	It focuses on international cooperation in education and intercultural understanding. It provides exchange opportunities for students, teachers, and schools, fosters partnerships, and shares best practices.
Comenius Assistants	The programme allows teachers to visit other EU countries for internships and to exchange experiences with colleagues. It aims to improve teachers' professional competence and the quality of education in schools.
Innovative Approaches to Language Education	Some countries are developing innovative approaches to language education, such as technology, group learning methods, or language learning programs for specific groups, such as children with special educational needs or seniors.
E-Twinning	The online platform allows teachers to collaborate and share ideas and resources online. It promotes international cooperation between schools and teachers from different EU countries.
European Voluntary Service (EVS)	EVS is designed for young people aged 17 to 30 involved in volunteer projects in Europe and beyond. It helps young people develop personal and professional skills and promotes intercultural understanding.

Source: (EUROSTAT, 2024; EPRS, 2022)

Linguistic diversity is actively encouraged in many educational institutions and workplaces. Primary and secondary educational institutions provide the primary opportunity for most people to learn languages (EU, 2024b). Currently, 24 official languages are recognised in the EU, which has arisen since Croatia's accession. The share of students learning multiple languages in EU countries grows annually (see Figure 1).

Among the top 10 EU countries in terms of the number of people studying two or more foreign languages, the leaders are France, Italy and Germany (Figure 2).

Some EU member states share languages. For example, in Belgium, the official languages are Dutch, French, and German, while in Cyprus, most of the population speaks Greek. Several

indigenous regional and minority languages are found in the EU, and many other languages are brought to the EU by migrants, including Arabic, Turkish, and Chinese. Some regional languages, such as Basque, Catalan, and Galician, have received the status of co-official EU languages (Rundqvist, 2022).

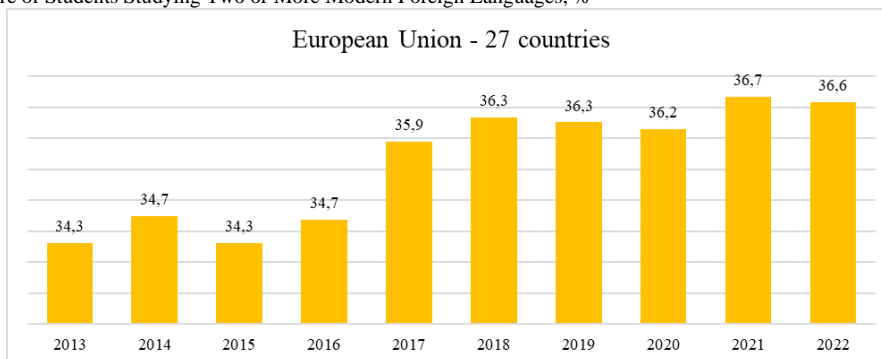
Using educational materials and resources to support learning different languages is significant in the language education system. Different students have different learning styles and educational needs. Educational materials and resources should be adapted to the diverse needs of students. Students may have different language levels, and the availability of diverse materials and resources allows for teaching at different levels of complexity and difficulty. Various educational materials, such as text, audio, video, and interactive exercises, promote better

language acquisition through various learning methods. Educational materials should aim to achieve specific language goals and consider the language context in which the language is being studied (e.g., conversational language, academic language). Ensuring the accessibility of educational materials for all students, including those with special needs or learning in a minority language, is an essential aspect of developing language education. Using the latest technologies to create educational materials and resources contributes to the attractiveness and effectiveness of the learning process. Consequently, diverse

educational materials and resources are necessary to learn different languages successfully in the language education system.

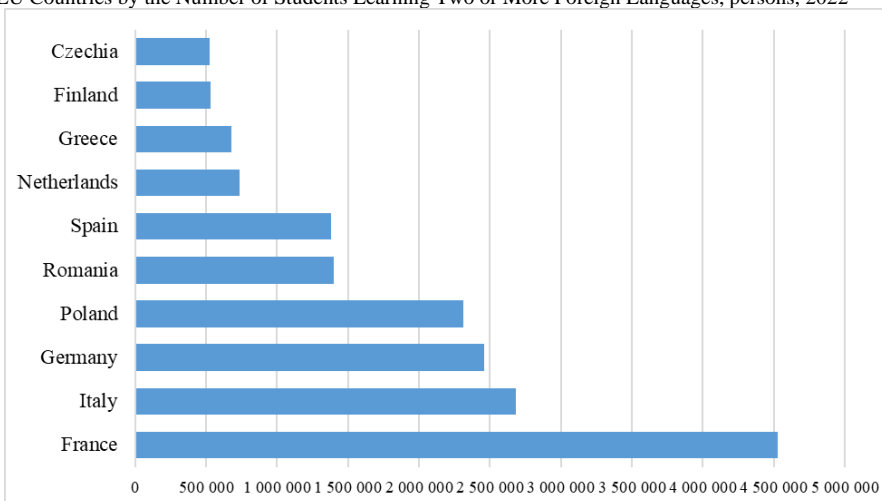
Developing educational materials and resources to support learning different languages in the European Union is an important task (Raud & Orekhova, 2022) to enhance language competence and promote intercultural understanding (Figure 3).

Figure 1. The Share of Students Studying Two or More Modern Foreign Languages, %



Source: calculated by the author based on the data (EUROSTAT, 2024)

Figure 2. Top 10 EU Countries by the Number of Students Learning Two or More Foreign Languages, persons, 2022



Source: (EUROSTAT, 2024)

Figure 3. Critical Learning Materials and Resources to Support Multilingual Learning in the European Union

- Eurostat Language Learning Statistics**
  - It is a Eurostat initiative that provides statistics and reports on language learning in the EU. This data is useful for developing policies and programmes in the field of language education
- Language Courses for All**
  - Some EU countries provide free or low-cost language courses for citizens who wish to learn or improve their language skills. These courses may be available in the form of traditional classes or online resources.
- European Centre for Modern Languages (ECML)**
  - The Centre for Modern Languages provides a variety of resources and materials for teachers and learners to support language learning. This includes teaching aids, online courses, self-study materials and more.
- Language Schools and Courses**
  - Many EU countries have language schools and courses that offer different learning programmes for all levels of language competence. These schools can be private or public and provide a variety of learning opportunities

Source: compiled by the author based on: (EU, 2024b; EUROSTAT, 2024)

Developing and accessing such educational resources and materials are essential for stimulating language education and developing language competence among European Union citizens.

The introduction of multilingual education has reached the scale of state policy in many EU countries, including Greece, Denmark, Estonia, Iceland, Italy, Cyprus, the Netherlands, Portugal, Romania, Finland, Sweden, and Switzerland. Each country has specific reasons for supporting Europe's multilingual policy and implementing multilingual education. Considering the migration process, the development of tourism, and historically determined reasons, countries worldwide implement multilingual education systems and support the motto of language policy — "Unity in Diversity".

The language policy of the European Union recognises the importance of multilingual education. It provides for the

preservation and further development of the native languages of EU countries and full proficiency in at least two foreign languages. The approach to education, which involves using several languages in the educational process, forms the so-called polylingual education. Such education develops students' language skills in several languages and also promotes understanding and respect for different cultures. Polylingual education can be implemented at various levels, from preschool to higher education, and includes studying different languages as subjects and using languages in educational materials and classroom communication. This approach supports cultural diversity and promotes intercultural understanding, making it essential in today's globalised world (UN, 2024). In European countries, the experience of implementing polylingual education is diverse and includes various approaches and programs (Table 2).

Table 2. Experience of Implementing Multilingual Education in Selected EU Countries

Country	Features of multilingual education
Sweden	Swedish is the country's official language, but local languages such as Finnish, Sami, and Meenah are also supported and recognised in many regions. In Swedish schools, education is mainly in Swedish, but children also have the opportunity to learn other languages, such as English, German or French. In addition, children with language needs are provided with special programmes and resources to support their language development. Multilingual education in Sweden aims to create linguistic balance and respect for different linguistic and cultural heritages. It promotes the development of language skills and an understanding of the diversity of the linguistic world, which is essential in today's globalised society.
Finland	Education includes learning English, Swedish, and Finnish, as these three languages are official in the country. Understanding the cultural contexts associated with these languages is also crucial.
Spain	The country's official language is Spanish (Catalan in Catalonia, Valencian in Valencia, Galician in Galicia and Basque in the Basque Country). In schools in Spain, education is usually taught in the region's language, but children also have the opportunity to learn other languages, such as English, French or German. In some regions where minority languages are spoken, multilingual education can be particularly active, emphasising developing language skills and cultural understanding. Multilingual education in Spain helps to preserve and support the diversity of languages and cultures in the country and promotes language skills and tolerance for different linguistic communities.
Netherlands	There is support for multilingual education, although this may vary from region to region and school to school. The main languages taught in Dutch schools are Dutch, English and French. In addition, in some regions, local minority languages such as Frisian or Limburger may be taught. Education in the Netherlands aims to create an intercultural educational atmosphere where every language and culture is recognised and respected. Children learn not only languages but also cultural context, which helps them to better understand the world around them and develop tolerance and respect for other cultures. The Netherlands is also known for its high quality of education and its active approach to using different teaching methods, which contributes to the multilingual development of children and young people.

Sources: (Stockholm University, 2023; Menntavisindastofnun Háskóla Íslands, 2024; Erasmus international, 2024; Nuffic, 2024)

## 5 Discussion

In European educational institutions, multilingualism is not always considered an advantage, and most educators adhere to the ideology of "using only one language" and "only one language at a time." It is especially relevant when teaching immigrants, as many educators believe that using and learning several languages simultaneously confuses students and slows

down the process of language acquisition in the host community. In foreign language classes, teachers try to use only the target language (e.g., German in German lessons) and do not integrate other languages into their teaching. This approach must include multilingualism's creativity and effectiveness (LINEE, 2010). Thus, the conditions of multilingualism in EU countries create some challenges for language education (Table 3).

Table 3. Issues of Language Education in Multilingualism for EU Countries

Issue	Description
Language diversity	Many EU countries have a large diversity of languages, making it challenging to determine which languages should be prioritised for teaching.
Access to education in different languages	Not all regions of the EU have equal access to education in different languages, which can lead to inequalities in educational opportunities.
Human resources issues	The lack of qualified teachers who can teach in different languages can make it challenging to implement multilingual education.
Cultural adaptation	Due to the diversity of linguistic and cultural contexts, translating educational material and developing appropriate curricula can take time and effort.
Quality assessment and control	Due to the different language environments, measuring the effectiveness of multilingual education and developing mechanisms for evaluation and quality control can be challenging.
Support for linguistic minorities	Adequate support and development for linguistic minorities are essential to multilingual education, but this may require additional resources and attention.

Source: author's conception

Solving these problems requires a comprehensive approach that considers multilingualism's educational and cultural aspects and promotes the development of a tolerant and multilingual society. There are several ways to address multilingualism in the EU:

- developing and implementing effective language education policies that address the diversity of languages in the EU will help ensure access to education in different languages and develop students' language skills;

- providing support and training for teachers to work in a multilingual environment will contribute to providing quality multilingual education;
- developing and disseminating multilingual teaching materials and resources, such as textbooks, online courses and applications, will help improve language education;
- support for cultural exchange between different linguistic communities will promote understanding and respect for different languages and cultures;
- a multilingualism policy that actively supports the use of different languages in different spheres of society contributes to the development of a tolerant and multilingual society;
- stimulating the internationalisation of education and promoting international educational programmes will help understand and appreciate the diversity of languages and cultures.

These approaches will contribute to developing multilingualism and creating a favourable linguistic environment in EU countries.

The development of language skills in the language education system for Eurozone countries can be oriented around several key aspects: early language learning, language environment, language immersion, language balance, active language use, development of cultural understanding, innovation, and technology.

The language education system can start from early childhood, which promotes better language acquisition and development of language skills. Creating a language environment where the language is used to communicate and learn deepens language skills. Language immersion programs, where children learn a language other than their native one, can help them learn it more effectively and naturally. The language education system should emphasise both the development of the native language and the learning of other languages, mainly English, the language of international communication. Language learning should be aimed at actively using language skills in various spheres of life, such as education, work, and social interaction. Studying the cultural context and history of the language is also essential, as it promotes a better understanding and respect for the language and its speakers. Using innovative methods and technologies in language education, such as mobile applications, online courses, and virtual reality, can make the learning process more exciting and compelling. These approaches contribute to developing language skills in the language education system for Eurozone countries, providing citizens with the necessary language competencies for successful functioning in an international environment.

## 6 Conclusion

Multilingualism is an essential factor in European integration and globalisation. In the context of the European Union, where many different languages are used, multilingualism is a critical factor in European integration. The ability to communicate and understand other languages helps to promote unity and mutual understanding among EU member states, which is a primary goal of European integration. In today's world, where globalisation is increasing, multilingualism has become an essential element of successful communication and cooperation between countries and cultures. Knowledge of different languages helps people adapt to international environments, understand cultural contexts, and develop intercultural competence.

Therefore, multilingualism is essential in European integration and globalisation to promote joint development and mutual understanding between countries and cultures.

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**Primary Paper Section: A**

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## EFFECTIVE METHODS OF TEACHING FOREIGN LANGUAGES IN THE CONTEXT OF MODERN REQUIREMENTS FOR LANGUAGE EDUCATION

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**Abstract:** Modern language education is marked by the transition to the digital era, where the teaching of foreign languages is adapted to the latest technologies and methods. Considerable attention is paid to the integration of digital tools and interactive approaches, which open up wide opportunities for increasing the effectiveness of learning and the development of students' language competences. The purpose of the study is the analysis of modern methods of teaching foreign languages and strategies that allow effective language acquisition for intercultural communication. The article examines the practices of using multimedia resources, virtual exchanges, and online courses as important elements of modern language education that meet the dynamic requirements of today. The results of the study indicate the growing role of digital platforms in language education, the importance of adaptive learning and the implementation of interactive technologies for deeper language acquisition. The practical significance emphasizes the need for educational institutions to adapt curricula to changing conditions. Prospects for further research are aimed at analyzing innovative learning environments that promote critical thinking, creativity and students' readiness for effective communication in a multicultural world. The article pays special attention to the prospects for the development of individualized learning methods that provide deep immersion in the language environment and prepare students for solving complex communicative tasks in professional life.

**Keywords:** interactive technologies, multicultural learning, globalization, digitalization of education, cultural competence, adaptive learning, intercultural communication.

### 1 Introduction

In the modern world, which is characterized by continuous processes of globalization, the study of foreign languages acquires special importance. According to (Amrullah, 2023), globalization promotes the growth of intercultural interaction, which increases the need for foreign language skills for personal development and professional improvement. Learning foreign languages allows people to communicate freely with representatives of other cultures and integrate into the world economy, politics and education. Thanks to language skills, new opportunities for international business, study abroad and participation in global scientific projects open up. Investing in language education is strategically important for individual personality development, strengthening interstate ties, and promoting peaceful coexistence.

Thanks to the rapid development of digital technologies, the field of teaching foreign languages is undergoing revolutionary changes. According to (Rustan, 2023), the emergence of interactive online courses, mobile applications for learning languages, and virtual classrooms adapts the educational process to the needs of each student. These technologies facilitate access to learning new languages for a wide audience, significantly improve the quality of education, making the learning process dynamic and effective. Didactic materials and teaching methods become saturated and meaningful, which contributes to better language acquisition. Innovative solutions in the field of education make it possible to depart from traditional teaching methods, focusing on the individual needs of students and providing them with more opportunities for independent study.

The growth of international economic cooperation and the integration of economies at the global level puts foreign languages in the center of attention of economic and political activity. The author (Farahi, 2023) believes that knowledge of foreign languages contributes to effective communication between partners, removes barriers in negotiation processes and opens new markets for international companies. Knowledge of languages significantly increases economic opportunities for

firms and corporations, as it is a factor in creating stable and long-term interstate relations. Thus, investments in language education form the human economic potential of the country, which increases its competitiveness in the international arena and contributes to the stabilization of international economic relations.

### 2 Literature review

Modern requirements for teaching foreign languages focus on the integration of innovative approaches and the use of digital resources for effective learning. Research (Qaddumi, 2023) points to the importance of using multimedia in language teaching, where interactive exercises contribute to better learning of the material. The importance of adaptive learning is emphasized in the work (Rubio-Gragera, 2023), which analyzes the use of digital technologies to individualize learning processes according to the needs of students. According to a study (Otiemo, 2023), the effectiveness of the communicative method increases significantly with the help of role-playing and discussion platforms. The study (Suharno, 2023) analyzes the impact of interactive technologies on the effectiveness of language learning. An article (Chaves-Yuste, 2023) demonstrates how the use of virtual teaching aids can improve language skills through the simulation of communicative situations. The scientist (Mitra, 2023) highlights the role of multicultural education in the formation of language competence. According to (Shao, 2023), the inclusion of elements of different cultures in the educational process forms the communication skills of students. The scientist (Cao, 2023) believes that interactive technologies increase students' motivation to learn the language. According to (Resmi, 2023), creative techniques help students practice the language better in real life situations. The article (Eddraoui, 2023) examines the application of gamification in language teaching, where game elements are used to motivate students and engage them in active learning.

The scientist (Belyaeva, 2019) draws attention to the need to integrate the cultural component into the educational process, which includes the study of the culture of the countries of the language. The author (Purnama, 2023) analyzes the impact of intercultural communication on the development of language skills, demonstrating how interaction with native speakers improves phonetic perception and lexical knowledge. In a study (Rodríguez, 2023), online learning opportunities are explored, which allow students from different parts of the world access to quality foreign language courses without the need for physical presence in the classroom. The author (Kruse, 2022) believes that a flexible study schedule provides opportunities to learn the language in a comfortable environment and promotes better learning of the material. The scientist (Belmekki, 2023) notes that the use of international certificates as an assessment of language proficiency is a key factor in motivating students to learn foreign languages and achieve high academic standards. According to (Requena, 2018), assessments allow students to be motivated and provide an objective overview of their skills and competencies. The author (Martínez-Soto, 2023) points to the effectiveness of using online platforms for learning foreign languages that integrate interactive means of communication and cultural exchange between students from different countries. According to the research results (Chaika, 2023), a key aspect of the development of language skills is carried out through real communicative situations.

Analysis (Hnatyshena, 2023) emphasizes that integrating virtual reality into language learning allows students to experience the cultural aspects of the language in order to learn the material. According to (Zhou, 2023), the role of investment in the development of language technologies and platforms is difficult to overestimate, as the world increasingly moves towards digitalization. Research (Borrego, 2023) provides insight into modern foreign language teaching methods that use gamification

and interactive exercises to increase motivation to learn. The work (Sun, 2023) emphasizes the need to integrate digital tools into all aspects of language learning, from interactive dialogues to complex language tasks. The importance of an interdisciplinary approach in foreign language teaching is highlighted in a study (Li, 2023), which analyzes the interaction of language skills with other academic disciplines to form an understanding of the material. Taking into account the speed of digital innovations in the field of education, the question arises of the importance of constant monitoring of educational methods and their impact on the development of students' competencies and skills in a global multicultural world.

### 3 Research goals

The purpose of the study is to analyze the effectiveness of modern methods of teaching foreign languages, taking into account the integration of digital technologies and approaches that meet the requirements of the modern globalized and multicultural world. The research focuses on identifying and analyzing the main challenges and barriers that students and teachers face when learning and teaching foreign languages using digital tools. An important direction is the study of the potential of interactive and adaptive technologies for increasing student motivation. The tasks of the research are the determination of the most effective teaching methods, the analysis of the foreign language market, and the development of recommendations for improving educational programs that integrate digital tools. The practical significance of the research is revealed in the possibility of applying its results to optimize educational processes in educational institutions, contributing to the formation of highly qualified specialists. A promising direction is the study of the ability to effectively communicate in a multilingual, culturally diverse environment.

### 4 Materials and methods

The research methodology is formed on the basis of an assessment of the current state of the foreign language teaching market and approaches to their implementation. The article uses the method of demographic data analysis to determine the number of people who speak different languages. Characteristic trends in the distribution of language groups were revealed using the statistical databases Ethnologue, UNESCO and Statista, which allowed to obtain the total amount of speakers of each language. The development trends of the language market were studied using statistical processing, and a development scenario was formed. The synthesis method determines the number of people who speak specific languages in different regions of the world. The article develops a methodical approach to the analysis of the foreign language market, where relevant data from educational institutions and online platforms are studied. The methods used include the collection of big data and the application of analytical tools to study trends in the growth of demand for the use of digital technologies. The next stage was the outline of promising directions for the use of interactive platforms for teaching based on changes in demand. Abstracting from primary data to understandable trends allows teachers and educational institutions to adapt their training programs to the needs of the market. The methodological approach is formed in accordance with effective methods of teaching foreign languages, taking into account gamification. The research conducted included an analysis of pedagogical techniques and the use of digital platforms used for language learning. The influence of interactive methods, mobile applications and digital platforms on student engagement and motivation has been determined. The study demonstrates how modernizing teaching methods can improve the effectiveness of language learning. The main factors contributing to the optimization of educational processes were identified by the deductive method. The conducted research includes an analysis of the impact of globalization on language education and teaching of foreign languages. A comprehensive approach to the study of cultural, economic and technological aspects of globalization is applied, key changes in the needs and methods of language learning are identified. It examines how increased international trade, cultural

exchange, and migration affect the popularity of learning English, Spanish, and Chinese. The used methods of quantitative analysis and modeling made it possible to generalize data on the dynamics and relationships between globalization and language education, which helped to reveal new directions in the development of educational programs. The final stage of the methodology was the formation of relevant conclusions and recommendations regarding modern methods of teaching foreign languages.

### 5 Results

Formation of a cultural environment for teaching foreign languages is a complex process that requires an understanding of linguistic, cultural, and psychological aspects. The pedagogical process includes the creation of adaptive learning strategies that reflect the cultural characteristics of each language group. When teaching Spanish, for example, it can be important to take into account the variety of cultural nuances that exist between different Spanish-speaking countries such as Spain, Mexico and Argentina. Taking the Chinese language as an example, special attention should be paid to the difference between Mandarin and Cantonese dialects. Understanding which can significantly affect the perception of cultural identity and social contexts. Such an approach requires a perfect knowledge of the language and consideration of cultural traditions, which includes the study of history, customs and even religious beliefs.

Globalization intensively affects processes in language education, increasing the need for a multicultural approach to language teaching. The increase in international contacts requires educational systems to be more flexible in their approaches to teaching foreign languages. Curricula should therefore adapt to rapid changes in the world economy and politics, integrating aspects of intercultural communication and multilingualism. According to the World Bank, the role of foreign languages in international economic cooperation and global integration challenges educational institutions to teach languages as elements of further economic integration. Educators educate students in skills that will allow them to function effectively in an international context. The total number of speakers by different language groups is shown in Figure 1.

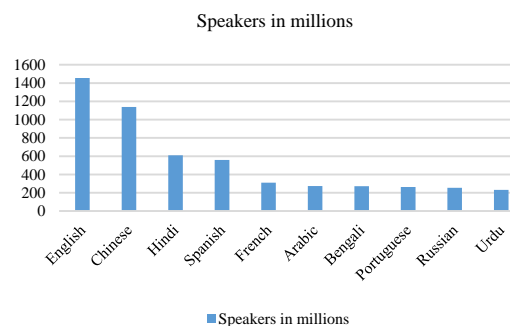


Figure 1. The most spoken languages worldwide in 2023 (by speakers in millions)

Source: Compiled based on Statista data.

In 2021-2022, after the Covid-19 pandemic, digital technologies took a leading role in shaping the cultural environment of foreign language teaching. The use of interactive technologies and digital resources transform traditional teaching methods. The use of Moodle online platform tools allows you to create a motivating learning environment where students can learn the language through interactive exercises and real communicative situations. Digitization of education based on the principle of US universities, where cultural communications are widely used, make the language learning process effective and enjoyable.

Attracting investment in the field of education, especially in the era of digitalization, is a decisive factor in the creation of innovative educational platforms and private teaching tools.

Investors who understand the potential of the digital education market are investing significant resources in developing platforms that can provide students with access to quality educational resources from anywhere in the world. For example, the platforms Coursera and Udemy became popular during 2022-2023 thanks to investments that allowed them to develop foreign language courses that include video lessons, interactive tests and educational games. Appropriate platforms contribute to the globalization of education by providing access to resources without the limitations that existed in traditional education systems. Private initiatives also play a significant role in shaping the educational services market. Companies specializing in the production of software for learning languages, such as Rosetta Stone or Duolingo, attract investments to develop personalized learning approaches that adapt to the individual needs of users. These platforms use Big Data and automation to create courses that optimize the learning process and ensure more effective language acquisition. Financial investments make it possible to improve the quality of education and provide infrastructure that will be available to a wider range of students. The general trend of the foreign language teaching market is shown in Figure 2.

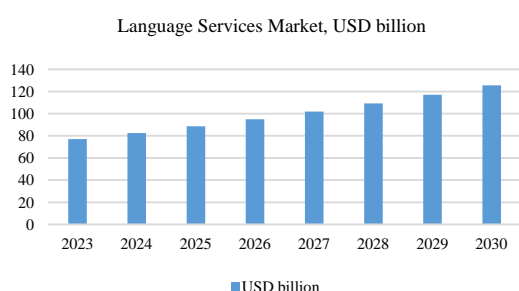


Figure 2. Language Services Market

Source: Compiled based on data from the Vision Report

The market for learning foreign languages shows rapid development, which is confirmed by the projected growth of its volumes. According to data for 2023, the market volume is estimated at 77.01 billion US dollars, and the forecast for 2030 shows growth to 125.61 billion US dollars. This growth can be explained by the increase in global integration and the need for intercultural communication, which stimulates the demand for learning foreign languages. An important role in this process is

played by the introduction of the latest technologies that make education more accessible and effective. The development of the market stimulates the emergence of new enterprises and startups that offer innovative solutions for educational needs. For example, startups in China are developing mobile apps for learning languages, offering users personalized learning tracks, gaming elements and tools to communicate with native speakers. Investors from Europe and the USA see great potential in these innovations, as they offer effective solutions for fast and convenient language learning, adapted to the modern rhythm of life.

The development of curricula for the training of foreign language teachers is critically important in response to the growing demand for quality language education. Modern educational institutions around the world actively integrate into their programs courses that focus on teaching methodology, psycholinguistics, cultural studies and the use of interactive technologies. The appropriate approach enables the teacher to improve his professional skills and effectively respond to changes in the educational needs of students from different cultures. Teacher training programs include professional development modules that provide opportunities for continuous learning and self-improvement. The importance of such programs lies in the fact that they help teachers stay at the forefront of educational trends and pedagogical innovations, which is necessary to maintain a high level of teaching quality.

For effective teaching of foreign languages, it is necessary to create a culturally sensitive learning environment that contributes to linguistic and cultural enrichment of students. Teachers should use methods that emphasize the importance of the cultural context of the language, including the use of cultural artifacts, literature, films, music, etc. The use of materials in the context of digitization has the advantage of helping students better understand how language is used in the daily lives of its speakers. Holding thematic events such as cultural evenings or language immersion programs, where students have the opportunity to communicate with native speakers in an informal atmosphere. Appropriate measures help reduce the cultural barrier and stimulate integration into the language environment, which is the key to the development of intercultural communication skills. Modern methods and approaches to teaching foreign languages with the help of digital technologies are depicted in Table 1

Table 1. Modern methods of teaching foreign languages with the help of digital technologies

Method	Description	Application in practice	Educational platforms
Communicative approach	Emphasis on the use of language in real contexts supports the development of speaking and listening skills.	Use of role plays, discussions and simulations.	Duolingo, Babel, Rosetta Stone
Immersion in the language	Full immersion in the language environment, which promotes rapid learning.	Education exclusively in a foreign language, without translation into the native language.	FluentU, Language Immersion Online Programs
Blended learning	A combination of online resources and traditional classroom activities.	Interactive courses with teachers and independent study using Internet resources.	Coursera, EdX (with language courses), Udemy
Design method	Development of language skills through the implementation of specific projects.	Creating presentations, websites or blogs in a foreign language.	Tandem, HelloTalk (for communication in projects)
Gamification	Using game elements to increase motivation and learning efficiency.	Language games, quizzes, competitions for speed or accuracy.	Duolingo, Memrise, Language Learning with Netflix
Learning through content	Language learning through academic subjects or interests that require immersion in content.	Courses that are taught in a foreign language but deal with a specific topic, such as history or science.	MIT OpenCourseWare, Khan Academy (in various languages)

Source: compiled by the author

Interactive technologies have become a necessary tool in the modern teaching of foreign languages. The use of interactive whiteboards, mobile applications, online platforms and virtual games enriches the educational process and makes it more exciting and effective. Digital technologies enable teachers to create dynamic and interactive learning environments where students can practice language skills in real-world situations.

Interactive technologies promote differentiated learning, allowing teachers to adjust tasks and exercises according to the level of knowledge of each student, which increases the overall efficiency of the educational process. The modern global education market shows a significant increase in demand for qualified teachers of foreign languages. Globalization and the growing mobility of the population encourage people to learn



new languages as a tool to achieve professional and personal development. This demand has created a need for teachers who have a high command of the language and are able to apply specialized teaching methods in the form of immersive learning and a conceptual approach. These methods require teachers to have a deep understanding of the cultural and linguistic aspects of the language, the ability to integrate knowledge into practical teaching. The growing demand for pedagogical specializations pushes educational institutions to develop new teacher training programs that include the study of innovative pedagogical technologies and methods.

Governments and private investors allocate funds to create and support educational initiatives aimed at improving access to language education and expanding language programs. This includes financing open online courses, creating language centers, as well as supporting international scholarship programs that allow students to study foreign languages abroad. Much attention is paid to the development of interactive and innovative learning resources that can provide more effective and engaged learning. Increasing investment in the education sector contributes to the expansion of educational opportunities, supports the creation of a global network of cultural carriers, which leads to better understanding and mutual respect between different cultures.

Therefore, digital technologies and the teacher's personality play a decisive role in the process of teaching foreign languages. Teachers with strong communication skills and emotional intelligence are able to create a motivating and engaging learning environment. Empathic teachers who can establish a digital connection with students increase interest and motivation for learning, ensuring active participation in the learning process. The importance of the teacher's personality also lies in the ability to adapt the educational material to the individual needs and cultural characteristics of students, which is critically important in a multicultural classroom. Teachers who are able to integrate different cultural perspectives and contexts into the educational process contribute to a deeper understanding and mutual respect between students of different nationalities.

## 6 Discussion

The effectiveness of modern methods of teaching foreign languages and the use of digital technologies are analyzed among scientists. The integration of multimedia tools into the educational process, as stated in (Heinsch, 2023), significantly increases the level of involvement and motivation of students, which is consistent with their own observations. The results obtained in the study reinforce the idea (Blažević, 2023) about the importance of a communicative approach that allows students to use language in real situations. At the same time, analysis (McLoughlin, 2023) points to the positive impact of live communication on deeper cultural immersion. According to (Skevi, 2023), the integration of digital platforms in language learning should be gradual and accessible to every student. A study (Canese, 2023) demonstrates the effectiveness of gamification in learning, which coincides with their own conclusions about the importance of game elements in student motivation. Findings (López-Torres, 2023) confirm the need for teachers' competencies in digital technologies, which will ensure continuous professional development. Analysis (Gonzalez-Torres, 2023) emphasizes the importance of an interdisciplinary approach in teaching foreign languages, which resonates with the results obtained in the conditions of technological globalization. An article (Kassymova, 2023) notes the rapid growth of the foreign language teaching market due to increased investment in the creation of digital educational platforms. The author (Martyushev, 2021) points out the potential of a conceptual approach to teaching a foreign language, which corresponds to its own result. Thus, the discussion among scientists indicates broad support for the introduction of digital tools in education. A comparison with other studies made it possible to outline the potential of digital technologies and the existing limitations of these approaches in teaching foreign languages.

## 7 Conclusion

Thus, based on the analysis of modern approaches and methods of teaching foreign languages, it can be stated that the integration of digital technologies significantly improves the quality and effectiveness of language education. The use of online platforms, interactive resources and multimedia tools allows students to immerse themselves in the language environment, which is critical for the development of conversational skills and cultural understanding. Adaptive learning systems based on automated technologies contribute to the personalization of the education process and meet the individual needs of each student. Modern teaching methods - gamification and role-playing communications, make the learning process exciting and increase students' motivation to actively participate in the learning process.

It is necessary to take into account a number of challenges and problems facing language education in the digital era. The main ones are unequal access to technology, the difference in digital literacy among students and teachers. It is necessary to strengthen the preservation of the high quality of education with the wide implementation of online formats. There are threats of depersonalization of the educational process, where the lack of direct contact can negatively affect the development of communication skills and the emotional connection between the student and the teacher. In addition, there are challenges related to data security and privacy protection within online platforms. Considering these aspects, language education in the modern world needs a special approach and constant adaptation to global trends and technological changes.

Based on the above analysis, it is recommended to take the following measures to overcome existing problems and improve language education. Above all, it is important to ensure equal access to technology for all students, regardless of their social status or geographic location, in order to reduce the digital divide. It is also necessary to conduct continuous trainings and courses on improving digital literacy for teachers so that they can effectively use the latest technologies in education. An important factor is the development of comprehensive educational programs that integrate digital tools as a supplement to foreign language learning. These steps will help create flexible, adaptive and effective learning environments that can meet the needs of today's information society and globalized world.

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## EMBRACING DIGITAL ADVANCEMENTS IN EDUCATION: OBSTACLES AND FUTURE DIRECTIONS

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**Abstract:** This article examines the use of technology in modern education, identifying challenges, prospects, and practical recommendations for educational institutions. In the context of rapid digital technology advancements and the evolving educational needs of students, implementing new tools has become an integral part of the educational process. Despite potential benefits such as increased accessibility to education and enhanced quality of learning, technology integration also faces challenges, including lack of funding, staff readiness, and data security issues. The article provides practical recommendations for optimising the use of technology in the educational process and highlights prospects for further research in this field. By analysing existing literature reviews and current research, the article emphasises the need for a balanced approach to integrating technology into education, considering various social, cultural, and economic contexts. It discusses the contemporary challenges and prospects of applying technology in the educational process, focusing on critical aspects such as expanding access to education, improving the quality of learning, and preparing students for the digital age. The main challenges identified include a lack of funding, insufficient staff training, and data security concerns. Based on an analysis of existing literature and current research, the article offers practical recommendations for educational institutions to optimise the use of technology education.

**Keywords:** education technologies, digital transformation, education accessibility, education quality, challenges and prospects, educational institutions, educational innovations, technology efficiency.

### 1 Introduction

In a world where technology is advancing rapidly, the educational sector needs to integrate new technological advancements to meet the needs of both students and educational institutions. This article aims to analyse contemporary educational technologies by examining both the opportunities and challenges they present within the context of higher and secondary education. The proliferation of digital technologies in education opens new horizons for learning and interaction. Research such as that of Altawalbeh et al. (2023) and Anand et al. (2015) indicates that digital platforms and design thinking frameworks are becoming increasingly influential in forming educational processes and methodologies. In parallel, the application of Massive Open Online Courses (MOOCs), as observed by Batsurovska (2021), demonstrates an evolution in distance learning methods, providing students with flexibility and access to quality education regardless of geographical location.

Conversely, integrating artificial intelligence and machine learning into educational processes, as discussed in the works of Liu et al. (2021) and Harika et al. (2022), represents a pivotal aspect of contemporary educational strategies. These technologies not only facilitate the personalisation of learning but can also markedly enhance the quality and efficacy of the educational process. Nevertheless, the implementation of new technologies is also associated with several challenges. As noted by Štefančík and Stradiotová (2021), issues related to ensuring equal access to educational resources, training educators, and resistance to change require a comprehensive approach and strategic planning. This article seeks not only to consider successful practices and achievements in educational technologies but also to identify the key barriers and constraints

that stand in the way of their effective integration into the educational process.

In the context of globalisation and technological transformation, modern education is confronted with a range of fundamental challenges that require not just a rethinking of traditional approaches to teaching and interaction with educational material but also the development of new, more flexible, and adaptive educational strategies. However, despite the significant potential benefits, integrating modern technologies into the educational process still needs to be completed, generating a whole new range of complexities. On the one hand, using digital technologies, such as artificial intelligence, machine learning, and virtual and augmented reality, promises significant enhancements to the educational process, rendering it more accessible, personalised and effective. On the other hand, a series of obstacles impede the comprehensive integration of these innovations into educational practice. These barriers include inadequate technical training for educators, a lack of necessary infrastructure in educational institutions, issues with the protection of student personal data, and disparities in technology access among students, exacerbating educational inequality. Thus, an important issue becomes the selection of appropriate technological solutions for educational institutions and the creation of conditions for their effective implementation and use. It requires a comprehensive analysis of existing limitations and the development of strategies to overcome them.

This article comprehensively examines how modern technologies affect the educational process, identifies the main challenges and problems associated with their integration into educational institutions of different levels, and develops recommendations for optimising technological solutions in education.

This work has the following objectives:

1. To assess the current state of technological infrastructure in educational institutions.
2. To study the impact of technology on the accessibility and quality of education.
3. To analyse opportunities to improve the educational process's efficiency through innovative technologies such as artificial intelligence and machine learning.
4. To explore the barriers and challenges educational institutions face in implementing and using new technologies.
5. To develop practical recommendations for educational institutions to optimise the use of technology in the educational process.

### 2 Literature Review

Digital technologies have become an integral part of the educational process in recent decades. The development of artificial intelligence, virtual reality, and other innovative approaches has opened up a wide range of research opportunities, from analysing effectiveness to developing new educational platforms. This article aims to present an analysis of recent studies and publications.

Altawalbeh et al. (2023) explored the impact of factors on university students' use of digital educational technologies. Chen G. & Q. Yuan (2021) examined the application and challenges of computer networking technologies in artificial intelligence. Liu et al. (2021) discussed the origins of accurate artificial intelligence and its role in education, while Z. Liu et al. (2022) presented a basic model of using intelligent technologies to transform teaching methods. Batsurovska et al. (2021) addressed the acquisition of competencies by undergraduates in higher education institutions through a digital environment. Pham et al. (2020) studied the educational model of sustainability

considering modern educational technologies. Qian et al. (2019) dedicated their research to exploring the paths of student learning design thinking in educational technology. Zaripov et al. (2021) analyse the processes of course quality optimisation based on cloud computing. Sener et al. (2020) dedicate their work to machine learning programs through cloud platforms. Anand et al. (2015) investigate issues of creating educational technology research through design thinking frameworks. X. Chen & S. Du (2023) focus their research on developing a learning platform based on cloud services. Chenyu et al. (2023) aimed to develop the design of an interactive direct teaching model in virtual educational communities. Masaeid et al. (2022) included the interconnection between educational technologies and entrepreneurial education and the influence on student achievement. Peng et al. (2022) provided an overview of the reform of experimental teaching programmes in the information age. Harika et al. (2022) reviewed the application of artificial intelligence and deep human reasoning in education.

The research examined the use of technologies in specialised fields of education, specifically MOOCs in the e-learning system for a master's degree in electrical engineering (Batsurovska, 2021a). It also developed a technological educational model for a master's degree in electrical engineering focusing on electrical installation and commissioning work (Batsurovska, 2021b). The application of 3D models in electrical engineering for laboratory work was revealed (Soloviev et al., 2021).

The works of Epaminonda et al. (2022) and Uchitel et al. (2020) highlight the potential of technology to enhance the quality of education and its accessibility. The implementation of technology for teaching future agricultural engineers in the information and educational environment is discussed by Štefančík & Stradiotová (2021). Furthermore, the obstacles and limitations in using modern technologies in higher education during the COVID-19 pandemic are analysed. The use of educational technologies for developing critical thinking, creativity, and wisdom in his works was studied by N. P. Dalal (2011).

Liu Y. et al. (2020) address the development of teaching methods using modern technologies in creating a virtual reality system for industrial training. Q. Wu (2021) presents a design of a blended mode of teaching a Chinese subject considering modern educational technologies. L. Zhao (2022) proposes an interactive mode of learning based on big data for blended learning in English.

### 3 Methods that have been applied

This article's research methods are based on analysing literature sources and expert opinions on technology use in education. The main methods that can be used are:

1. *Literature review.* Examine existing scientific papers, studies, reports, and articles related to the use of technology in education to identify current trends, challenges, and recommendations.
2. *Case studies.* Study-specific examples and experiences of different educational institutions that have successfully implemented technology in the educational process to identify critical success factors and practical recommendations.
3. *Expert interviews and surveys.* Conducting interviews with experts in education and information technology, as well as surveys with teachers and administrators of educational institutions to obtain expert opinions and practical experience.
4. *Collective discussion and consensus building.* Organising focus groups or consultations with stakeholders such as teachers, administrators and students to identify standard views, needs and preferences regarding the use of technology in education.
5. *Systems analysis.* The study of the relationships between different aspects of the educational process, technological infrastructure and user needs to identify critical factors that

influence the effectiveness of technology use in the learning process.

These research methods can be combined or used separately to analyse technology use in education, identify challenges and opportunities, and develop practical recommendations for educational institutions.

### 4 Research results

Evaluating the current state of technological infrastructure in educational institutions represents a crucial aspect of research aimed at understanding the extent to which educational facilities are equipped with the necessary technological resources to implement and utilise modern educational tools and methods. This assessment encompasses several significant components.

Infrastructure resources:

- analysing the availability of computers, interactive whiteboards, specialised educational software and other technological devices used in the learning process;
- assessing the quality and speed of the Internet connection, which is critical for accessing online resources and conducting distance learning.

Technical training and support:

- studying the level of technical preparedness of teachers and administrative staff to use technology in the educational process;
- assessing the availability and effectiveness of technical support in educational institutions to ensure the smooth operation of technological equipment.

Software and applications:

- analysing the educational programmes and applications regarding their relevance to the curriculum and effectiveness in achieving educational goals;
- researching licences and updating software to meet current security and functionality requirements.

Data security and confidentiality:

- evaluating the measures taken by educational institutions to protect the personal data of students and teachers;
- analysing the risks associated with the storage and processing of data in educational institutions and measures to minimise them.

The evaluation of technological infrastructure enables the identification of strengths and potential vulnerabilities within the education system. It is an essential step in developing strategies to enhance technological equipment and improve the quality of education. Furthermore, it facilitates a more effective adaptation of educational institutions to the constantly changing technological requirements. It, in turn, provides a basis for further planning and investment in educational infrastructure.

The research into the impact of technologies on the accessibility and quality of education is an essential aspect of contemporary educational policy and practice. In the context of this study, the critical directions presented in Figure 1 are considered.

Expanding geographic coverage is achieved through technology to provide educational services to students in remote or underserved regions where access to quality education is traditionally limited. Online platforms and distance learning remove physical barriers between students and educational institutions. Convenience for individuals with disabilities refers to adaptive technologies such as screen reading programs, customised interfaces, and specialised learning materials, which make education accessible to people with various disabilities. The flexibility of learning allows students to choose their own

pace and schedule, enabling them to combine education with work or other responsibilities.

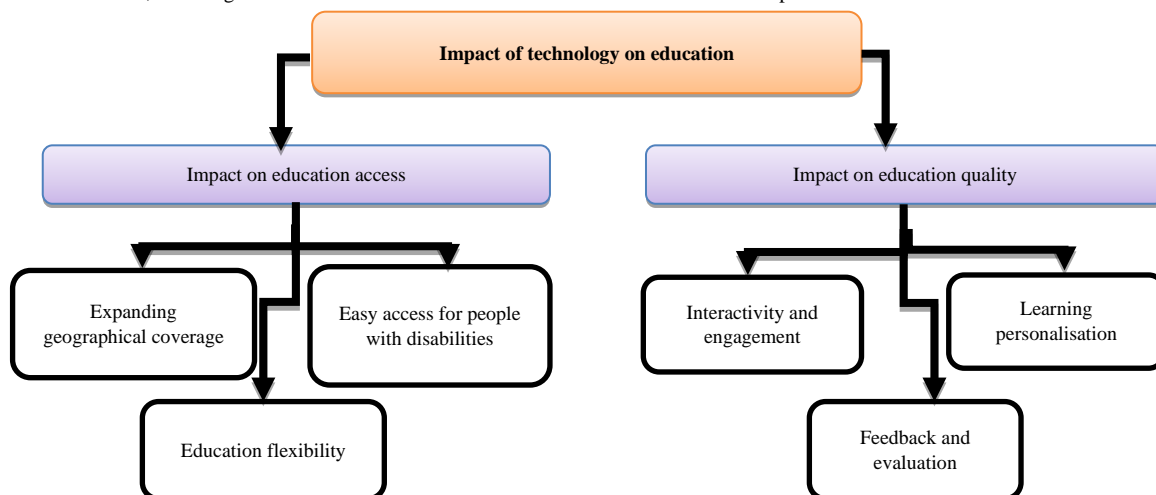


Figure 1. The impact of technology on education

The personalisation of learning is facilitated by intelligent educational systems and machine learning algorithms that can analyse students' performance and offer individualised learning materials and tasks. This approach leads to a deeper and more adequate understanding of the material, considering each student's individual characteristics and needs. Using multimedia and interactive tools, such as videos, animations, and virtual laboratories, facilitates interactivity and engagement, enhancing student involvement and understanding of complex concepts. Gaming elements and simulations can be employed to interact more deeply with the learning material. Technology provides opportunities for immediate feedback to students about their progress and results, which is a critical factor in the learning process. Automated assessment and analytics systems allow educators to track student achievements and issues more effectively, enabling them to make adjustments to the educational process promptly.

A comprehensive approach is required to research these aspects, including data collection, analytical processing, and evaluating the impact of technology implementation on educational outcomes. It will not only help to understand the current state of affairs but also develop strategic recommendations for improving the quality and accessibility of education.

The analysis of the possibilities of enhancing the efficiency of the educational process through the application of innovative technologies, especially Artificial Intelligence (AI) and Machine Learning (ML), reveals significant potential for the transformation of the educational sector. The application of these technologies has the potential to significantly enhance the quality and accessibility of education, offering a range of opportunities (Table 1).

Table 1. Analysis of Opportunities to Improve the Effectiveness of the Educational Process by Using Innovative Technologies

Technology	Opportunity to improve the efficiency of the learning process
1. Adaptive learning	AI can analyse the learning process in real-time, adapting learning materials and strategies to the individual needs of each student. Adaptive learning systems can: - identify the weaknesses and strengths of students, offering exercises to strengthen knowledge where necessary, - adjust the complexity of tasks and the pace of learning, ensuring optimal workload and keeping students motivated.
2. Personalised feedback	AI can automate collecting and analysing student responses, allowing teachers to provide more effective and personalised feedback. It includes: - instant detection and correction of errors in the process of completing tasks, - provide detailed recommendations on how to improve performance and develop skills further.
3. Optimising learning content	Machine learning can analyse large amounts of educational data to identify the most effective teaching methods and materials, which makes it possible to - improve the structure of courses and curricula based on the analysis of student performance, - adapt teaching materials to maximise the effectiveness of the subject.
4. Predicting academic performance	Artificial intelligence can predict students' academic success or possible difficulties based on their current performance and educational history, allowing them to: - proactively intervene and provide additional support to those students who may face difficulties, - adapt curricula to prevent students from falling behind or losing interest in the subject.
5. Automating administrative tasks	AI can significantly reduce the time spent by teachers on routine administrative tasks such as keeping journals, checking tests, and managing documentation. It frees up resources for more quality work with students and individual attention.

Implementing these technologies necessitates a comprehensive approach that encompasses the development of regulatory frameworks, the provision of staff training, and the construction of technical infrastructure. Nevertheless, the potential benefits of their use render this task of paramount importance in contemporary education.

Examining the obstacles and challenges educational institutions encounter during the implementation and utilisation of new technologies is a crucial aspect of comprehending the difficulties they encounter in digital transformation. Some of the principal obstacles and challenges include the following aspects:

1. *Lack of funding and resources.* Acquisition and updating of technological equipment, licensed software and staff training require significant investments, which are unaffordable for many educational institutions, especially in low-income areas.

2. *Lack of staff training.* Many teachers lack the skills and knowledge of technology to integrate it successfully into the classroom. Training and support are needed for staff to use new technologies effectively in classroom practice.

3. *Accessibility and infrastructure issues.* Some regions may need help with access to high-speed internet and infrastructure, making distance learning and the use of online resources difficult. Infrastructure, network equipment, and computers need to be upgraded to support the use of modern technologies.

4. *Lack of standardisation and integration.* The diversity of technological solutions and the need for integration standards between different systems can lead to difficulties in managing and interoperability educational technologies. A unified strategy and policy for integrating technology into the educational process is needed to ensure consistency and efficiency of use.

5. *Data security and privacy issues.* Protecting the personal data of students and teachers from leakage and abuse is necessary. It is crucial to ensure that educational institutions comply with regulatory requirements for data protection and confidentiality.

6. *Resistance to change and cultural barriers.* Some teachers and administrators may resist changes in teaching practices associated with introducing new technologies. There is a need to create a culture of innovation and to train staff to change and adapt to new technologies.

Identifying these barriers and challenges allows us to ascertain the obstacles that impede the successful integration of new technologies into the educational process and devise strategies to overcome them. It enables educational institutions to more effectively harness the potential of digital innovations to improve the quality and accessibility of education.

Successful integration of technologies into the teaching process requires not only the implementation of new tools but also the development of a digital transformation strategy. In this context, we present practical recommendations for educational institutions to optimise the use of technology in the teaching process (Table 2).

Table 1. Practical Recommendations for Educational Institutions to Optimise the Use of Technology in the Educational Process

Recommendation	Description
Developing a digital transformation strategy	<ul style="list-style-type: none"> <li>▪ to create a team in order to develop and implement a digital transformation strategy that includes management, teachers and IT specialists,</li> <li>▪ to set clear goals and priorities for integrating technology into the learning process.</li> </ul>
Staff training and support	<ul style="list-style-type: none"> <li>▪ to educate and train staff on the use of new technologies and learning platforms,</li> <li>▪ to provide ongoing technical support to faculty and staff on the use and configuration of equipment and software.</li> </ul>
Infrastructure and equipment	<ul style="list-style-type: none"> <li>▪ to ensure the availability and reliability of the technical infrastructure, including network equipment, computing resources and Internet access,</li> <li>▪ regularly update hardware and software to meet current security requirements and standards.</li> </ul>
Developing digital learning materials	<ul style="list-style-type: none"> <li>▪ to invest in the development and adaptation of digital learning materials, including interactive lessons, online courses and multimedia resources,</li> <li>▪ to maintain a library of digital learning materials and update it regularly.</li> </ul>
Ensuring data security	<ul style="list-style-type: none"> <li>▪ to develop and implement a data security policy that protects the confidentiality and integrity of student and staff information,</li> <li>▪ to train staff on the rules of processing and storing confidential data.</li> </ul>
Learning and adapting best practices	<ul style="list-style-type: none"> <li>▪ to analyse the experience of other educational institutions and companies that successfully integrate technology into the learning process and learn from their successes and failures,</li> <li>▪ to cooperate with other institutions and industrial partners to share knowledge and experience.</li> </ul>
Monitoring and evaluation	<ul style="list-style-type: none"> <li>▪ to evaluate the effectiveness of technology in the learning process and compare the results with the goals set,</li> <li>▪ to use feedback from students and teachers to continuously improve approaches to the use of technology.</li> </ul>
Stimulating innovation and a culture of learning	<ul style="list-style-type: none"> <li>▪ to encourage and support initiatives and research of technology use in education among teachers and students,</li> <li>▪ to create incentives and rewards for innovators and successful use of technology in the learning process.</li> </ul>

The recommendations encompass a wide range of aspects, from staff training and data security to developing digital learning materials and promoting innovation in education. They will assist educational institutions in optimising the use of technology in the educational process and making education more effective, accessible, and interactive for students.

## 5 Discussion

The analysis of research by Altawalbeh et al. (2023) allows for the understanding of the factors that significantly impact learners' readiness to accept and use digital tools in education. It may include aspects of convenience, technology accessibility, usage skills, and attitudes towards them. Batsurovska (2021) examines the possibilities of integrating MOOCs into the educational process and proposes technological approaches to students acquiring competencies in a digital media environment. It can serve as a foundation for discussions on the efficacy of such learning formats and the obstacles and potential solutions, given that technologies can facilitate students' development of

essential skills. The work of Chen and Du (2023) provides an opportunity to discuss the advantages and challenges of creating and utilising such platforms in higher education and their impact on the accessibility of learning materials and collaboration between students and teachers. The research by Liu et al. (2020) gives a foundation for examining the advantages and challenges of utilising virtual reality in learning, particularly in industrial education and training. Research by Liu, Fan, and Wang (2022) may facilitate a discussion on the potential of big data to create interactive learning environments and personalised learning. A discussion of these research aspects can assist in understanding the current state of technology use in modern education and identifying key challenges and prospects for further development.

## 6 Conclusions

Integrating technology into the educational process is an essential component of modern education. The use of technology can significantly expand the accessibility and quality of

education. However, successful technology integration requires financial investments, staff training, and the development of relevant policies. Data security and confidentiality of information must be considered when using educational technologies. Despite the challenges and obstacles, innovative approaches and best practices can significantly improve the learning process. The successful integration of technology into education requires active collaboration and experience-sharing among educational institutions. It is essential to continually support ongoing research and evaluation of the effectiveness of technology use to refine the educational process. The continued development of technological infrastructure and staff training in using new tools and methods play a crucial role in ensuring the success of educational institutions. Overall, integrating technology into education opens up broad opportunities for enhancing the educational process and preparing students for the challenges of the modern world. The effective use of technology in education is a necessary step towards creating more flexible, accessible, and quality educational systems.

The future research prospects in applying technology to education present a wide range of opportunities for expanding knowledge and improving practices, including more profound research on the impact of specific technologies, such as virtual reality, artificial intelligence, and blockchain, on the educational process and student outcomes.

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## ENHANCING FINANCIAL INCLUSIVITY AND ACCESSIBILITY OF FINANCIAL SERVICES THROUGH DIGITAL TECHNOLOGIES

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**Abstract:** This article presents an overview of the role of digital technologies in improving financial inclusion and accessibility to financial services. It analyses the current state of financial inclusion in different regions, identifies critical issues and challenges faced by excluded population group, and examines specific digital technologies actively used to enhance financial inclusion. The article reviews successful cases where digital innovations have been used to increase the accessibility of financial services for different population groups in developed countries. Based on a literature review and analysis of practical examples, it is found that digital technologies play a crucial role in improving access to financial services for broad segments of the population, particularly in areas with insufficient financial infrastructure. However, while digital technologies offer significant advantages, some challenges require further research and consideration in strategy development. These include cybersecurity, data confidentiality, and inequality of technology access. Therefore, it is essential to develop inclusive strategies that address the needs of all population segments while ensuring data security and confidentiality. This statement aims to create a financial environment that is more equitable and inclusive, promoting both economic growth and social development.

**Keywords:** digital economy, digital technologies, financial inclusion, financial security, risks, innovative technologies.

### 1 Introduction

Digital technologies are transforming the financial sector, providing opportunities to enhance financial inclusion and accessibility of financial services. They are changing how people interact with financial services and offer unique opportunities to expand access to financial resources, even in remote areas. In the era of the digital revolution, mobile applications, internet banking, digital wallets, and blockchain technologies have become integral parts of the financial infrastructure. They ensure convenience, speed, and efficiency in carrying out financial transactions. Therefore, banking and financial institutions must adapt to new technological trends to meet user expectations and ensure proper access to financial resources for all segments of society. This article examines the role of digital technologies in strengthening financial inclusion and expanding the accessibility of financial services. It also identifies the potential of these technologies in creating a more equitable and efficient financial system.

Despite significant achievements in digitising the financial sector, the issue of financial exclusion remains relevant for millions of people worldwide. This problem encompasses the inability of specific population groups to access essential financial services, such as bank accounts, loans, insurance, and investments. Several factors, including limited financial literacy, traditional cultural barriers, lack of formal documentation, low-income levels, and distance from banking institutions, cause financial exclusion. This issue is especially prevalent in developing countries, where a significant portion of the population lacks access to financial services due to underdeveloped banking infrastructure and socio-economic constraints. Digital technologies have the potential to solve many problems, but they can also create new barriers, particularly for those without internet access or the means to use digital tools. Therefore, enhancing financial inclusion through digital technologies requires a comprehensive and balanced approach. This article analyses the current state of financial exclusion, identifies the role of digital technologies in overcoming it, and discusses possible strategies and solutions to ensure broader and more equitable access to financial services for all members of society (Krysovaty et al., 2024).

This article aims to analyse the role of digital technologies in enhancing financial inclusion and increasing access to financial

services. It considers the positive and negative aspects of the financial industry's digitalisation and identifies practical strategies for using technology to overcome barriers.

To achieve this goal, the article provides for the following objectives:

- 1) To analyse the current situation with financial inclusion in different regions of the world to identify the main problems and challenges excluded groups face.
- 2) To identify the digital technologies currently being actively used to enhance financial inclusion and their advantages and limitations.
- 3) To review successful cases of using digital innovations to increase the accessibility of financial services for different groups of people, including both developed and developing countries.
- 4) To consider potential challenges and risks associated with using digital technologies in the financial sector, such as cybersecurity, data privacy, and the exclusion of those without access to the Internet or lacking the necessary skills.
- 5) To propose strategies and recommendations for public and private organisations on effectively using digital technologies to increase financial inclusion, including measures to ensure accessibility, training and financial literacy.

### 2 Literature Review

We classify recent studies and publications based on the following research categories.

*Financial inclusion and digital technologies.* This group of studies examines the role of digital technologies in enhancing financial inclusion. Senou et al. (2019), Vasanthagopal and Raj (2021), Vardomatskya et al. (2021), Svitlaumenkova et al. (2019), Rwiririza (2022), Nasriddinova (2021), Chernyakov and Chernyakova (2018), Suprun et al. (2021), Wang (2018), and Wang (2021) analyse the dynamics of financial inclusion and the availability of information on banking products, identifying effective strategies and approaches in different regions of the world.

*Risks and threats in the digital economy.* This group of studies focuses on analysing the risks and threats associated with digital technologies in the financial sector. Reshetnikova and Magomedov (2020), Reshetnikova et al. (2021), Kirishchieva et al. (2021), Akbarov and Khomidov (2023), Andreeva et al. (2021), Dostov et al. (2019), Chernyakov and Chernyakova (2018) discuss aspects of cybersecurity and technological risks in the digital economy, which helps to understand the challenges of implementing digital financial technologies.

*Innovation and transformation in the digital economy.* This group of studies reveals the impact of the digital economy on innovation in the financial sector. Muzyka-Stefanchuk (2019), Medvedovskyi (2019), Varlamova et al. (2020), Axunova (2021), Markova and Starodubtseva (2018), and Wang (2018) analyse the transformation of financial technologies in the digital economy and identify new opportunities for innovation in the financial sector.

*Technology and financial security.* This group of studies discusses technologies and methods for ensuring financial security in the digital economy. Andreeva et al. (2021), Dostov et al. (2019), Olga (2021), and Wang (2021) examine aspects of financial security and the role of digital technologies in preventing financial risks.

*Education and digital literacy.* This group of studies addresses the impact of digital technologies on education and the development of digital literacy in the financial sector.

Denysenko and Petrivsky (2020) and Batsurovska et al. (2021) explore learning and skill acquisition methods in digital financial technologies.

### 3 Methods that have been applied

Since this article is a review and analysis of existing research and practical examples, the research methods include:

- Literature review. The authors analysed academic articles, organisational reports, government publications, and other sources on the role of digital technologies in financial inclusion as part of this research method.
- Case study analysis. Successful cases involving the use of digital innovations to increase the accessibility of financial services for different population groups in different regions of the world were considered.
- A systematic approach to data analysis. A systematic analysis of available information was used to identify the main problems, challenges, and benefits of adopting digital technologies in financial inclusion and discuss potential risks and development prospects.
- Synthesis and generalisation of results. Based on the analysis, conclusions were drawn, critical aspects for further

discussion were highlighted, and recommendations for improving financial inclusion using digital technologies were proposed.

The research methods applied in this article allowed us to provide a comprehensive review of existing literature and practical examples, formulate relevant conclusions and recommendations for further research, and implement practical measures for financial inclusion.

### 4 Research results

Financial inclusion provides access to financial services for all population segments, including bank accounts, loans, insurance, and investments. Despite significant efforts in various world regions, numerous challenges still need to be solved, complicating the full integration of all population groups into the financial system. An analysis of the current situation regarding financial inclusion in different regions of the world will be conducted. The main problems and challenges faced by excluded population groups will be identified. The key issues and challenges in different regions will be examined in Table 1.

Table 1. Main Issues and Challenges Faced by Excluded Populations in Different Regions

Issues	Challenges
<b>Developing countries</b>	
<i>Lack of banking infrastructure</i>	Many areas in developing countries need access to financial institutions due to underdeveloped banking infrastructure.
<i>Low level of financial literacy</i>	Many people need help understanding the benefits and opportunities provided by financial services and cannot use them effectively.
<i>Limited access to technology</i>	Lack of access to the Internet and digital technology creates barriers to using digital financial services.
<b>Developed countries</b>	
<i>Financial exclusion of migrants and refugees</i>	Restrictions on access to bank accounts and loans create barriers to the financial inclusion of migrants and refugees.
<i>Inequality in access to financial services</i>	Certain social groups, such as young people, pensioners and people with disabilities, may have difficulty accessing financial services due to various factors, such as low income or limited access to education.
<b>Global challenges</b>	
<i>Cybersecurity and data privacy</i>	Cybersecurity threats can be a severe barrier to digital financial services, especially for those needing more confidence in protecting their data.
<i>Inaccessibility of financial services to rural and remote areas</i>	Access to financial services in rural and remote areas remains limited due to inadequate infrastructure and high service costs.
<i>Financial fraud and deception</i>	Lack of regulation and consumer protection can increase financial fraud and deception incidents, expanding distrust in financial institutions.

Source: Compiled by the author.

Financial inclusion is a complex task that requires a comprehensive and balanced approach to overcome challenges and ensure equal access to financial services for all.

Digital technologies are crucial in enhancing financial inclusion by providing new opportunities for accessing financial services, even for those previously excluded from traditional banking. Some of the most widely used digital technologies will be considered in this context.

Mobile banking applications are becoming increasingly popular among users worldwide. They enable customers to perform various banking operations directly from their mobile devices, including transfers, bill payments, and financial status monitoring. Advantages include ease of use and 24/7 availability. However, limited access to mobile devices and insufficient technical literacy may create barriers to using this technology (Desyatnyuk et al., 2024).

Internet banking platforms allow customers to manage their finances through a web-based interface. It is beneficial for those who have access to the Internet but prefer to use a computer

instead of a mobile device. The benefits include convenience and flexibility, but some limitations may arise due to incomplete internet availability in some areas.

Digital wallets, or electronic money, enable users to store and transfer money through mobile devices or the Internet. They are frequently used in developing countries where many people need bank accounts but own mobile phones. Digital wallets' advantages include accessibility and convenience. However, limitations may arise due to the unavailability of services in some areas or technical constraints of mobile networks.

Blockchain technology enables the creation of decentralised financial systems, including cryptocurrencies and smart contracts. This technology's advantages include decentralisation and transparency, which are especially beneficial for individuals excluded from traditional financial systems due to limitations associated with bank accounts or property rights. However, there may be limitations due to insufficient regulation and high volatility in cryptocurrency prices.

Digital technologies offer convenient and accessible financial services, even those previously excluded from traditional banking systems. However, barriers to using these innovations exist, such as limited technology availability or lack of financial literacy. Therefore, to successfully implement financial inclusion, it is necessary to develop strategies that address these limitations and provide support and education for those who may encounter difficulties using digital technologies.

Studying successful cases of using digital innovations to enhance the accessibility of financial services provides important lessons and examples of how digital technologies can be effectively applied to strengthen financial inclusion. Several successful cases from different regions of the world are considered in Figure 1.



Figure 1. Successful Cases where Digital Innovation Has Been Used to Increase Access to Financial Services and Enhance Financial Inclusion

Source: Compiled by the author.

**M-Pesa - Kenya.** M-Pesa has dramatically improved access to financial services for those previously excluded from the banking system, particularly in rural areas. It enables individuals to make payments, receive salaries, pay bills, and obtain microloans. M-Pesa has been successfully implemented in Kenya and other African countries, including Tanzania, Uganda, and South Africa.

**Jan Dhan Yojana - India.** The Jan Dhan Yojana has facilitated the opening of over 400 million new bank accounts, providing millions of Indians access to banking, insurance, and pension schemes. This programme has been successfully implemented nationwide and is regarded as one of the most significant financial inclusion initiatives globally.

**Chime - United States.** Chime offers access to financial services without requiring a visit to a physical bank or payment of account fees. It has gained popularity among young people and

those previously excluded from traditional banking systems, attracting millions of users in the US due to its simplicity, convenience, and transparency regarding fees.

These cases demonstrate that digital technologies can enhance the accessibility of financial services for various population groups worldwide. They highlight the significance of innovation and strategic planning in addressing financial exclusion issues successfully.

When assessing the use of digital technologies in the financial sector, potential challenges and risks, such as cybersecurity and data confidentiality, as well as the exclusion of those who lack internet access or necessary skills, must be considered. The employment of digital technologies in the financial sector presents opportunities and challenges. Figure 2 presents a detailed explanation of potential challenges and risks.

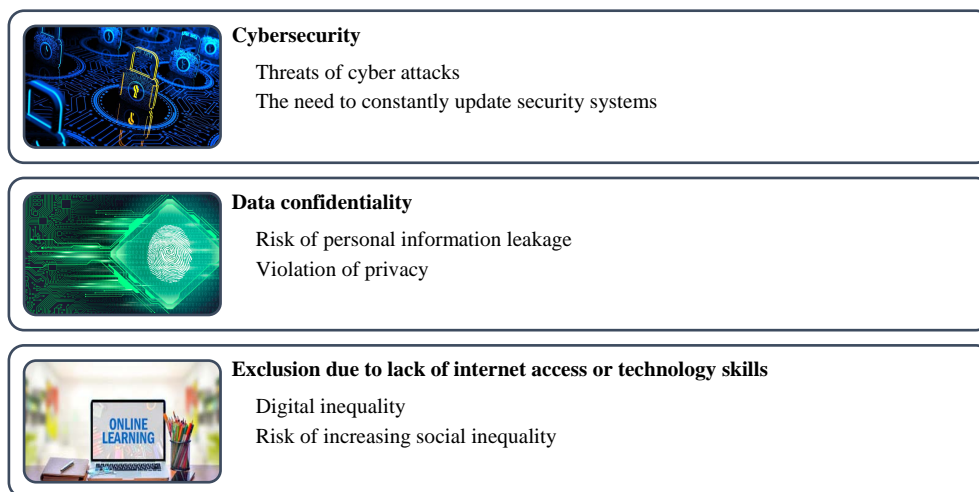


Figure 2. Using Digital Technologies in the Financial Sector: Potential Challenges and Risks

Source: Compiled by the author.

*Cybersecurity.* Financial institutions that use digital technologies are vulnerable to cyber risks, including hacks, viruses, and phishing. These risks can result in the disclosure of confidential information, financial losses, and a loss of customer trust. Due to the constant evolution of cyber threats, financial institutions must continuously improve and update their security systems, which can be expensive and time-consuming.

*Data confidentiality.* Collecting and storing large volumes of personal customer data can increase the risk of data leaks, especially in the event of cybersecurity breaches or unauthorised access to data. The desire to analyse data to provide personalised financial services can lead to breaches of customer privacy and raise ethical and legal questions.

*Exclusion due to lack of internet access or technology skills.* Certain population groups, particularly the elderly, individuals with disabilities, and those residing in remote areas may be excluded from the financial sector due to a lack of internet access or insufficient proficiency in digital technologies. If digital technologies become the primary means of delivering financial services, this could result in increased social inequality and exclusion of those unable or unwilling to use these technologies.

Comprehensive strategies are required to overcome these challenges and risks. These strategies include enhancing cybersecurity and data protection, providing digital technology education to all population segments, and maintaining alternative service channels for those without internet access or who prefer traditional methods of communication with financial institutions. This approach will help ensure a more inclusive and secure financial environment. Although digital innovations offer significant benefits, they also present challenges that require careful analysis and addressing. The effective use of digital technologies in the financial sector not only expands access to financial services but also raises important questions regarding security, data confidentiality, and inclusivity for society. Developing strategies for enhancing financial inclusion through the effective use of digital technologies requires a comprehensive approach and cooperation between government and private organisations. Specific strategies and recommendations will be considered.

#### 1. Making digital tools accessible.

- Government organisations should promote the development of internet access infrastructure in remote and underserved areas.
- Private companies in the financial sector should develop and provide simple and affordable digital products and services tailored to the needs of different population groups.

#### 2. Training and support in the field of digital technologies.

- Government programmes and private initiatives should provide free or low-cost training courses on using digital devices and applications for those with limited skills.
- Financial institutions can organise training events and webinars for their clients to improve financial literacy and understanding of digital tools.

#### 3. Improving access to financial literacy.

- Public institutions and educational organisations should include financial literacy and digital skills courses in their curricula to prepare young people and adults to use digital financial services effectively.
- Private companies can develop educational materials and resources, such as videos, articles and interactive lessons, to improve the financial literacy of their customers.

#### 4. Stimulating innovation and developing inclusive products.

- Public authorities can create incentives for private companies that develop innovative financial products to improve accessibility and inclusion of different population groups.
  - Private companies should actively research and develop inclusive financial products, considering the target audience's diverse needs and specifics.
- #### 5. Partnership and cooperation.

- Public and private organisations should actively engage in and cooperate in financial inclusion, sharing knowledge, experience, and resources to increase access to financial services for all members of society.

These strategies and recommendations can contribute to developing and implementing effective measures to enhance financial inclusion through digital technologies. It can ultimately lead to more equitable and fair access to financial resources for all population groups.

Digital technologies have enormous potential to enhance financial inclusion, providing new opportunities for a wide range of people to access financial services.

Despite the significant advantages, using digital technologies is also associated with challenges and risks, such as cybersecurity and inequality in internet access and technology skills. Therefore, developing comprehensive strategies that consider these challenges and risks is essential. Additionally, it is crucial to ensure the availability of education and support for all population segments. To achieve broader access to financial services, government and private organisations should collaborate and invest in developing infrastructure and innovations in the digital sphere. The support and development of digital technologies should be based on data protection, confidentiality, and customer security principles. At the same time, it is essential to actively develop programs that enhance financial literacy and digital skills training to ensure the successful adoption of digital innovations among all members of society. In the future, we expect further development and integration of digital technologies into the financial sector with the growth of technological capabilities and the expansion of internet access. The prospects for enhancing financial inclusion through digital technologies include the development of more innovative and adaptive solutions that consider the diverse needs and characteristics of different population groups. It will lead to a more equitable and inclusive financial world.

## 5 Discussion

This study investigates the impact of digital technologies on improving financial inclusion and accessibility to financial services. The findings suggest that digital technologies can expand access to financial services significantly. However, they are also associated with risks and challenges like cybersecurity and unequal access. Previous research has highlighted the significance of digital technologies in promoting financial inclusion. Our findings expand on this understanding and identify new research directions. The study contributes to comprehending the role of digital technologies in the financial sector and emphasises vital aspects that require attention in policy and strategy development. Limitations of this study include a limited scope of data and potential methodological constraints, which may affect the generalisation of results. It is vital to pay special attention to developing educational programmes that enhance digital literacy and data security, as well as the development of innovative and inclusive digital financial solutions.

## 6 Conclusions

This article presented an overview of how digital technologies can enhance financial inclusion and accessibility to financial services. It examined current challenges and risks and highlighted successful cases of using digital innovations in various world regions. Based on the analysis conducted, it is clear that digital technologies provide significant opportunities

to expand access to financial services. However, it is essential to exercise caution and manage risks appropriately. Collaboration between governmental and private organisations is necessary, as well as the development of comprehensive strategies to ensure accessibility, education, and improve financial literacy. The potential for digital technologies to promote financial inclusion is promising, particularly with the ongoing development of infrastructure, education, and innovation in the financial services sector. However, cybersecurity, data privacy, and unequal access to technology must be addressed. Addressing these challenges will require collaboration from all stakeholders and developing innovative solutions. Maintaining a balance between digital innovations and protecting users' interests and privacy is essential. The role of digital technologies in enhancing financial inclusion will continue to grow. Successful implementation of this potential will contribute to creating a more equitable and financially inclusive world for all.

Future research in digital technologies and financial inclusion should focus on assessing the impact of specific digital innovations on different population groups and their financial behaviour. Additionally, it is crucial to investigate the effectiveness of various training and support strategies for enhancing digital literacy and accessibility of financial services.

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**Primary Paper Section: A**

**Secondary Paper Section: AH**

## EXAMINING THE INFLUENCES ON INDIVIDUAL JOY AND PROSPERITY AND THE CULTIVATION OF POSITIVE PERSONAL CHARACTERISTICS

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**Abstract:** Forming personal happiness and well-being is a complex process that may encompass various issues and challenges, especially when the goal is personality development. The research aims to identify and examine the factors that affect a person's well-being and happiness and the development of positive personality traits. A critical analysis of scientific publications on personality formation and development was conducted. The review evaluated views on individual happiness and well-being, considered critical positions in the philosophy of well-being, and highlighted methodological approaches to diagnosing levels of happiness and well-being. A group of countries was selected for correlation analysis to determine the relationship between life satisfaction and GDP per capita. It is widely accepted that a high GDP contributes to personal well-being, but it is not the sole determinant. This study outlines the similarities and differences between happiness and well-being. Additionally, it has been found that possessing positive personality traits can aid in managing life's challenges, enhance quality of life, and facilitate successful interactions with others. To promote personal happiness and well-being, it is essential to cultivate self-awareness, develop skills for managing emotions, establish clear goals and action plans, seek support from others, and utilise available resources for personal growth and self-actualisation. Furthermore, it is crucial to learn to accept changes as an integral part of life and leverage them for personal development.

**Keywords:** happiness, life satisfaction, optimism, personality, psychology, spirituality, well-being, concept of 'happiness', linguistic picture of the world, conceptsphere, literary discourse.

### 1 Introduction

Personal happiness and well-being encompass various aspects of an individual's life, including physical and emotional well-being. It pertains not only to health and material wealth but also to the satisfaction derived from personal relationships, self-realisation, development, and achieving one's goals.

Balancing various aspects of life, including work, leisure, social connections, physical health, education, and spiritual development, is crucial to attaining personal happiness and well-being. Maintaining a positive outlook on life, appreciating small joys, and being grateful for what one has are essential.

Each person has a perception of what brings them happiness and contentment. For some, a successful career means satisfaction; for others, harmonious relationships with loved ones or the opportunity to pursue creative inclinations may be more fulfilling. It is necessary to be attentive to one's needs and open to discovering what brings joy and pleasure.

### 2 Literature review

Various approaches exist in the scientific literature for defining 'personal happiness' and 'well-being.' Philosophical works have been written by authors based on their reflections, aimed at enriching, stimulating, and challenging notions of life. In a world where people seek new ideas and sources of meaning, 'the art of living' demonstrates the value of philosophy and shows that it is a tremendous untapped resource (Vernon, 2014). M. Prinzing proposes a new approach called 'conceptual engineering' that combines the traditional philosophical approach, which undervalues empirical research, and the theoretical-empirical approach, which underestimates normative theorising (Prinzing, 2021). Analytical studies were conducted on human well-being from the perspective of moral philosophy under the scheme 'moral obligation - human suffering'. The studies indicated that

reducing suffering should take priority over promoting and enhancing well-being (Hofmann, 2024).

The authors provide a theoretical understanding of the current concept of the "conceptsphere" in cognitive linguistics, offer its definition as proposed by various researchers, analyse a range of its contextual synonyms, and clarify the relationships in which they may coexist.

The issues of optimism in forming personal happiness were also considered (Larson et al., 2010). Happiness is central in ethical and political philosophy, including mainstream theories such as utilitarianism. Recent research in happiness science and psychology has gained attention, and governments are investing millions of dollars to promote it (Michalos & Alex, 2014). The book 'The Philosophy of Well-Being' presents a critical analysis of various theories of well-being aimed at professionals in psychology, policy, and sociology (Fletcher, 2016).

Some authors argue that the concept of 'individual well-being' should be approached from four perspectives: subjectivist, objectivist, pluralist, and QSH (Cohen Kaminitz, 2020). A universal definition of well-being has been proposed based on the salutogenic approach, which defines it as a state of positive feelings. This definition emphasises that, despite global challenges, well-being should be considered more than just the absence of pathology (Simons & Baldwin, 2021). Several assessment tools and surveys have been developed to measure happiness, such as the OHQ (Moeinaddini et al., 2020). The technology of happiness proposes that income, personal values, and the philosophy of life (PVPL) are means of producing happiness (Sherman et al., 2021). A study by Jung (2020) examined the impact of social capital on personal happiness among service sector employees. The author generalises scientific research on the concept of happiness within an interdisciplinary framework, which will help refine the understanding of the category, define its universal descriptors, and form the basis for outlining the components of the socio-cultural phenomenon of happiness.

Currently, the empirical approach dominates, which does not involve evaluating happiness in the context of general social existence based on a fundamental knowledge framework.

The government's approach to well-being policy raises the question: Should policymakers prioritise fundamental theories of well-being, such as hedonism and the objective list theory, or should they instead opt for formal theories of well-being satisfaction utility? (Kwarciński, 2019) Scholars have noted that the rapid pace of scientific and technological progress blurs the boundaries between work and personal life, leading to uncertainty and tension. This blurring characterises our perceived situational awareness of the present moment as subjective well-being (Peiris et al., 2023). C. Frugé highlights the multidimensionality of well-being, including pluralism, constancy, variability, and metaphysical dependence (Frugé, 2021). Predictors of success in positive relationships include attachment, expected attitudes towards others, self-expression, self-esteem, life goals, and positive life outcomes (Chaika, 2020).

Research indicates that individuals with positive socio-emotional traits generally have interesting life stories and consider themselves happy (Guo et al., 2016). Education occupies a significant place in research on personal happiness and well-being. Art therapy is a psychological tool for self-regulation that utilises art and creativity. It is a psychotherapy or psychological correction, as noted by S. Hubina (2017).

This study aims to identify and analyse the factors influencing personal happiness and well-being and the development of positive personality traits in contemporary conditions.

### 3 Methods

The analysis of the impact of different factors on the individual's development, happiness, and well-being was justified using various approaches and methods. The theoretical analysis examined existing theories and research in psychology, sociology, pedagogy, economics, and other relevant sciences. The analysis identified key concepts, approaches, and trends in studying the impact of various factors on personality development, happiness, and well-being. Methodological analysis involved developing research approaches, defining variables and indicators, and addressing other methodological aspects. The meta-analysis combined the results of several studies to understand the impact of various factors on personality development, happiness, and well-being. Correlational analysis was used to establish a relationship between the gross domestic product per capita and happiness and well-being in different countries worldwide. Longitudinal studies have contributed to identifying trends in changes in happiness and well-being over time and have allowed for the determination of factors that influence these changes. Conclusions are formed based on the method of generalisation.

### 4 Research results

Numerous studies have focused on the relationship between happiness and personality. Additionally, attitudes, optimism, and challenges are believed to be essential psychological mechanisms that enable happiness and promote well-being (Snel, 2009). The results indicate that personality and values are predictors of beliefs about personal future well-being but not beliefs about global future well-being. Besides, personality has twice the variance compared to values. These findings are consistent with the existing literature on personality and well-being (Kajonius, 2021). Dvornyk (2020) highlighted five elements of personal psychological well-being: social capital, personal accountability, a sense of competence, personal goals, self-respect, and optimism.

Well-being is a crucial aspect of life. However, valuing happiness does not always lead to positive outcomes. Research suggests that the more people value happiness, the more likely

they will be disappointed, particularly when happiness is expected.

Analysing the factors influencing personal happiness and well-being is a complex task encompassing psychological, social, economic, and biological factors. Research shows that strong social connections with friends, family, and partners contribute to personal happiness and well-being. The author's perspective is that the quantity and quality of these connections can affect the overall well-being (Frugé, 2021; Gong et al., 2021; Guo et al., 2016).

However, optimists are widely believed to experience greater happiness and life satisfaction. Psychological resilience, or simply resilience, also plays a crucial role in our ability to adapt to stress and overcome obstacles. Personal happiness is closely linked to overall health, including mental and physical well-being. Engaging in physical activity, maintaining a healthy diet, and finding satisfaction in our work can all positively impact our well-being. Developing one's potential and achieving set goals can bring satisfaction and increase enjoyment in life. Individuals with a positive attitude towards themselves and the world often experience personal happiness more frequently. Mindfulness and inner harmony can contribute to this.

Further, society, culture, and our environment also significantly influence our happiness. Various factors contribute to our satisfaction and well-being, including the general economic situation, cultural values and norms, and even hereditary traits. Genetics can influence personality traits such as neuroticism and optimism, impacting overall well-being. These factors are not an exhaustive list, but they provide a general idea of the various aspects that influence personal happiness and well-being and the development of positive personality traits.

The World Happiness Report is a well-known source of data and research on life satisfaction in various countries (GR, 2020a). Figure 1 shows countries ranked according to their 'happiness score'.

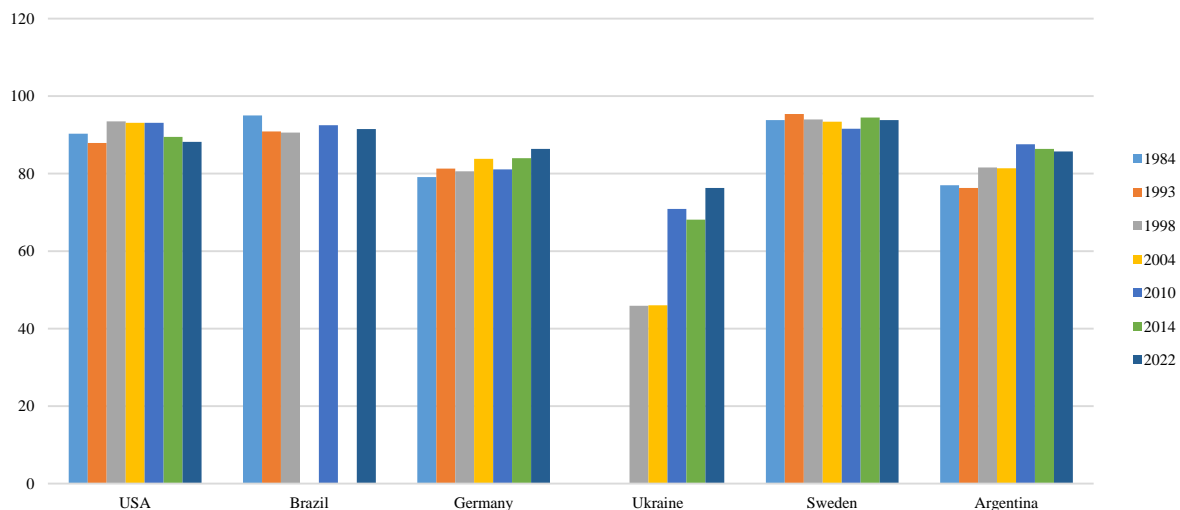


Figure 1. Percentage of People Considering Themselves Happy (1984-2022), %  
Source: (Ortiz-Ospina & Roser, 2017; Haerper et al., 2022).

Significant differences exist between countries. Recent data shows that European countries, such as Finland, Denmark, Iceland, Switzerland, and the Netherlands, have the highest scores. Conversely, Afghanistan, South Sudan, and other countries in Central Africa south of the Sahara have the lowest national indicators (GR, 2020b). The correlation between life satisfaction and other well-being indicators is evident, with

wealthier and economically developed countries typically having higher average happiness scores (WVS Database, 2022).

However, the relationship between life satisfaction and GDP per capita can be complex and ambiguous. While a higher GDP per capita can provide more material opportunities for people, positively influencing their life satisfaction, it is not always the determining factor. Figure 2 shows that overall life satisfaction



can be significantly affected by factors such as the quality of interpersonal relationships, access to education and healthcare, political stability, and corruption. personality.

In 2022, the correlation between life satisfaction and GDP per capita for the countries under study was 71.3%. Some studies have suggested that further increases in GDP per capita may diminish overall life satisfaction beyond a certain level of economic development. This phenomenon is known as the 'law of diminishing marginal utility', implying that additional GDP growth may not significantly increase life satisfaction after reaching a certain income level.

Therefore, although a high GDP per capita can improve living standards, other aspects of societal development that may influence overall life satisfaction should also be considered.

In Canada, the Community Well-being Index (CWI) measures the socio-economic well-being of Canadian communities. This index assesses the well-being of each community by combining a range of socio-economic indicators taken from the Canadian census, including education, labour force activity, income, and housing adequacy. These indicators are used to compare the

well-being of different communities in Canada. Indicator values may be unavailable for specific communities due to insufficient participation in the census, low data quality, or population size (CBW, 2024).

Psychology plays a crucial role in personality development by examining the variability of human behaviour and attitudes, which can remain stable in specific contexts and manifest in individuals (Anaya & Pérez-Edgar, 2019). Research indicates a significant correlation between positive relationships with others and personality traits, such as life processes, outcomes, and indicators of meaning. These indicators include self-expression, self-esteem, attitudes towards others' expectations, other self-concept measures and overall self-esteem and psychological resilience values. These extents indicate whether individuals perceive their lives by their desires, needs, and values. Positive relationships' success factors include affection, attitudes towards others' expectations, self-expression, self-esteem, current life goals, and positive life outcomes. According to Chaika (2020), high control focus and subordination, as psychological resilience factors, may impede the development of warm, kind, and deep relationships.

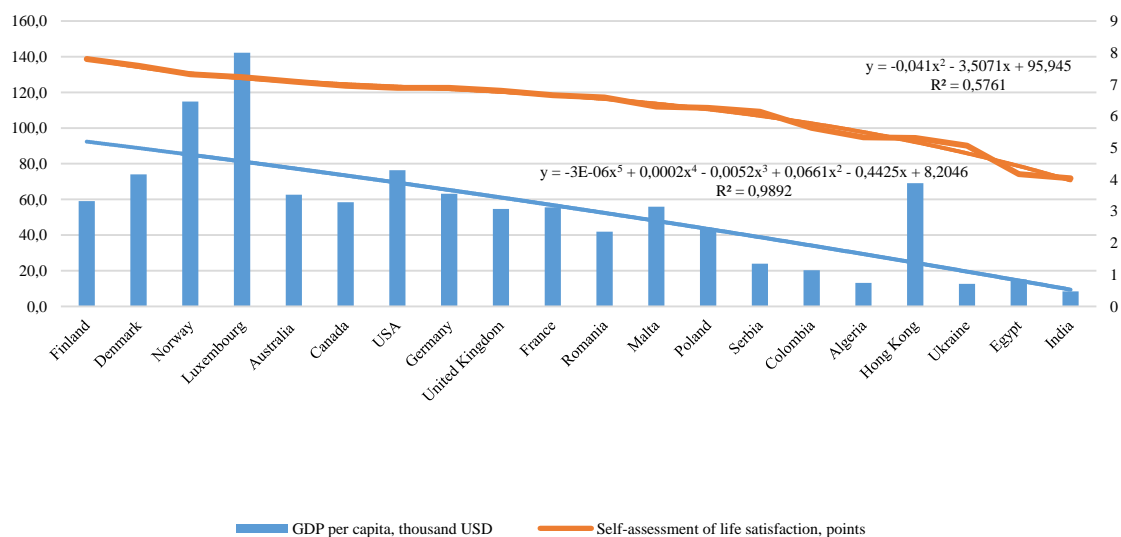


Figure 2. Ratio of Self-Assessed Life Satisfaction to GDP per capita in selected countries, 2022

Source: (Ortiz-Ospina & Roser, 2017; World Bank national accounts data, and OECD National Accounts data files, 2022).

## 5 Discussion

Analysing the factors influencing personal happiness and well-being is crucial for understanding what makes life fulfilling and stable for individuals. Researchers have identified several key factors that reflect current trends, including social relationships, work and career, financial status, health and self-care, education and personal achievements, mindset and psychological resilience, self-perception, the surrounding environment (community), and cultural context.

The impact of social connections on personal happiness is significant in terms of quality and quantity. Studies have shown that individuals with close and supportive relationships with friends, family, and partners generally experience greater satisfaction with life. In addition, job satisfaction and career opportunities also play a crucial role in personal happiness. It is essential to have a high level of stimulation, opportunities for development, fairness, and a balance between work and personal life to ensure well-being in the workplace. Although money cannot directly buy happiness, financial stability and the ability to provide for oneself and one's family's basic needs are vital for personal well-being.

Physical and mental health are critical factors for happiness and well-being. To ensure this, it is crucial to maintain proper nutrition, engage in regular physical activity, and pay attention to one's emotional and mental state. Achieving personal goals, learning, and personal development can bring significant satisfaction and a sense of accomplishment.

The linguistic picture of the world is a subjective image of objective reality, as each person uniquely reproduces the world. It represents a complex of linguistic means that reflect the features of ethnic perception of the world. Language, through the meaning of words, represents the object of the objective picture of the world and, in its entirety, conceptualises it. The linguistic picture of the world reflects reality perceived by consciousness in verbal forms. At the same time, the conceptosphere is a collection of concepts that exist in the minds of language speakers. In language, not only the real world surrounding a person is reflected, but also the national character of the people, morality, value system, worldview, mentality, way of life, traditions, habits, and vision of the world. Therefore, the study of concepts and conceptospheres requires considering the cultural diversity of the world.

The ability to adapt to changes, psychological resilience, and effective emotional management can help individuals cope with

challenges and stress, contributing to personal happiness. Realistic self-acceptance and expectations also promote happiness. The personal happiness and well-being of an individual can be influenced by various factors, including the environment in which they live, such as cultural and social aspects. Perception of values, norms, and community support can also play a significant role in determining well-being. It is important to note that these factors may have varying levels of impact on individuals depending on their unique characteristics and life circumstances.

Personal well-being is a multifaceted concept encompassing various aspects of an individual's life. The main factors determining personal well-being are physical and mental health, social relationships, emotional well-being, self-realisation, and financial stability.

Physical health is a crucial aspect of well-being, which includes proper nutrition, regular physical activity, sufficient sleep, and preventive medical check-ups. Psychological and emotional resilience are crucial for overall well-being. Interpersonal

connections have a significant impact on our well-being. It includes the capacity to manage stress, regulate emotions, and maintain healthy relationships. Family, friends, and community support can foster a sense of belonging and happiness. The cultivation of positive emotions such as joy, gratitude, and satisfaction, as well as the ability to express emotions and be in harmony with one's goals and values, are essential for overall well-being. The ability to develop one's potential, set and achieve goals, and feel fulfilled in life is crucial. Moreover, financial stability, meeting basic needs, and having the opportunity to enjoy life's luxuries are vital factors.

These factors are interrelated and can affect each other. For instance, a lack of social support can lead to a decline in mental health, while physical inactivity can impact emotional well-being. Achieving complete well-being requires balancing these aspects of life. Happiness and personal well-being are often linked but have unique characteristics. Consider the commonalities between happiness and personal well-being as social personality traits (Figure 3).

<b>Social relationships</b>	<b>Self-realisation:</b>	<b>Mental health</b>
<ul style="list-style-type: none"> <li>• It is important to interact with other people, maintain social connections and a sense of belonging</li> </ul>	<ul style="list-style-type: none"> <li>• Having the opportunity to develop your potential and achieve your personal goals is important for happiness and well-being</li> </ul>	<ul style="list-style-type: none"> <li>• Emotional stability and the ability to manage stress are crucial for happiness and well-being</li> </ul>

Figure 3. Common Characteristics of Happiness and Well-Being  
Source: compiled by the author

Happiness is a positive emotion or feeling that arises from experiencing joy, satisfaction, or triumph. In turn, well-being is a

broader concept that encompasses happiness and the overall quality of our lives (Figure 4).

<b>Focus on emotions and pleasure</b>
<ul style="list-style-type: none"> <li>• Happiness is usually more focused on emotions and positive feelings, while well-being can also include stability and security.</li> </ul>
<b>Spirituality and the meaning of life</b>
<ul style="list-style-type: none"> <li>• Well-being may be more related to a sense of purpose and meaning in life, while happiness may be more about moments of pleasure.</li> </ul>
<b>Physical health and financial situation</b>
<ul style="list-style-type: none"> <li>• While physical health is an integral aspect of happiness and well-being, well-being can also include material prosperity and stability.</li> </ul>
<b>Self-awareness and satisfaction</b>
<ul style="list-style-type: none"> <li>• Well-being may be more related to feelings of satisfaction with one's life and self-awareness, while happiness may be more associated with moments of emotional joy.</li> </ul>

Figure 4. Differences between Personal Happiness and Well-being  
Source: compiled by the author

Although these concepts have differences, they often intertwine in a person's life and complement each other. We agree with the author that happy people manage to magnify the degree of their happiness, while unhappy people tend to exaggerate the decline in their happiness (Mauss et al., 2011). We believe that happiness and well-being are not the same thing. Happiness is a part of well-being, but well-being encompasses many factors, such as satisfaction, control over one's life, and fulfilment from relationships.

Most individuals rate their lives on a seven-point scale and report being 'satisfied'. According to scientists, happiness is an improvement in one's emotional state from the previous day. Therefore, happier individuals tend to overestimate their happiness over time. Interestingly, those who rate their lives as a three and are less happy are likelier to underestimate their

happiness. For instance, unhappy individuals are 20% more likely to minimise their level of happiness, while only 10% of them overestimate their level of happiness.

Additionally, researchers have discovered a direct correlation between past and present happiness. Happier individuals are more likely to recall that their lives were more reasonable. Scientists suggest this research helps comprehend why happy individuals approach new experiences with a more positive outlook, assess risks more optimistically, and even live longer. It is impossible to always be at the peak of happiness, but we can increase our happiness by appreciating and accepting our past happiness (Simons, Baldwin, 2021).

The cultivation of positive personality traits is a crucial factor in attaining personal happiness and well-being. Positive traits aid individuals in dealing with life's challenges, improve their

quality of life, and facilitate success in social interactions. Table 1 outlines some of the most significant positive personality traits

and methods for their development.

Table 1. Key positive personality traits and ways to develop them

Trait	Trait characteristics
Optimism	Belief in your ability to cope with difficulties and see the positive in the situation around you. To develop optimism, it is practical to keep a gratitude diary, focusing on the positive aspects of your life and expressing gratitude for them.
Resilience	Resilience is the capacity to recover from stressful events and difficulties. Learning coping strategies, strengthening social connections, and practising stress reduction techniques such as meditation and deep breathing are helpful ways to evolve resilience.
Self-discipline	People can achieve their goals and manage their time and resources. Setting specific goals, developing action plans, and implementing daily routines help develop self-discipline.
Empathy	Empathy permits people to understand and sympathise with others, improving the quality of interpersonal relationships and promoting social harmony. Strengthening sympathy requires active listening, compassion, and understanding of other people's perspectives.
Self-confidence	It helps people feel confident and effective in various areas of life. Setting small, achievable goals and gradually expanding one's comfort zone is valuable.
Tolerance	Tolerance allows people to understand and accept the diversity of other people and cultures. Studying different cultures, communicating with different people, and showing respect for differences are helpful in strengthening tolerance.

The traits discussed improve the quality of life and contribute to personal happiness, as well as helping to create a more harmonious and prosperous society.

## 6 Conclusion

Forming personal happiness and well-being can be challenging, mainly when the aim is personal development. Issues that may arise in this process include a lack of understanding of one's needs and values, a lack of purpose, stress and negative emotions, low self-esteem and confidence, fear of change, and a lack of support and resources. To tackle these issues, it is crucial to enhance self-awareness, cultivate emotional regulation skills, establish precise objectives and corresponding action plans, seek assistance from others, and use available resources for personal development and self-actualisation. Moreover, it is essential to acknowledge change as an inherent aspect of life and learn to utilise it for personal growth.

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**Primary Paper Section: A**

**Secondary Paper Section: AN**

## EXPLORING GLOBAL MUSICAL DIVERSITY: ANALYSING THE FUSION OF STYLES, GENRES, AND TRADITIONS IN MODERN MUSIC

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**Abstract:** The topic is relevant in the current globalised and digitalised environment, where music is becoming an increasingly important tool for preserving cultural diversity and fostering mutual understanding. This research aims to examine the mechanisms of cross-cultural music interactions and identify the key factors that contribute to them. Research methods include comparative, content, historical, and system analysis. The findings show that cross-cultural interactions in music contribute to creating new musical forms, enriching the world's musical heritage and strengthening cultural ties despite the existing obstacles and challenges. In the context of the rapid development of digital technologies and global connectivity, music has become a powerful tool for connecting different cultures and strengthening cultural ties. The article examines the factors that facilitate the successful integration of musical cultures, identifies potential challenges in this process, and emphasises the importance of respecting cultural expression diversity and protecting musical traditions' authenticity in globalisation and digitalisation. Migration and Diaspora: Cuban music in the United States led to the creation of a new genre—salsa, which combines Cuban and American music elements. Technology and Globalisation: Virtual collaborations, such as the partnership between Norwegian DJ Kygo and American singer Selena Gomez, demonstrate how digital technologies facilitate the creation of joint musical projects. Fusion and Eclecticism: Jazz fusion, popularised by Miles Davis, combines elements of jazz, rock, funk, and R&B, creating new musical forms and enriching the global musical heritage. Intercultural Exchange: The international WOMAD festival, founded by Peter Gabriel, promotes cultural exchange and collaboration between musicians worldwide. Cultural Adaptations: Brazilian baile funk, which originated in the favelas of Rio de Janeiro, is an example of adapting American funk and hip-hop to traditional Brazilian music, creating a unique musical genre.

**Keywords:** cultural diversity, music, understanding, globalisation, digital age, cultural traditions, cultural exchange, socio-cultural relations, cultural diplomacy.

### 1 Introduction

The distinctions between styles, genres, and traditions are becoming increasingly indistinct in the contemporary musical world. The process of musical creation has become inextricably linked with cross-cultural interactions, which have the effect of enriching the musical landscape with a diversity of influences. This article examines how musical styles, genres, and traditions interact globally. The research encompasses several projects combining musical cultures and adapting traditional motifs into contemporary sounds. It helps to elucidate how these interactions shape the modern musical landscape and reflect the global cultural heritage. Contemporary music is distinguished by the interweaving of diverse genres and styles, resulting in novel hybrid forms. Genres such as jazz (which emerged in the early 20th century), rock (which appeared in the 1950s), and ethnic music (which originated in ancient times) mix, giving rise to fusion (which occurred in the late 1960s) and crossover genres (which arose in the 1970s).

Integrating traditional musical elements, such as folk melodies and rhythms, with modern technologies, such as synthesisers and digital sound processing, has led to innovative genres, including electronic folk music and ethno-techno. Combining vocal and instrumental techniques from different cultures (e.g., throat singing, flamenco guitar, African drums) enriches the musical palette. The influence of globalisation and digital technologies has accelerated this process, making music more accessible and diverse. For example, the number of streaming platform users has been increasing by 30% annually. The topic's relevance is because the musical environment becomes a platform for intensive cross-cultural interactions in the context of globalisation and the development of digital technologies. As a consequence of this process, musical practices are enhanced, and novel forms of musical terminology emerge, integrating elements from diverse cultural traditions.

The musical environment developed in the context of globalisation and the rapid advancement of digital technologies has fostered intensive cross-cultural interactions. These processes enrich musical practices and the emergence of new forms of musical expression that integrate elements from various cultures. Nevertheless, alongside the aforementioned positive changes, there are also several challenges, such as the risk of losing cultural authenticity and identity. The primary challenge lies in comprehending the impact of cross-cultural interactions on the perpetuation of cultural traditions, the evolution of musical styles, and the formation of musical identity in a global context. The contemporary musical landscape encompasses many genres and styles, including jazz, rock, ethnic, classical, and pop music and their numerous subgenres. The intertwining of these genres and styles, such as jazz fusion and ethno-fusion, as well as multi-genre projects, results in the creation of unique musical hybrids.

The impact of technologies and globalisation accelerates the interaction process, making music accessible to a broad audience and promoting further development. Furthermore, it is essential to acknowledge that cross-cultural music interactions can have positive and negative consequences. On the one hand, these interactions contribute to creating new musical forms and enrich the global musical culture. On the other hand, there is a risk of commercialisation and standardisation, which could result in the loss of unique cultural traits and the authenticity of musical traditions.

Consequently, it is imperative to devise methodologies and frameworks that mitigate potential risks and accentuate the beneficial aspects of cross-cultural interactions in music. It is of the utmost importance to create conditions conducive to preserving and protecting cultural heritage and supporting innovations and experiments that will facilitate the evolution of musical genres and styles. The findings of this research will assist in elucidating the intricate dynamics occurring within the contemporary musical milieu and formulating efficacious strategies for fostering cultural exchange and collaboration on a global scale.

This study aims to examine cross-cultural interactions in contemporary music to understand their impact on preserving cultural traditions, developing musical styles, and shaping musical identity globally.

The following tasks are set to achieve this goal:

1. To analyse the mechanisms of cross-cultural music interactions and identify key trends and factors that contribute to these interactions.
2. To study the consequences of cross-cultural interactions for different cultures and their musical traditions and identify this influence's positive and negative aspects.
3. To analyse the processes of adapting and mixing musical genres and styles in the context of the global communication network and identify the main trends in this process.
4. To offer recommendations for preserving cultural diversity and strengthening mutual understanding through music in the global digital era.

By analysing these tasks, we aim to gain a more comprehensive understanding of music in the modern world and its impact on shaping the cultural landscape of the global community.

### 2 Recent research and publication analysis

#### 2.1 Current trends and methods in music education.

Roza A. Valeeva, Balwant Singh, Gulnara Ibragimovna Batyrshina, and Nelya Nurgayanova (2022) describe creating a multi-method platform for music educators, considering cultural

diversity through online competitions. Olena Batovska, Natalia Hrebenuk, and Hanna Savelieva (2020) analyse 20th-century Italian vocal and choral music as a phenomenon of artistic traditions, emphasising the importance of understanding the development of Italian musical culture. The research by Ľacov Inna (2020) offers a typology of violin concert music genres with classification criteria, helping to systematise and understand the diversity of genres and styles of violin music. The study by Sandra E. Trehub, Judith V. Becker, and Iain Morley (2015) presents cross-cultural perspectives on music and musicality, which is vital for understanding the universal traits of musical practice and its impact on human behaviour and culture. Yuliya Kaplienko-Iliuk (2021) examines the process of forming a hierarchy of styles in musical art. This research contributes to understanding musical styles' evolution and influence on cultural dynamics. The study by Peter Vuust, Ole Adrian Heggli, Karl J. Friston, and Morten L. Kringelbach (2022) addresses the predictive coding of music and cross-cultural frameworks, contributing to understanding cultural transformation in musical practice.

Modern trends in music education include adapting contemporary methods and technologies for vocal training in the context of Ukrainian cultural traditions, creating a multi-method platform for music educators to consider cultural diversity, and analysing the hierarchy of styles in musical art. These studies emphasise the importance of cross-cultural perspectives and their impact on developing musical styles and practices.

## 2.2 Integrating traditional musical elements into contemporary practice

Nalin Shen (2021) explores the integration of Chinese opera traditions into new musical compositions, allowing an understanding of how traditional elements of Chinese music can be adapted and incorporated into contemporary musical practice. Tatiana Filatova (2021) examines modern reconstructions of genre traditions in Chilean guitar music, helping to understand the evolution of musical styles and their impact on cultural identity. Vadym Danylets (2020) analyses the characteristics of Hutsul music in the structural and stylistic context of folklorism, highlighting the unique features of the Hutsul musical tradition and its place in the context of Ukrainian culture. Saibjon Begmatov (2018) studies the national heritage of Uzbek music and its development in the modern context, emphasising the unique features of Uzbek musical culture and its influence on contemporary musical practice. WU Peng (2023) researches the cross-cultural effect of alerts in traditional Chinese music, highlighting the relationship between musical form and cultural context. Xin Wang, Yu-Jia Wei, Lena Heng, and Stephen McAdams (2021) conduct a cross-cultural analysis of the influence of timbre on the perception of emotions in music in the context of Western classical music and Chinese musical traditions, allowing an understanding of differences in the perception of musical parameters in different cultural contexts. Kaztuganova, A. Zh., Omarova, A.K., Stamgazyev, R.O., Karomat, D. F., & Nurbaeva, D. R. (2021) study ethnomusical aspects of music, ethnophore, and ethnography, helping to understand the relationship between musical practice and cultural context.

Integrating traditional musical elements into contemporary practice allows for preserving cultural identity and promotes the evolution of musical styles. The studies emphasise the importance of cross-cultural interaction in forming new musical forms and enriching global musical heritage.

## 2.3 Cultural evolution and cross-cultural studies of music

Patrick D. Savage (2019) investigates the cultural evolution of music, emphasising the importance of understanding the processes of change and development in musical practice amidst cultural shifts. Bobro N. (2024) explores digital aspects and the use of artificial intelligence in the digital environment, shaping an understanding of educational advancements, particularly in music. Arantxa Vizcaino-Verdú and Crystal Abidin (2021)

examine cross-cultural approaches to notifications in TikTok music challenges, highlighting the role of social media in shaping musical culture and identity. Katherine O'Toole and Emóke-Ágnes Horvát (2023) study innovation and cultural evolution in contemporary popular music, emphasising the processes of cultural transformation in the music industry. Patrick D. Savage and Shinya Fujii (2022) provide a cross-cultural framework for the predictive coding of music, emphasising universal patterns in musical evolution and perception. Chris Chambers (2023) presents evidence of cross-cultural regularities in music and speech, highlighting universal musical and linguistic traits in different cultural contexts. Shlomo Dubnov, Kevin Huang, and Cheng-i Wang (2021) work on cross-cultural analysis using musical information dynamics, underscoring the relationship between musical structures and cultural context. Liliya Niemtsova (2021) investigates the history of specific musical movements in Ukraine in the 20th century, highlighting the development of Ukrainian musical culture and its impact on the global music scene.

Cross-cultural music studies underscore the significance of cultural evolution and transformation in the music industry. They reveal universal patterns in musical evolution and the impact of social media on the formation of musical culture and identity. These studies contribute to a deeper understanding of the processes of change and development in musical practice amidst cultural shifts.

## 2.4 Popular music and its interaction with other art forms

László Tóke (2020) reviews the book "Popular Music and the Moving Image in Eastern Europe", highlighting the importance of studying the relationship between popular music and cinema in the context of Eastern Europe. Anna Stoll Knecht (2021) examines the relationship between music and clowning in Europe in the 20th and 21st centuries, underscoring the role of music in theatre and performance art. Olga Zosim (2019) presents a historical typology of sacred music in the Christian tradition, highlighting the importance of understanding the development and evolution of musical forms in a religious context.

Research on popular music and its interaction with other art forms underscores the importance of studying the relationship between musical genres and cultural contexts. These studies cover musical styles' evolution, historical development, and their role in theatre and religious art. Identified patterns help better understand music's influence on cultural identity and artistic expression. Therefore, the literature analysis concludes that respect and understanding cultural contexts in cross-cultural interactions are essential for preserving the richness and diversity of musical culture.

## 3 Research methods

The following theoretical research methods are used in this article:

- *Comparative analysis*: comparing and contrasting data on musical genres and styles from different cultural contexts. It reveals similarities and differences in approaches to musical creativity and helps to understand how cross-cultural interactions influence the development of musical traditions.
- *Content analysis* involves studying song lyrics, musical compositions, and cultural contexts. It helps identify cross-cultural musical works' main themes and motifs and understand how they reflect cultural interactions. For example, an analysis of 20th-century jazz and blues songs in the United States shows how these genres reflected the social and cultural changes of the time.
- *Historical analysis* studies the evolution of musical styles and genres in the context of historical events and cultural change. It provides insight into how cross-cultural interactions have influenced musical traditions in the past and how they continue to influence them in the present. For example, a study of the influence of African rhythms on

American music in the nineteenth and twentieth centuries demonstrates how these interactions shaped unique musical genres such as jazz and blues.

- *Systemic analysis* considers musical interactions within a broader cultural exchange system. It helps understand how different elements (musical styles, genres, cultural practices) are interconnected and interact, forming a holistic picture of musical exchange globally.
- Using these theoretical methods, we can profoundly and comprehensively explore cross-cultural interactions in music, identify critical mechanisms and trends, and offer recommendations for preserving cultural diversity and strengthening mutual understanding through music.

#### 4 Research results

Cross-cultural interactions in music are complex and multifaceted processes encompassing a range of mechanisms,

trends, and factors. Music has become an essential instrument for cultural exchange and interaction in the context of globalisation and the development of digital technologies. Migration and diaspora, technological advancements and global communications, fusion music and eclecticism, intercultural exchange and cultural adaptation shape a unique musical environment that fosters the interpenetration and synthesis of different musical traditions and styles. This text examines the fundamental mechanisms that facilitate cross-cultural interactions in music and analyses their impact on contemporary musical practice.

The mechanisms of cross-cultural interactions in music encompass many processes and phenomena influenced by various factors. To gain a deeper understanding of these processes, it is necessary to consider some of the fundamental mechanisms, trends, and factors that contribute to them.

Table 1. Mechanisms of Cross-Cultural Interactions in Music

Mechanisms	Examples
1. <i>Migration and diaspora.</i> Musical traditions migrate with people, creating opportunities for interaction and fusion of different cultural elements. The diaspora plays a vital role in preserving and transforming musical traditions.	<ul style="list-style-type: none"> <li>• <i>Cuban music in the United States.</i> At the beginning of the 20th century, many Cubans migrated to the United States, especially New York City, bringing musical genres such as rumba and son. The interaction of Cuban musicians with American musicians led to the development of salsa, a new genre combining Cuban and American music elements.</li> <li>• <i>Reggae and ska in the UK.</i> In the 1950s and 1960s, many Jamaicans migrated to the UK, bringing genres such as reggae and ska. These musical trends have significantly impacted British pop and rock music, contributing to the development of genres such as British ska and two-tone reggae.</li> <li>• <i>Flamenco in Latin America.</i> Spanish migrants brought flamenco to Latin America, blending with local musical traditions to create new forms and styles, such as rumba flamenco in Cuba and Argentina.</li> </ul>
2. <i>Technology and globalisation.</i> With the development of digital technologies and global communications, music has become more accessible and widespread. It allows musicians and artists to interact and collaborate more efficiently, regardless of geographical and cultural boundaries.	<ul style="list-style-type: none"> <li>• <i>Virtual collaborations.</i> Platforms like YouTube and SoundCloud allow musicians worldwide to collaborate and create joint projects. For example, Norwegian DJ and producer Kygo collaborated with American singer Selena Gomez, even though they were on different continents, to create the hit song 'It Ain't Me'.</li> <li>• <i>Online concerts and festivals.</i> In the context of the COVID-19 pandemic, many musicians and bands have organised online concerts and festivals, such as Global Citizen's 'One World: Together at Home', which featured artists from around the world, including Lady Gaga, The Rolling Stones and Billie Eilish.</li> <li>• <i>Streaming services.</i> Platforms such as Spotify and Apple Music provide users access to music from different cultures and genres, helping to spread world music and discover new artists. For example, the Korean pop group BTS has achieved global success due to the popularity of their music on streaming platforms.</li> </ul>
3. <i>Fusion and eclecticism.</i> Fusion music and eclecticism contribute to the fusion of different musical genres, styles, and traditions. It can happen at the level of performance and instrumentation, as well as at the level of compositional structure and musical content.	<ul style="list-style-type: none"> <li>• <i>Jazz fusion.</i> This genre emerged in the late 1960s, combining elements of jazz with rock, funk and R&amp;B. One of the pioneers of jazz fusion was Miles Davis with his album 'Bitches Brew' (1970), which became a landmark example of mixing jazz and rock music.</li> <li>• <i>Afrobeat.</i> This genre, popularised by Nigerian musician Fela Kuti, combines traditional African rhythms with jazz, funk and highlife elements. Afrobeat has become an essential trend in world music, influencing various modern genres.</li> <li>• <i>Latin American rock.</i> This genre combines elements of traditional Latin American music with rock. The band Santana, led by Carlos Santana, is a prime example, mixing rock with Latin rhythms and melodies in songs such as 'Oye Como Va'.</li> <li>• <i>K-Pop.</i> Korean pop music (K-pop) combines elements of Western pop, hip-hop, rock, and electronic music with Korean traditional music. Bands like BTS and Blackpink have popularised this genre internationally, demonstrating an eclectic music-making approach.</li> </ul>
4. <i>Intercultural exchange.</i> The encounter of cultures and the exchange of musical ideas and practices contribute to developing new musical sounds and trends. Intercultural exchange can occur through concerts, festivals, recordings and digital platforms.	<ul style="list-style-type: none"> <li>• <i>WOMAD (World of Music, Arts and Dance) Festival.</i> This international festival, founded by Peter Gabriel, is held in different countries and brings musicians worldwide together. WOMAD promotes cultural exchange by providing a platform for artists such as Youssou N'Dour from Senegal and Nusrat Fateh Ali Khan from Pakistan.</li> <li>• <i>Playing for Change</i> is a music project that brings together street musicians from different countries to create joint recordings and videos. One of the most famous examples is the interpretation of the song 'Stand by Me,' which involved musicians from the USA, South Africa, India, and other countries.</li> <li>• <i>Cultural programmes and residencies.</i> Programmes such as the Red Bull Music Academy provide a platform for musicians worldwide to share their ideas, collaborate, and learn from each other. They contribute to developing new musical trends and the mutual enrichment of cultures.</li> <li>• <i>Collaborations between musicians.</i> British singer and songwriter M.I.A. has collaborated with musicians from different cultures, including Diplo and AR Rahman, to create eclectic tracks that combine Western and Eastern musical elements.</li> </ul>
5. <i>Cultural adaptations.</i> Musical traditions adapt to new conditions and contexts. It can lead to the formation of new genres and styles	<ul style="list-style-type: none"> <li>• <i>Electronic dance music (EDM) and traditional instruments.</i> In recent years, many EDM producers have integrated traditional instruments into their tracks. For example, Swedish DJ and producer Avicii used elements of folk music in his song 'Wake Me Up', creating a unique sound that combines electronic beats with acoustic guitars.</li> </ul>

and the reinterpretation and transformation of traditional musical practices.	<ul style="list-style-type: none"> <li>• <i>Brazilian baile funk</i> originated in the favelas of Rio de Janeiro and is an adaptation of American funk and hip-hop mixed with traditional Brazilian music. Baile funk has become an important cultural phenomenon that reflects Brazilian communities' lives and cultures.</li> <li>• <i>Hip-hop and African traditions</i>. In South African hip-hop, traditional sounds and languages are integrated. Die Antwoord uses elements of South African culture, including the Afrikaans language and traditional rhythms, to create a unique style.</li> <li>• <i>Neo-soul</i> is an adaptation of soul and R&amp;B influenced by modern hip-hop and jazz. Artists such as Erykah Badu and D'Angelo use elements of classic soul, mixing them with modern sounds and rhythms to create a new genre.</li> </ul>
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The following key trends have been observed in cross-cultural interactions in music: the growth of multicultural creativity, an increase in fusion projects, the expansion of the audience for world music, and greater attention to issues of cultural diversity and socio-cultural integration.

Cultural openness, tolerance, respect for differences, technological innovations, and information exchange contribute to these interactions. Nevertheless, it is also essential to consider the potential risks and challenges associated with the loss of authenticity, commercialisation, and cultural appropriation.

It is crucial to acknowledge that the positive and negative consequences of cross-cultural interactions in music can manifest in distinct ways in various contexts and across different cultures. The positive outcomes of cross-cultural interactions in music include enriching musicians' creative potential and creating new opportunities for cultural expression. It results in an expansion of the audience and draws attention to lesser-known cultures and musical traditions. However, negative aspects can include the loss of uniqueness and authenticity of musical genres and styles and the creation of unequal conditions for representatives of different cultures on the global stage.

In the context of the global communications network, the processes of adaptation and blending of musical genres and styles exhibit novel characteristics and dynamics. One of the most notable trends is the accelerated pace and heightened intensity of the exchange of musical ideas and influences. This phenomenon gives rise to the emergence of novel hybrid forms of musical expression, which combine elements from many genres and cultural traditions. An essential aspect of this process is the diversity of sources of inspiration, which include traditional musical genres and ethnic traditions, as well as contemporary popular trends and electronic music. This musical eclecticism reflects the diversity of cultural contexts and allows for creating unique soundscapes.

Another notable trend is the use of technology in adapting and blending genres and styles. Digital recording and music production tools have facilitated sound experimentation and the creation of new sound effects, thereby expanding the possibilities for creativity and innovation.

Nevertheless, alongside these positive aspects, there are also challenges. For instance, the unregulated blending of cultural elements may dilute originality and authenticity within musical traditions and the potential for cultural exploitation. Consequently, adapting and blending musical genres and styles in the context of the global communications network reflect the complex dynamics of cultural and technological interaction, influencing the formation of the contemporary musical landscape and enriching humanity's cultural heritage.

The successful interaction between musical cultures is critical in enriching and diversifying the musical landscape. Fostering openness and tolerance towards the diversity of cultural

expressions is paramount in creating an environment conducive to cultural dialogue and cooperation. The education and understanding of the musical traditions of other cultures facilitate mutual understanding and inspire collaborative creativity. Joint musical projects and initiatives, supported by digital technologies and communications, present a unique opportunity for musicians from different cultures to learn from and inspire each other. Cultural festivals and events serve as platforms for the convergence of musicians and audiences from disparate cultural backgrounds, facilitating the exchange of experiences and ideas within the domain of music.

The factors that contribute to the successful interaction of musical cultures are presented in Figure 1.

Here are some factors contributing to the successful interaction of musical cultures.

#### *Education and understanding:*

- World music courses at universities: Many universities, such as Harvard and Oxford, offer world music courses. In these courses, students learn about different cultures' musical traditions, which helps reduce cultural barriers and stimulate dialogue.

#### *Co-creation and projects:*

- Paul Simon's album *Graceland*, created in collaboration with South African musicians, demonstrates the successful co-creation and synthesis of Western and African musical traditions.

#### *Cultural festivals and events:*

- Glastonbury Festival: This British festival invites musicians from different countries and genres, creating a platform for cultural exchange and understanding.
- South by Southwest Festival (SXSW): Held in Austin, USA, the festival brings together musicians, filmmakers and technologists worldwide to promote cultural exchange and collaboration.

In addition to the factors that facilitate the successful interaction of musical cultures, potential obstacles can complicate or hinder this process (Figure 2). Language and cultural barriers can impede the ability of musicians from different cultures to comprehend and interact with one another. Historical and political conflicts can have a detrimental effect on the relationship between cultures and complicate the process of intercultural cooperation in music. Cultural appropriation and the loss of authenticity can give rise to dissatisfaction and protest from cultural communities that are sensitive to preserving their cultural heritage. Furthermore, economic and structural obstacles can impede musicians from different cultures' access to resources and opportunities, thereby creating unequal conditions for collaboration.



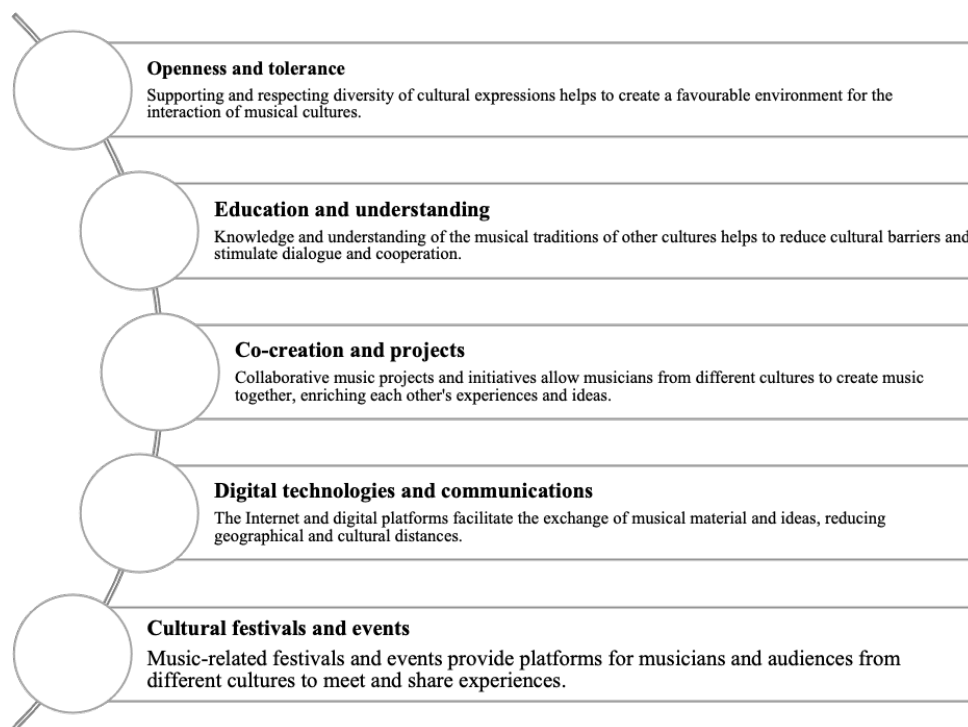


Figure 1. Factors Contributing to the Successful Interaction of Musical Cultures

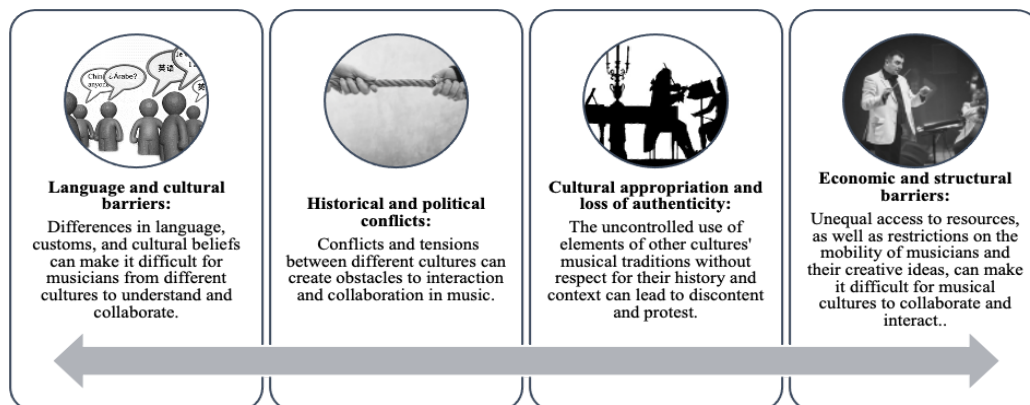


Figure 2. Potential Barriers to Successful Interaction of Musical Cultures

Here are some negative examples of cross-cultural mixing.

#### *Cultural appropriation in popular music:*

- *Katy Perry and Asian motifs.* In her performance at the American Music Awards in 2013, Katy Perry used images and costumes inspired by Japanese culture. This performance drew criticism for cultural appropriation, as many felt it used Japanese cultural elements superficially and without due respect.
- *Coldplay and Beyoncé's music video 'Hymn for the Weekend'* features elements of Indian culture, including traditional clothing and religious symbols. Many have criticised the video for exoticising and superficially using Indian cultural elements without a deep understanding of their meaning.

#### *Commercialisation and loss of authenticity:*

- *K-pop and the change in traditional music.* Korean pop music (K-pop) is widely popular around the world. However, at the same time, some traditional Korean musical elements are being changed and adapted to suit Western musical preferences. It can lead to the loss of original sound and the importance of traditional Korean music.

- *Commercialisation of reggae.* Reggae, which originated in Jamaica, has become popular all over the world, but the commercialisation of the genre has led to a change in its original sound and content. Many modern reggae artists adapt their music to the preferences of a broad audience, which sometimes leads to simplification and loss of the genre's uniqueness.

#### *Misconceptions and stereotyping:*

- *The use of African motifs in Western music.* In some cases, Western musicians use African rhythms and instruments but present them in stereotypical ways and without a deep understanding of the cultural context. It can lead to the creation and dissemination of simplistic and distorted representations of African music and culture.
- *Ethnic elements in the fashion industry.* Ethnic costumes and accessories are often used in music videos and on stage, which can lead to exoticisation and stereotyping. For example, the use of Native American headdresses as a fashion accessory in music videos has drawn criticism for disrespecting the cultural significance of these items.
- Cross-cultural mixing can enrich the musical palette, but it is essential to do so with respect and understanding of the cultural context. Misuse of cultural elements can lead to

appropriation, commercialisation and stereotyping, negatively affecting cultural relations and losing authenticity. Therefore, it is crucial to approach cross-cultural mixing with caution and respect for cultural traditions and the significance of the elements used.

For the successful interaction of musical cultures, it is necessary to consider and overcome these obstacles. It can be achieved through supporting education, raising awareness, creating platforms for cultural exchange, and ensuring respect for cultural traditions and differences. Addressing these issues promotes the creation of a more inclusive and prosperous musical landscape where the diversity of cultural expressions is valued and supported.

The following recommendations can be made to preserve cultural diversity and foster mutual understanding through music in the global digital age (Table).

Table 2. Recommendations for Preserving Cultural Diversity and Strengthening Understanding through Music in the Global Digital Age

Recommendations	Description
Promoting education and awareness	Supporting programmes and initiatives aimed at teaching and understanding the diversity of musical cultures promotes respect for differences and reduces cultural stereotypes.
Supporting music projects and initiatives	Financial and organisational support for collaborative music projects and exchanges will allow musicians from different cultures to meet and collaborate, strengthening cultural understanding.
Creating digital platforms for music sharing	Developing and supporting online platforms for exchanging music recordings, videos, and ideas helps spread the musical heritage of different cultures and increase access to it.
Organising cultural events and festivals	Organising cultural events, festivals and concerts dedicated to different musical traditions creates opportunities for musicians and audiences from different cultures to meet and exchange experiences.
Supporting and protecting authenticity	It is essential to ensure respect for the authenticity and integrity of musical traditions of different cultures and to prevent their commercialisation or distortion by the influence of popular culture.

Implementing these recommendations can help to preserve cultural diversity and foster mutual understanding through music in today's digital world.

## 5 Discussion

In the contemporary era, music is a pivotal medium for cultural exchange and interaction between disparate communities and cultural groups. Research on cross-cultural interactions in music indicates that contemporary music education and practice trends play a pivotal role in preserving and transforming musical traditions. For instance, T. O. Kulaha (2020) underscores the significance of adapting contemporary music education methodologies in the context of Ukrainian cultural traditions, prompting deliberations on the universality and cultural specificity of educational approaches. Studies by Nalin Shen (2021) demonstrate how traditional Chinese musical elements can be integrated into modern compositions, raising questions about the preservation and transformation of cultural traditions in the context of globalisation.

An analysis of the impact of timbre on the perception of emotions in music, conducted by Xin Wang and colleagues (2021), highlights the importance of cultural contexts in the perception of musical parameters. It prompts debate about how musical characteristics can be universal in different cultural contexts and how cultural features influence musical preferences and perceptions.

Blending different musical styles, genres, and traditions creates new musical forms and directions, enriching the global music culture. For example, jazz fusion and Afrobeat demonstrate how various musical elements can be combined to create unique genres. Jazz fusion, which emerged in the late 1960s, combines elements of jazz with rock, funk, and R&B, creating a new sound and expanding the boundaries of traditional jazz. Afrobeat, popularised by Fela Kuti, is a musical genre that blends African rhythms with jazz and funk elements. It has influenced contemporary musical trends and contributed to the development of the global music scene.

Nevertheless, while cross-cultural interaction can yield positive outcomes, it can also give rise to challenges such as cultural appropriation and the erosion of cultural authenticity. Examples of this phenomenon include the use of Asian motifs in Katy Perry's performances and the integration of Indian elements in Coldplay and Beyoncé's music video "Hymn for the Weekend," which was criticised for the superficial and disrespectful use of cultural symbols.

Consequently, research indicates the significance of respecting and comprehending cultural contexts in cross-cultural interactions. Mixing musical styles and genres creates unique forms, enriching global musical culture. Nevertheless, it is of the utmost importance to consider the potential risks associated with cultural appropriation and the loss of authenticity to preserve the richness and diversity of the musical heritage of different cultures.

## 6 Conclusion

The research findings indicate that cross-cultural interactions in music play a significant role in creating new musical forms and enriching global musical culture. The influence of globalisation and digital technologies accelerates the processes of musical exchange, making music more accessible and diverse. Despite the expectation that cultural interactions would be exclusively positive, the research has also identified risks of losing authenticity and cultural identity. The novelty of the results lies in the detailed analysis of the mechanisms of cross-cultural interactions, such as migration, diaspora, technologies, and globalisation, as well as fusion and eclecticism. The study's practical significance is in the potential application of its findings for developing strategies to preserve cultural diversity and support cultural exchange. During the research, we encountered limitations related to access to primary sources and the insufficient representation of some cultural traditions in digital archives. It indicates the necessity for further research in this field.

Based on the data, educational programmes should be developed to enhance cultural awareness and mutual understanding. Initiatives that promote cross-cultural musical projects should be supported. Promising directions for further research include an in-depth analysis of the impact of digital technologies on musical traditions and the study of the role of social networks in shaping musical preferences and cultural interactions.

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#### Primary Paper Section: A

#### Secondary Paper Section: AL, AM

## EXPLORING MUSIC EDUCATION AND INDUSTRY WITHIN UKRAINE'S MODERN CULTURAL LANDSCAPE AND BEYOND

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**Abstract:** The article examines the adaptation and impact of music education and the industry on cultural processes in Ukraine and abroad. The article analyses new educational methodologies, the development of professional skills for musicians and teachers, and the music industry's impact on cultural consumption and the preservation of musical heritage. In the context of globalisation and increased cultural interactions, music education and the industry face challenges and opportunities related to the loss of uniqueness of national musical traditions and the need to adapt to contemporary conditions. This article aims to develop effective strategies for music education and the industry in light of the current cultural and technological realities. It also seeks to comprehensively analyse the impact of modern cultural and technological changes on music education and the music industry in Ukraine and the world. Furthermore, the research aims to identify optimal strategies for integrating national musical traditions into the global cultural space. The article discusses the following tasks: researching the current state and main trends in music education and the industry; analysing the impact of globalisation on the preservation and development of national musical traditions; evaluating the role of new technologies in music education and production; studying changes in music consumption and their impact on the music industry; and developing recommendations for adapting music education and the industry to contemporary conditions. The tasks above are designed to facilitate the development of an efficacious strategy for music education and the industry that considers the contemporary world's ever-evolving cultural and technological milieu.

**Keywords:** music education, music industry, music culture, music art, cultural space, creativity, integration, music professional activity, music manager, producer, musician's career

### 1 Introduction

In the contemporary world, where cultural distinctions are becoming increasingly indistinct, music education and the industry are acquiring new significance. They cease to be mere cultural heritage elements and become active participants in cultural dialogue, thereby influencing the global cultural space. This article will examine how music education and the industry adapt and impact cultural processes in Ukraine and the world. It will explore the latest research and trends in this field. This article will pay particular attention to integrating new educational methodologies, developing professional skills for musicians and teachers, and the music industry's impact on cultural consumption and preserving musical heritage.

The study aims to provide a comprehensive analysis of the impact of modern cultural and technological changes on music education and the music industry in Ukraine and the world, as well as to identify ways to integrate national musical traditions into the global cultural space optimally.

To achieve this goal, the article identifies the following tasks:

1. To investigate the current state and main trends in music education and industry, including an analysis of national and international educational programmes.
2. To analyse the impact of globalisation on the preservation and development of national musical traditions, identifying the main challenges and opportunities for music education institutions and the industry.
3. To assess the role of new technologies in music education and production, exploring how digital innovations can contribute to the development of musical art.
4. To study changes in music consumption and their impact on the music industry, especially in the context of digital distribution and streaming services.
5. To develop recommendations for adapting music education and industry to modern conditions, ensuring sustainable development and interaction with global music culture.

6. These tasks aim to create an effective strategy for music education and industry that considers the modern world's dynamically changing cultural and technological environment.

### 2 Literature review

The analysis of the latest publications and studies can be categorised as follows:

*Integration and innovation in music education.* Meng (2019) explores the integration of multicultural music education in colleges. Li (2022) analyses the heritage and innovation in national musical culture in education.

*Professional training and development of music teachers.* Pereverzieva (2019) examines the concept and content of the professional culture of future music teachers. Kozhevnikova, L. M. (2019) researches the musical-educational activities of teachers of musical arts.

*The impact of the music industry on cultural consumption.* Agudelo et al. (2022) study the music industry's influence on the determinants of cultural consumption of live music.

*Methodological approaches.* Research into cultural consumption and the music industry can be found in the works of Doris Lilia Andrade Agudelo et al. (2022), who analyse the music industry and factors of cultural consumption of live music in Colombia. De-Miguel-Molina and Doménech (2021) explore music from the perspective of intangible cultural heritage in the music industry. Pedagogical strategies in music education are highlighted in the works of Oleksiuk and Koval (2020), where they use hermeneutic analysis of musical works to develop the methodological culture of future music teachers. Kulikova (2021) analyses the structural components of the creative development of future teachers of musical arts.

Vidulin and Kazic (2021) employ a cognitive-emotional approach to music listening in professional education in the context of empirical research. Chen and Meng (2019) investigate the legacy of local musical culture in education. Recklies (2021) considers approaches to classical music in music education in the context of theoretical research. Jin (2022) offers reflections on music education and musical aesthetics.

*Geographic coverage.* Research with an international context is led by Yang (2019), who discusses promoting national musical culture in music education in China. De-Miguel-Molina & Doménech (2021) analyse music as part of intangible cultural heritage. Studies focusing on national aspects are conducted by Revenko (2021), in which education and musical culture are considered in Web 2.0, emphasising changes in learning and perception of music. Wolffenbüttel (2020) studies music education and folk music, highlighting the significance of preserving cultural traditions.

*The role of art and aesthetics in music education.* Zhang (2018) explores aesthetic education in vocal training. Rong Jin (2022) reflects on music education and musical aesthetics, emphasising the importance of aesthetic education.

*Technology in music education.* Zhou (2020) investigates models of music education using computer music technologies. Tanglin (2020) discusses the potential of media education in the professional training of music teachers. Cherkasov (2021) explores the festival movement and its role in music education, studying the formation of musical-aesthetic culture of future music arts teachers through the festival movement.

*Specific aspects of music education.* Bremmer (2023) researches the perception of inclusive music education in higher education

institutions. Marchenko (2022) considers integrating Ukrainian music education into the global music education system.

*Cultural heritage and national identity in music education.* Li Sun (2021) explores integrating traditional musical culture into vocal music training in colleges and universities. Yang (2019) discusses ways to promote national musical culture in university music education. Cvetkovic et al. (2019) study the preferences of student musicians in the context of fostering intercultural education. They analyse how music university students perceive and choose world music within their educational process. This research helps to understand how music education can contribute to a broader cultural understanding and interpenetration.

### 3 Methods

In the field of investigating the effectiveness of information and communication technologies (ICTs) in the pedagogical process, the following methods are applied to study and analyze their impact on learning and the performance of education seekers:

#### 1. Quantitative research:

- Statistical analysis: the use of statistical methods to analyze data on applying information and communication technologies, such as frequency of usage, time spent with the technologies, and the interconnection between the use of ICT and academic outcomes.
- Meta-analysis: the collection and synthesis of data from multiple studies to assess overall trends and the effectiveness of using information and communication technologies on a broader scale.

#### 2. Qualitative research:

- Interviews: conducting structured or semi-structured interviews with teachers, education seekers, and administrators to understand their perceptions and experiences regarding the use of information and communication technologies.
- Observation: direct observation of the use of information and communication technologies in classrooms and educational institutions to assess how these technologies influence pedagogical methods and classroom interaction.

### 4 Results

To explore the current state and main trends in music education and industry, it is essential to start by reviewing available data and research to identify critical aspects and dynamics of change in this area. The following areas will be focused on:

- global trends in music education (integration of digital technologies and online learning; development of interdisciplinary programmes combining music with other arts and sciences; approaches to learning oriented towards strengthening cultural diversity and inclusiveness);
- current changes in the music industry (the impact of streaming services and digital distribution on the music market; changes in monetisation methods for artists and producers; development of live music performances and festivals after the COVID-19 pandemic);
- innovations and new directions in music culture (development of hybrid music genres and collaborations between artists of different cultures; the role of music education in supporting sustainable development and social initiatives).

In the current study of music education and the industry, the following key trends have been identified:

1. *Integration of technology in music education.* Schools and educational institutions are increasingly implementing technology in the teaching of music. It includes electronic musical instruments, music creation software, and online learning and collaboration platforms. These tools allow

students to experiment and develop creative skills in a more interactive and modern format.

2. *Growing importance of physical media in the music industry.* Despite the popularity of digital streaming, physical media such as vinyl records remain an essential element of music culture. Artists like Taylor Swift continue to release their albums in physical format, maintaining interest in vinyl and other physical formats.
3. *Genre blending and cultural interaction in music.* The modern music scene characterises the hybridisation of genres and cultures. This is evident in trends such as the mixing of jazz, soul, and electronic music, which creates new, unique sounds. Such experiments reflect globalisation and cross-cultural exchange in the music industry.
4. *Use of AI in music.* Artificial intelligence is increasingly penetrating the music industry, assisting in creating new compositions, sound processing, and even organising live performances. It opens new possibilities for musicians and producers, allowing the creation of more complex and exciting musical works.
5. *Teaching music through creativity and design.* Music teaching is increasingly focused on developing students' creative abilities through music creation projects, using design thinking, and integrating various art forms into the educational process. These approaches are aimed at developing students' critical thinking and creativity skills.

These trends demonstrate that music education and the industry continue to evolve in response to changes in technology and culture, making them an essential element of the contemporary cultural landscape.

Globalisation significantly influences music education and the industry, presenting challenges and opportunities for preserving and developing national musical traditions. The critical aspects of this impact can now be considered (Figure 1).



Figure 1. Critical Aspects of Impact on Music Education and Industry

Source: author's research.

It is essential to consider the challenges that may arise. In the context of globalisation, there is an increasing risk of losing unique national musical traditions, as global musical styles such as pop, rock, or hip-hop can gain dominance and displace local genres. The global market frequently seeks to commercialise music, which can result in the standardisation of musical forms and the loss of cultural content inherent in national traditions. The advent of modern technologies has necessitated a shift in music production and distribution methods, with digital techniques becoming the norm. It has presented a challenge for those who are accustomed to traditional methods.

It is also vital to consider the opportunities. Globalisation and digitalisation have facilitated greater access to musical materials from diverse global sources, enabling musicians to study and integrate various styles and techniques, thereby facilitating cultural exchange and enrichment. Global platforms such as YouTube and Spotify allow musicians to promote their art internationally, thereby aiding in the preservation and popularisation of national musical traditions. Fusing disparate musical traditions can lead to the emergence of novel genres and styles, enriching the global music scene.

The impact of globalisation on music education and the industry necessitates a balance between the preservation of cultural heritage and the adaptation to a changing global context. It necessitates the development of educational programmes that consider both global trends and the need to preserve national musical identity. Several vital aspects must be considered in conducting a comparative analysis of music education and industrial practices in different cultural and geographical contexts (Figure 2).

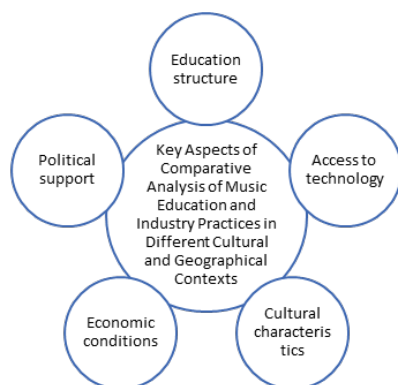


Figure 2. Vital Aspects of Comparative Analysis of Music Education and Industry Practices in Different Cultural and Geographical Contexts  
Source: author's research

**Education structure.** The structure of music education can vary between countries. For example, music education is often integrated into general education in the USA. It is available at all school levels, whereas in Europe, such as Germany, specialised music schools focus on in-depth musical education.

**Access to technology.** In developed countries, access to music technologies and equipment is significantly higher, facilitating more innovative learning methods and music production. In less developed countries, access may be limited, affecting learning methods and creativity.

**Cultural characteristics.** Each country's cultural characteristics significantly impact music education and the industry. For example, in Japan, there is a strong emphasis on classical education and the study of traditional instruments, such as koto and shakuhachi, while in Brazil, modern music and styles such as samba and bossa nova are trendy.

**Economic conditions.** A country's economic state also affects music education and the industry. Countries with a high standard of living usually have more resources available to fund musical programs and initiatives, while in poorer countries, music education may suffer from a lack of funding.

**Political support.** Political support for music education and culture also plays an important role. In some countries, such as Finland, cultural and music education is a priority of national policy, which facilitates the development and support of musical talents.

This analysis emphasises that the development of music education and the industry requires consideration of numerous factors, including each country's cultural, economic, and political aspects. These factors can significantly influence how music education is organised, funded, and promoted at various levels.

New technologies' role in music education and production is immense and varied. They significantly affect music performance, recording, and distribution. Table 1 presents the principal ways in which digital innovations contribute to the development of musical art.

Table 1. Critical Aspects of Promoting the Development of Musical Art through Digital Innovation

Key aspects	Description
Training and accessibility	Digital technologies facilitate access to music education, allowing students to study music regardless of geographic location. Online courses, virtual classrooms and educational programmes offer the opportunity to learn various musical instruments and music theory without leaving home.
Music creation tools and technologies	Modern music creation software, such as DAWs (digital audio workstations), plug-ins and synthesisers, provide musicians ample opportunities to experiment with sound. These tools make the process of creating music more accessible and democratic.
Artificial intelligence in music	AI is beginning to play an increasingly important role in music creation, helping composers and producers to create music. AI can analyse musical data and suggest variants of harmonies, melodies, and rhythms, speeding up the creative process.
Virtual and augmented reality	VR and AR technologies provide new ways of interacting with music, enabling the creation of virtual concert halls and interactive musical experiences that change how we perceive and consume music.
Automation and optimisation of production	Digital technology also plays a crucial role in optimising music recording, mixing and mastering. Automated tools allow musicians to focus on the creative aspects, reducing technical barriers.
Social interaction and music distribution	Social media platforms and streaming services facilitate broader music distribution and simplify the interaction between artists and their audiences. These platforms allow musicians to reach a global audience without signing contracts with major music labels.

Overall, new technologies expand the possibilities for musicians and composers in their creativity and provide new tools for education and cultural exchange. Technologies will transform traditional music education and production methods, making musical art more accessible and interactive for a wider audience. These changes not only enhance the creative possibilities of individual performers but also promote deeper cultural understanding on a global level.

Changes in music consumption, especially in the context of digital distribution and streaming services, have impacted the music industry. Here are the main aspects of these changes:

**Transition to streaming services.** Traditional music consumption through physical media, such as CDs and vinyl, gradually gives way to streaming platforms like Spotify, Apple Music, and others. These services offer users access to vast music libraries for a fixed monthly fee or for free with advertising.

**Revenue model shift.** Streaming has changed the ways music is monetised. Instead of a one-time purchase of an album or song, artists and labels now earn based on the number of plays, influencing marketing strategies and promoting musical works.

**Impact on music production.** Digital distribution has also changed the process of creating music. Artists can record,

produce, and release music independently, bypassing traditional music labels and facilitating the growth of independent musicians and small labels.

*Expansion of global accessibility.* Streaming removes geographical barriers, allowing musicians to reach an international audience without additional costs for distribution and promotion in different countries. It expands opportunities for artists worldwide to become recognised on the global stage.

*Changes in consumer preferences.* Digital platforms, with their recommendation algorithms, also influence listeners' musical preferences, promoting the popularity of genres and artists that might have remained unnoticed in traditional distribution settings.

These changes require the music industry to adapt to new realities, including revising strategies for audience interaction and investing in technology and data analytics to better understand consumer behaviour. Developing recommendations for adapting music education and the industry to contemporary conditions involves a series of critical strategies that facilitate sustainable development and interaction with the global music culture.

1. *Integration of technology.* Implementing modern technologies into the curricula of music institutions, such as using digital audio workstations, music creation and editing software, and platforms for online learning. It will enable students to stay at the forefront of technological progress and better prepare for the modern music industry.
2. *Global approach to education.* Expanding curricula by including the study of global musical cultures and practices. It can involve theoretical studies and practical sessions with musicians and instructors from different countries, helping students better understand and appreciate musical diversity.
3. *Collaborations and partnerships.* Encouraging international partnerships and collaborations between educational institutions and music industries. It can include exchange programs, joint research projects, and workshops, which foster cultural exchange and professional development.
4. *Sustainable practices.* Develop and implement sustainable practices in the production and distribution of music, such as using environmentally friendly materials for musical instruments and packaging and reducing waste at concerts and festivals.
5. *Support for independent artists.* Creating support programs for independent artists and small music labels may include grants, training programs, and access to recording and promoting music resources.
6. *Digital adaptation and rights protection.* Educating musicians and music producers on digital security, copyright, and the use of music in the digital environment to protect their creativity and income in the age of digital technologies.

These recommendations will help music education and the industry adapt to changes while preserving music's uniqueness and cultural significance in a globalised world.

## 5 Discussion

Integrating new technologies and methods into music education and the industry has prompted much discussion among researchers and practitioners. In their 2022 study, Agudelo and colleagues examined the music industry's influence on the cultural consumption of live music in Colombia, emphasising the role of music events in shaping cultural preferences and interactions with the audience. This research confirms the necessity for music education to adapt to the contemporary conditions of cultural consumption and interaction with the public. Conversely, Kozhevnikova's (2019) work examines the structure of professional competence among music art teachers, emphasising the significance of equipping educators with the capacity to integrate new educational technologies into the teaching process. It reveals the necessity of maintaining a dynamic approach to teaching methodologies, ensuring

alignment with contemporary technological and cultural developments. It is also essential to note Meng's (2019) research, which highlights the importance of integrating multicultural education into curricula to help students better understand and appreciate global musical diversity. It is consistent with the findings of Marchenko (2022), who discusses integrating Ukrainian music education into the global system, emphasising the necessity for global dialogue and exchange in music education. A discussion of these studies allows for a deeper understanding of how changes in the music industry and educational approaches affect the shaping of contemporary music education. It also highlights the importance of adaptation and innovation in preparing music educators and performers capable of successfully operating in a changing world.

## 6 Conclusions

In conclusion, information and communication technologies in the pedagogical process demonstrate dynamic development and significant potential for improving the quality of education. New technological solutions, such as personalized learning, mobile Music education and the industry are currently undergoing a period of significant and dynamic development. The integration of new technologies, globalisation and changes in music consumption profoundly influence how music is created, studied and disseminated. In order to facilitate the successful integration of students into the modern music industry, educational institutions and educators must be flexible and adapt to new technologies and methods. At the same time, it is necessary to respectfully treat musical traditions and cultural heritage, ensuring their preservation and development in a globalised world. The music industry should strive to create sustainable and fair working models that support artists and other industry participants, providing them with fair compensation for their creative work. It is also essential to develop new forms of music distribution that consider changes in consumer preferences and the technological landscape. In the long term, the combined impact of these changes and challenges on music education and the industry could be significant in influencing the cultural development of society. It could contribute to creating a more open and interconnected global cultural space.

In the context of further research, it would be beneficial to focus on analysing the impact of intercultural exchanges on music education in different countries. It is also advisable to study how new technologies, such as artificial intelligence and virtual reality, could transform learning and creative interaction in the music industry.

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#### Primary Paper Section: A

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## EXPLORING NEW PERSPECTIVES ON CLASSICAL COMPOSITIONS: INNOVATIVE METHODS IN MODERN PERFORMANCES AND ADAPTATIONS OF CLASSICAL MUSIC

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**Abstract:** This article is dedicated to exploring creative approaches to interpreting and reinterpreting classical musical works in modern conditions. The relevance of the research lies in its contribution to understanding and appreciating classical music in the contemporary world. Given the ongoing development of society and culture, creative approaches to the performance and adaptation of classical works take on special significance. The research reveals new ways of interpreting and understanding musical heritage and fosters the development of innovative approaches in performing arts. The article analyses various strategies and methods in modern classical music performances, including traditional interpretations and innovative experiments. It highlights the impact of these creative approaches on the perception and understanding of classical works and their role in developing the classical music tradition. Examples of the interpretation and reinterpretation of works by Mozart, Schubert, Vivaldi, and others are considered. The conclusions drawn have significant practical implications for performers and listeners, assisting them in better comprehending and appreciating musical works in a modern context. The analysis results demonstrate diverse approaches, encompassing traditional interpretations and innovative experiments. The research indicates that creative methods of performing and adapting classical works can influence listeners' perceptions and their understanding of musical works. The results suggest the potential for deeper comprehension and appreciation of musical compositions through innovative approaches. The significance of creative approaches in shaping and evolving the classical music tradition is discussed. The research highlights the necessity of innovation and experimentation in ensuring classical music's continued relevance and vitality in the modern world. The article's findings offer practical value for musicians and listeners, providing insights and opening up new possibilities for the perception and performance of classical musical works in a contemporary context.

**Keywords:** classical music, creative approaches, performance, adaptation, musical interpretation, contemporary performers, innovations in music.

### 1 Introduction

Classical music retains its significance and importance in the modern world despite the constant changes that occur within society. Classical music forms an integral part of society's cultural heritage, passed down from generation to generation and reflecting the history, traditions, and values of different eras (Fedorova, 2017; Khan, 2023). Works of classical music are often perceived as a higher form of art that provides aesthetic pleasure and emotional peace to listeners. Studying classical music develops musical literacy and broadens people's horizons. It contributes to developing creative and critical thinking (Tong, 2021). Classical music is an international language that unites people regardless of their cultural and linguistic affiliations. Performances by classical music artists create bridges between different cultures and help popularise classical music (Sagall & Sagall, 2021). Technological innovations in recent years have significantly influenced performances and concerts of classical music, providing new opportunities for their execution and making this type of art more accessible to the audience. Thanks to new technologies, traditional forms of classical music become more interactive and accessible, expanding the boundaries between stage art and music (Stefaniak, 2023). Classical music works generate new genre forms in the contemporary context, which may be designated as "classics in modern processing" (de Ruijter, 2023). In these works, classical music is performed by incorporating artificial elements and accentuating the principal melodic line through arrangement, tempo and rhythmic structure alterations, and the utilisation of voice, foreign sounds, and synthetic sounds (Agawu, 2016). These changes maintain the distinctive features of the original work while introducing a new, contemporary sound ("Toward a semiotic theory for the interpretation of classic music", n.d.). These musical

reinterpretations have been adapted according to the stylistic and artistic needs of the composers and the era. Adapting classical works depends on several factors, including musical knowledge, talent, spirituality, and the culture of the arranger. The principal tenet of any genre is its artistic value, which determines its significance within the broader cultural context and its continued existence in a historical framework. The "classical music in contemporary processing" genre emerged in the 1960s when renowned musicians and composers began incorporating classical music into the mainstream musical landscape. These artists possessed a higher level of musical education, which enhanced their capacity to create expressive and valuable musical adaptations.

In the modern world, where cultural and artistic trends constantly evolve, classical music remains one of the most critical components of our musical heritage. However, approaches to interpreting and performing classical works also change over time. The problem is exploring creative approaches to performing and adapting classical music in contemporary settings. The question arises about how contemporary performers and musicians understand, interpret, and adapt classical works and what methods they use to maintain authenticity while making their unique artistic contributions. Despite this, the possibility of interpreting contemporary compositions as a revival of classical salon works of the 19th century still needs to be well explored. Research into this issue requires an analysis of various approaches to performing classical music in a contemporary context and identifying key trends and perspectives for developing this process.

This study aims to investigate creative approaches to the performance and adaptation of classical music in modern conditions, identifying the main trends and their impact on the perception and understanding of classical works in today's musical culture.

### 2 Literature review

The article by A. Fedorova (2017) explores the formation of the communicative-applied genre "classical music in modern processing" and the functioning of academic works in mass musical culture. The reinterpretation of classical works in literature, particularly adaptations and interpretations of classical works in contemporary literary discourse, is vividly presented in the article by K. Khan (Khan, 2023). The doctoral dissertation by D. Tong investigates the reinterpretation of Beethoven's violin sonatas from 1798 to 1812 in a contemporary musical context (Tong, 2021). The work by S. Sagall and S. Sagall presents a study of classical music style in the modern world context (Sagall & Sagall, 2021). A. Stefaniak explores the phenomenon of remixes of classical music works, conceptual albums of classical music, and contemporary pianists' interpretations of the classical canon (Stefaniak, 2023). The article "Embracing the "Wrong" in Classical Music Interpretation: About Finding Balance Between Tradition and Creativity in Classical Music Performance" by de Ruijter is devoted to issues of balance between tradition and creativity in the interpretation of classical music (de Ruijter, 2023). In his book, V. K. Agawu proposes a semiotic approach to interpreting classical music (Agawu, 2016).

The theoretical foundations of the semiotic approach to the interpretation of classical music are presented in the work (Toward a semiotic theory for the interpretation of classic music, n.d.). W. E. Caplin offers a deeper understanding of how signs and symbols affect the perception and interpretation of classical music works (Caplin, 2004). The article (Palazzolo & Giombini, 2024) considers classical music as an ethical practice from a professional perspective. The article by D. M. Grozavu considers an interdisciplinary approach to music, analysing how various disciplines can interact with music and contribute to the

reinterpretation of classical works in contemporary conditions (Grozavu, 2024). In his work "Roll Over the Musical Boundaries: A Few Milestones for the Implementation of an Equal Method in Musicology. The Emancipated Listener: Essays on Rancière and Music," D. Trottier proposes a methodological approach to musicology that develops the concept of equality. He analyses several critical points for implementing equal methods in musicology and their impact on the interpretation and reinterpretation of classical music (Trottier, 2020). T. Service examines Luciano Berio's symphony "Sinfonia" as an example of the reinterpretation of the classical genre in contemporary conditions. He analyses the work from various angles, exploring its structure, ideas, and impact on contemporary musical practice (Service, 2013). E. Chapus's dissertation examines the challenges contemporary composers and producers face in creating musical works that combine elements of classical music and contemporary approaches (Chapus, 2023). In this article, A. Curtin explores contemporary approaches to performing classical music in solo and concert formats. He examines various methods and strategies performers use to interpret and present classical works in a contemporary musical environment (Curtin, 2024).

In M. K. Harvey's doctoral dissertation on "Interpretation and aporias: Perspectives from a classical musician in the 21st century," issues of interpreting classical music in the context of contemporary musical practice are explored (Harvey, 2017). In the article by Newman et al. (1995), the "Mozart Effect"—the hypothetical influence of listening to Wolfgang Amadeus Mozart's music on a person's abilities—is investigated. The authors experimented to determine whether listening to Mozart's music can improve cognitive abilities. In the article by V. C. Ghinea, the relationship between dissonance and consonance in the musical works of Wolfgang Amadeus Mozart and Pascal Bentoiu is considered. The author investigates the two composers' different approaches to this issue and their impact on musical style (Ghinea, 2021).

In the book "The Classical Style: Haydn, Mozart, Beethoven," the author analyses the classical music style represented by Joseph Haydn, Wolfgang Amadeus Mozart, and Ludwig van Beethoven (Rosen, 1998). In J. Holzmann's book, the creativity of Ludovico Einaudi and Max Richter, two contemporary composers who combine classical and modern musical approaches, is analysed and compared (Holzmann, 2021). In the book "Suspiciously Popular Thing in Music" (Schwarz, 2021), the editor and authors explore the concept of popularity in music and its impact on contemporary musical culture. H.V. Yatsula, in his article, investigates the phenomenon of "meta-neoclassicism" in the pianistic creativity of contemporary composers (Yatsula, 2023). The article by A. A. Gamaley (2023) explores the problems of interpreting piano works by Franz Schubert in the contemporary musical environment.

### 3 Research methods

A comprehensive set of methods was employed to achieve the research objectives. The study was based on a review of scientific papers, articles, books, monographs, and dissertations that focused on analysing the interpretation and reinterpretation of classical music works. The research included listening to and analysing recordings of classical works in contemporary arrangements and adaptations. The data collection and processing involved the recording and transcription of classical works in contemporary arrangements and adaptations, the analysis of the sheet music and the results of literary analysis. Additionally, the findings of leading scholars were considered. The analysis and interpretation of the obtained data were based on assessing differences in various performances and adaptations of classical works, identifying main trends in creative approaches to the interpretation and reinterpretation of classical music, and determining potential prospects and directions for further research in this area.

### 4 Results

Our research aims to examine musical examples that utilise classical works and their elements. These examples are considered from the perspective of their form, content, and musical value in the context of their existence in the contemporary musical space (Fedorova, 2017). Modern classical performers must reconcile the challenge of preserving the authenticity of the original works with the opportunity to create interpretations that reflect their unique characters and creative approach (Caplin, 2004). The concept of "classical music in modern arrangements" was initially introduced by pioneering figures such as the vocal ensemble The Swingle Singers, Paul Mauriat, the Piero Reverberi Orchestra, Richard Clayderman, and later Vanessa Mae. Their arrangements transcended the boundaries of traditional academic practice, transforming the status of classical music from an exclusive cultural phenomenon to one accessible to a broader audience. The arrangements retained the cultural-aesthetic characteristics of classical works, complementing them with modern elements such as metrorhythmic figures and new musical instruments (Fedorova, 2017).

Modern classical music performers bear a significant responsibility for the history of this art form. However, they also have the potential to expand their boundaries and attract new audiences through creative approaches to the performance and interpretation of classical works. In the contemporary cultural landscape, musical genres and styles are numerous and diverse. These include classical, famous, rock, jazz, blues, reggae, rap, meditative, instrumental, and electronic music, among many others. These genres coexist, responding to modern society's needs, primarily in communication and entertainment (Khan, 2023). Daniel Tong investigated the contemporary reception of a substantial corpus of Beethoven's oeuvre, focusing on his ten violin sonatas, composed between 1798 and 1812 (Tong, 2021). The primary objective is to construct a contemporary representation of Beethoven through a pertinent methodology that incorporates interactions with newly composed works that are aligned with each violin above sonatas. This approach, encompassing various modern and postmodern interpretations, challenges the traditional approach to Beethoven's music, often constrained by historical considerations. Instead, it encourages us to consider Beethoven's music as a living, relevant phenomenon. This approach, which combines analysis, hermeneutics and productivity, emphasises the importance of mastering a musical piece as a process rather than merely as a result.

The recontextualisation of classical compositions is common among contemporary classical composers, including Igor Stravinsky, Arnold Schoenberg, Luciano Berio, and Max Richter (Stefaniak, 2023). For instance, Stravinsky incorporated quotations from compositions by previous composers, particularly those from the Baroque era, into his pieces, such as "Pulcinella" from 1920. He created innovative musical works incorporating elements of existing musical traditions, opening new horizons for traditional musical forms. The work, "The Rite of Spring", exemplifies Stravinsky's utilisation of folk music, which he transformed into an innovative composition. Similarly, Arnold Schoenberg employed a comparable approach, utilising George Frideric Handel's Messiah for his concert for a string quartet with orchestra in B-flat. The process of recontextualisation has become an integral part of the development of classical music, allowing composers to create new works based on existing musical traditions and infuse them with new content and expressive forms.

The tension between tradition and creativity in classical music is significant for musicians, but they do not necessarily have to choose between them (de Ruijter, 2023). Experimentation and creative exploration can facilitate the discovery of novel possibilities and interpretations of classical works while simultaneously fostering the development of student's critical thinking and reflective skills (Agawu, 2016). This approach also enables them to understand how to analyse their creativity

through independent learning. However, it is of the utmost importance to create a safe and supportive environment for musical experiments, wherein students can express their musical ideas freely ("Toward a semiotic theory for the interpretation of classic music", n.d.). By navigating the path of creativity in classical music through artistic experiments, musicians can balance tradition and personal interpretation, create meaningful performances, and significantly contribute to the development of contemporary classical art (de Ruijter, 2023). The article (Palazzolo & Giombini, 2024) investigates the perception of cadences in the music of Haydn, Mozart, and Beethoven within the context of classical music and its influence on the structure of compositions (Grozavu, 2024). In studying creative approaches to the performance and adaptation of classical music, questions arise about the scientific approach using institutional and disciplinary conventions. By distinguishing music as a dialogue with its concept, we define its quality and appropriateness to different musical genres. This classification is important as it allows us to understand and identify musical works by their characteristics and expressed values (Trottier, 2020).

A contemporary example of the recontextualisation of a large-scale classical composition can be seen in the work of Max Richter. Max Richter, a British composer, is known for his innovative approaches to classical music. He often performs reinterpretations of works by composers such as Vivaldi and Bach. In 2012, the British composer Richter reinterpreted Vivaldi's "The Four Seasons" for live performances and a recording release. His reinterpretation blended Vivaldi's original with new authorial elements (Service, 2013). In Tom Service's 2012 review, Richter's approach to reimagining Vivaldi's "The Four Seasons" is described as a chemical experiment: "throwing molecules of the original Vivaldi into a test tube with a bunch of other stuff and waiting for an explosion... There are moments when I completely deviate from the original, yes, but there are moments when it seeps through." He notes the modularity of Vivaldi's music, allowing him to conduct creative experiments and connect with the post-minimalist aesthetic environment (Chapus, 2023).

Max Richter's reimagining of "The Four Seasons" opens new horizons in the musical world, using Vivaldi's work as a foundation for his creative ideas. Richter successfully combines elements of the original composition with his innovative ideas, creating something entirely new and unique. Richter's interpretation is a prime example of how historical musical masterpieces can be reinterpreted with new visions, paving the way for innovative compositions. His work has allowed the Baroque piece to transition from the 18th century to the present, reminding us of its eternal existence in a new format. In Blair Sanderson's 2012 music review, Richter is depicted as an artist who communicates with the younger generation, familiar with remixes and samples, embodying the spirit of modernity in music (Curtin, 2024). A significant theme for discussion is the impact of adaptations of classical works on the perception and understanding of classical music in a contemporary context (Harvey, 2017). For example, Franz Liszt transcribed "Grandes études de Paganini", and Alberto Alonso created a one-act ballet based on Georges Bizet's opera "Carmen" (Fedorova, 2017). Pascal Bentoiu, a renowned Romanian composer, musicologist, and critic, was noted for his unique approach to interpreting classical works. He was known for his deep understanding of musical creativity and the ability to penetrate the essence of music. Bentoiu believed that classical works should be considered in the context of their time and place of creation. He emphasised the importance of understanding the historical and cultural context in which these works were written. In his interpretations, Bentoiu sought to reproduce the original ideas of the composers while providing his unique interpretation. He believed that music should always live and evolve; therefore, his interpretations were always fresh and original.

The interpretation of classical works by musician Pascal Bentoiu reflected his deep understanding of musical culture and openness to new ideas and approaches to music. Nearly 200 years separate

Wolfgang Amadeus Mozart's Dissonance Quartet from Pascal Bentoiu's Consonance Quartet, with significant changes in the means used to create musical works during this period (Newman et al., 1995). The examples analysed contain common elements related to harmonic parameters used to create an atmosphere of uncertainty (Ghinea, 2021). The introduction in Mozart's works shows a greater dynamic range and defines the construction of musical discourse through polyphonic syntax. The role of the introduction in the structure of the work is important as part of its architectural-dramaturgical configuration. A distinctive feature of Bentoiu's quartet is the use of a generative cell that underlies the composition (Rosen, 1998). Ludovico Einaudi, an Italian pianist and composer, has become popular for his contemporary interpretations of classical music and minimalist style. Composers like Ludovico Einaudi and Yiruma, who represent this direction, though not yet classified into a separate genre, are closely watched by music aficionados (Sabdash, 2023; Holzmann, 2021). They can elicit both positive reactions and critiques. Yann Tiersen, a French composer and pianist, is known for his original arrangements of classical works and experiments with genres (Schwarz, 2021). Instrumental composers such as Yann Tiersen and Ludovico Einaudi experiment with various aspects of musical sound. They utilise different textures and sound effects on the piano, employing repetition and simple chords to create a unique atmosphere in their compositions (Yatsula, 2023). They also sometimes add orchestral colours to enrich the sound. However, Yiruma uses just the piano more often in his works, although his latest album shows the use of orchestral string instruments. Yiruma employs different piano registers to create a deep and rich sound. Existing interpretations of Schubert's works can be divided into classical and romantic.

One of the main challenges in performing Schubert's sonatas is the combination of "sonata-ness" (contrast, rigour, and consistency of form, mandatory tonal plan) and "song-ness" (verseness, repetitiveness, unexpected deviations and modulations, in some cases absence of sharp conflicts). Examples of "song sonatas" include the Es-dur op.post 122 D.568, A-dur op.120 D.664, G-dur op.78 D.894. The Sonata B-dur is also an example of a song sonata. Performances by great musicians such as Horowitz, Gilels, Berman, Brendel, Barenboim, Afanasyev, Koroliov, and Kissin reflect the traditions of Viennese classicism. Their style of interpretations generally resembles Beethoven's sonatas; emotionality does not play a leading role; often, interpretations are resolved in a dramatic key. In the performances of musicians such as Schnabel, Oborin, Richter, Sofronitsky, Voskresensky, Sokolov, Uchida, Lupu, Curzon, Pollini, and Szokolay, romantic traits are more distinctly manifested. Fluid melodic lines and a song basis play a significant role in the interpretations of these performers. Thus, mastering various musical techniques allows these composers and performers to create impressive and emotionally rich musical masterpieces (Gamaley, 2023).

These musicians are noted for their unique approach to classical music, which allows them to create exciting and contemporary interpretations of classical works.

## 5 Discussion

This article addresses contemporary trends in the performance and adaptation of classical music. Using creative approaches to performing and adapting classical music significantly impacts the modern cultural scene. A key aspect highlighted in the article is the methods of preserving the core structure of classical works during their adaptation. Some performers choose an approach based on the complete preservation of the form and structure of the original work. In contrast, others prefer a more accessible and creative approach, allowing themselves to make significant changes and experiments in arrangement and performance. This practice of reworking classical works is already well-known in the history of classical music, where composers used the material of their predecessors to create their works. In the work of A. Fedorova (Fedorova, 2017), creative approaches to the interpretation and reinterpretation of classical works are

successfully analysed, focusing on the variety of methods and approaches used by musicians and performers in the contemporary music world. Each approach has its characteristics and impact on the perception and understanding of classical music in contemporary musical culture (Palazzolo & Giombini, 2024). Despite the changes made, such treatments have retained "classical thinking" and have not lost the general recognizability of the academic basis. However, it is essential to consider this genre's historical context and role in contemporary mass culture to understand its significance and impact. Today, transcriptions have evolved into the concept of arrangement, as the use of new possibilities of modern musical-expressive means allows for the creation of more complex and innovative versions of classical works. In this context, the arranger acts as a co-author of the composer, adapting the material to their own artistic interests and contemporary musical trends (Trottier, 2020).

Contemporary musical culture is actively evolving, seeking new expressive means. In this context, elements of classical musical works are used to create a new genre that can be described as "classical music in contemporary treatment" (Fedorova, 2017). Applying new technologies, such as computer processing and composing music without using acoustic instruments, broadens the possibilities for music creation. Additionally, classical heritage serves as a ready template for experiments where computer technologies can participate in creating a musical object (Harvey, 2017). The impact of the medium in a specific musical context depends on its acoustic characteristics, perception, and the social and domestic conditions of its use in music (Curtin, 2024).

## 6 Conclusions

The research revealed that the reinterpretation of classical works in the context of contemporary conditions presents a vast array of possibilities for creativity and innovation. An analysis of the creative approaches to the performance and adaptation of classical music has shown that musicians employ various techniques, including experiments with textures, sound effects, orchestral colours, and performance techniques. It has been demonstrated that different composers and performers adopt distinct approaches to interpreting classical works. Some musicians adhere to the conventions of the classical style, emphasising its restraint and emotional depth. In contrast, others seek to recreate the romantic spirit of the era through more fluid melodies and expressiveness. It has been demonstrated that using diverse musical techniques and effects enables musicians to devise distinctive and emotionally profound interpretations that sustain classical works' vitality and contemporary relevance. Consequently, research into creative approaches to the performance and adaptation of classical music in contemporary conditions offers the potential for new developments in musical art, contributing to the development of individual style and expanding understanding of classical music.

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## Primary Paper Section: A

## Secondary Paper Section: AJ, AL

## FEATURES OF FORMING INTERCULTURAL COMPETENCE OF STUDENTS IN HIGHER EDUCATION INSTITUTIONS BY INFORMAL EDUCATION

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**Abstract:** In today's globalised and highly mobile world, intercultural competence is crucial for successful social adaptation, professional development, and interpersonal communication. This aspect of education is essential for students entering a multicultural professional and social environment. This article analyses the role of informal education in shaping students' intercultural competence. The study employed interviews, focus groups, content analysis, surveys, questionnaires, and statistical data analysis. The article presents a pedagogical technology for forming students' intercultural competence in higher education through informal education. The text outlines the strategies, means of implementation, and expected outcomes of forming students' intercultural competence through informal education means within the proposed technology. Unlike formal education, informal education takes a more flexible and student-centred approach to acquiring knowledge and skills in a less structured educational environment. The authors examine different types of informal education, including student exchanges, intercultural meetings, volunteer programs, workshops, language clubs, and online platforms for communication with native speakers. They emphasise the importance and effectiveness of these methods in developing students' intercultural skills. A pedagogical experiment involving control and experimental groups showed that developing students' intercultural competence through informal education is adequate. The conclusion summarises the significance and potential of informal education as a tool for developing intercultural competence. It offers recommendations for integrating informal education into the educational practice of higher educational institutions. The authors highlight the potential benefits of integrating informal education with formal learning to improve students' perception and understanding of intercultural interaction. It can contribute to the development of a more open and inclusive society.

**Keywords:** higher education institutions, intercultural competence, international cooperation, interactive teaching methods, non-formal education, students.

### 1 Introduction

Developing intercultural competence is crucial in today's globalised world, where interaction between individuals from diverse cultures is becoming increasingly inevitable. Informal education plays a significant role in this development, as it offers flexible, interactive, and practice-oriented learning approaches beyond traditional formal education. The importance of developing students' intercultural competence through informal education in today's world is influenced by several critical factors, including globalisation, international cooperation, integration of cultural diversity, and personal development.

In the context of globalisation and increasing population mobility, it is crucial to deeply understand and respect cultural differences. Students need intercultural competence to adapt and interact effectively in a multicultural environment to succeed in international educational programs, exchanges, and internships. The development of international economic, scientific, and cultural cooperation demands that future professionals work in multicultural teams and understand and accept the diverse cultural contexts they may encounter.

Respect for cultural diversity and the ability to engage in intercultural dialogue are crucial components of social integration in multicultural societies. It contributes to the formation of a more tolerant and open society. Developing intercultural competence also promotes the development of important personal qualities such as empathy, flexible thinking, and the ability to listen to and understand others, which are

essential for personal growth and professional development in any field.

Informal education, such as cultural exchanges, volunteer programs, international projects, language clubs, and online communication platforms, offers unique opportunities to immerse oneself in foreign cultures, apply foreign languages practically, and develop intercultural skills in a less structured environment. It is often more motivating and effective than traditional educational approaches. The importance of developing students' intercultural competence through informal education is undeniable due to several factors. It not only enhances students' personal growth and professional preparation but also addresses the challenges of the modern world, which demand individuals to be adaptable, have a deep understanding of intercultural differences, and find common ground with people from diverse cultures.

The study analyses the peculiarities of forming students' intercultural competence in higher education institutions through non-formal education. The main goal is to identify the most effective approaches contributing to developing intercultural competence, openness and tolerance, broadening cultural horizons, developing communication skills, forming flexible, adaptive skills, enhancing critical thinking and self-analysis, and increasing professional competitiveness.

**Objectives of the study:**

1. To analyse the existing literature and research on forming intercultural competence of students in higher education institutions through non-formal education.
2. To review modern non-formal education tools used for developing students' intercultural competence in higher education institutions.
3. To present the pedagogical technology of forming students' intercultural competence through non-formal education.
4. To propose methods for assessing students' intercultural competence development through non-formal education while studying in higher education institutions.

### 2 Literature review

An overview of various authors' perspectives on forming students' intercultural competence through informal education reveals diverse approaches and ideas (Baas et al., 2022). The authors emphasise the importance of intercultural learning and the development of intercultural competence in contemporary global society (Blau et al., 2020). Researchers argue that considering globalisation and intercultural contacts, students should have skills and knowledge to interact effectively with representatives of different cultures (Castaño-Muñoz & Rodrigues, 2021), (Guillén-Yparrea et al., 2023). Researchers believe that informal education is an effective way to develop intercultural competence because it allows students to acquire practical skills and experiences that are difficult to achieve within formal educational programs (Jiang et al., 2023), (Landberg & Partsch, 2023).

Authors propose various approaches to developing intercultural competence through informal education (Li et al., 2021). It could include cultural exchanges, language clubs, volunteering, cultural events, and other forms of activity that facilitate interaction between students and representatives of different cultures (Manca, 2020), (Margulieux et al., 2016). Students' active participation in the process is an essential aspect of intercultural learning through informal education (Mebert et al., 2020). It allows them to acquire knowledge about other cultures and develop skills in intercultural interaction, adaptation, and respect for differences (Menezes, 2021).

The study examines the significance of evaluating the efficacy of informal education programmes in developing intercultural competence (Post et al., 2019). It enables the determination of the program's success in achieving its objectives and the identification of areas for improvement (Thongsonkleeb et al., 2022).

The research aims to explore general trends and address questions regarding implementing augmented learning in formal and informal contexts (Yi, 2020). The authors' research results suggest that students can apply the competencies they acquire in informal settings to formal/school education (Yugdar Tófaló, 2020). The authors consistently emphasise the significance of fostering intercultural competence in students and highlight informal education as an effective tool to achieve this goal (Petrovich et al., 2018). However, the approaches and methods used may vary depending on the context and objectives of the educational program (Batsurovska, 2021; Dotsenko, 2023).

It is essential to conduct intercultural workshops and seminars to develop students' awareness and understanding of cultural differences (Zikargae et al., 2022; Diaz et al., 2020). These activities can include role-playing games, discussions, and case studies that help students practice intercultural communication skills (Ma et al., 2019; Qian, 2021).

Participation in intercultural practices and volunteer projects provides students with the opportunity to really immerse themselves in other cultures, exchange experiences, and solve intercultural issues (Vladoiu & Constantinescu, 2020). According to Iqbal et al. (2023), it contributes to developing tolerance, respect for other cultures, and the ability to work in a multinational environment.

The authors emphasise the significance of students' participation in intercultural exchanges and student programs based on international universities. It contributes to acquiring academic knowledge and develops intercultural sensitivity and adaptation skills (Nivala et al., 2020). Media and multimedia resources, such as films, videos, cultural programs, games, and internet resources, can effectively immerse students in world cultures, traditions, languages, and customs (Čiutiene et al., 2023).

Involving students in intercultural research and projects promotes the development of their analytical abilities, critical thinking, and ability to work independently. It also allows them to delve into the diversity of cultural heritage (Hossain, 2023). Integrating these tools systematically and purposefully into the educational process is vital, accompanied by reflection and feedback. It helps students assess their progress and identify areas for further development (Pienimäki et al., 2021; Seddighi et al., 2023). However, the research problem of developing intercultural competence among higher education students through informal education has not been adequately explored.

### 3 Applied methods

The following methods and approaches were used to conduct a study to analyse the peculiarities of the formation of intercultural competence of students in higher education institutions through non-formal education. Interviews and focus groups were used to gain a deeper understanding of student's personal experiences and changes in their perceptions and attitudes towards representatives of other cultures. Observation of students' participation in intercultural interactions provides an opportunity to assess how their competence develops in practice.

Content analysis (e.g., personal diaries, social media, reflective essays) allows examining how students reflect on their intercultural experiences.

Surveys and questionnaires based on self-assessment scales of intercultural competence are used to measure changes in students' knowledge, skills and attitudes before and after applying the technology of forming students' intercultural

competence through non-formal education presented in the study.

Statistical data analysis may include a comparative analysis of groups participating and not participating in intercultural educational programmes.

Combining the abovementioned methods will provide a broader picture of intercultural competence development. It can contribute to evaluating the effectiveness of various non-formal educational approaches and activities.

### 4 Research results

Developing intercultural competence in students through informal education is a crucial task. It aims to equip them with the skills and abilities to interact effectively with individuals from diverse cultures. Intercultural competence involves having knowledge and understanding of cultural differences, showing respect for other cultures, and being able to adapt and communicate in multicultural environments. In the context of this study, informal education provides unique opportunities to achieve these goals through various formats beyond the traditional educational system. These formats include intercultural exchanges, volunteer programs, language clubs, cultural festivals, workshops, online courses, and communication platforms. Such methods facilitate a deeper and more emotional immersion in foreign cultures, enhancing the educational impact and promoting more effective formation of intercultural competence.

Figure 1 shows the technology used to develop intercultural competence in higher education students through informal education. It includes strategies and methods for implementing intercultural competence formation.

Strategies for language learning include practical experience, language practice, interactive teaching methods, reflection and self-analysis, project-based learning, technology and social media. Informal education often involves immersion in a cultural context through travel, internships abroad, volunteer programs, and student exchanges. Such direct interaction with another culture cannot be replaced by theoretical knowledge. Learning a foreign language in a natural environment can improve language skills and deepen understanding of cultural nuances and mentality. Participating in international groups, cultural events, workshops, discussion clubs, and seminars allows students to interact actively with each other, developing intercultural sensitivity and interpersonal communication skills.

Informal education can encourage students to reflect on their stereotypes by engaging in dialogue with representatives of other cultures. It is a crucial aspect of developing intercultural competence. Joint projects with international participation can help students practice teamwork in a multicultural environment, learn to overcome cultural barriers, and effectively achieve common goals.

Digital platforms for intercultural communication and learning are a form of informal education that enables students to interact with foreign peers, exchanging cultural experiences and knowledge in real time. To form intercultural competence through informal education, active student participation, readiness for open interaction, and interest in learning new things are required. This approach promotes acquiring knowledge and skills for successful intercultural communication and personal growth, tolerance, and respect for the diversity of cultures worldwide.

Informal education methods significantly teach and develop higher education learners' intercultural competence. These methods include various forms of learning that occur outside traditional educational institutions. The technology presented classifies the following as informal education methods: online courses and webinars, educational videos and podcasts, workshops and masterclasses, reading books and articles,

participation in communities and interest clubs, educational games and simulators, travel and cultural exchange, involvement in scientific and research projects, networking and mentoring, self-reflection and self-analysis, intercultural exchanges, language clubs, intercultural training and seminars, participation in intercultural events, volunteering in multicultural societies, using digital platforms, books, films, and music, and discussion groups and round tables.

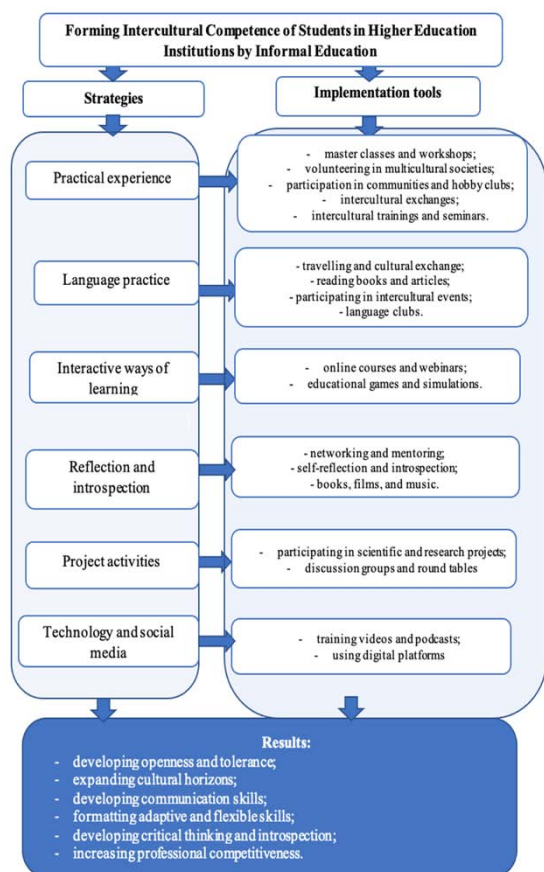


Figure 1. Technology of Forming Intercultural Competence of Students in Higher Education Institutions by Informal Education

Digital platforms provide diverse courses on various topics, enabling individuals to learn at their own pace and convenience. Video platforms and podcasts offer access to educational materials and lectures from experts worldwide on various subjects. Practical sessions, masterclasses, and workshops are also available for participants to acquire new skills under the guidance of experienced mentors.

Self-education through reading specialised literature, scientific articles, journals, and blogs is a classic and effective method of informal education. Joining various communities and clubs, such as book clubs and technology meetups, allows for exchanging knowledge and experience with like-minded individuals. Gaming technology can help develop skills and knowledge in an interactive and engaging format.

Travelling, participating in exchange programs, and volunteering projects abroad offer unique opportunities to learn about new cultures, languages, and history in practice. Involvement in scientific groups or projects voluntarily can provide practical experience and knowledge in a particular field.

Connections with professionals and mentoring can offer individual guidance and support in professional and personal development. Regular self-observation and analysis of one's actions, successes, and failures can contribute to self-

improvement and personal growth. Participation in student exchange or volunteer programs abroad can significantly enhance intercultural skills. Direct immersion in another culture can help one better understand intercultural differences and similarities.

Language is an essential element of culture, and informal meetings and communication can significantly improve intercultural understanding when learning a new language. These seminars are designed to enhance intercultural communication and understanding, covering various aspects such as cultural norms, stereotypes, prejudices, and methods to overcome them.

Participation in volunteer projects within multicultural communities can enrich understanding of cultural differences and similarities. Attending festivals, exhibitions, and events dedicated to other cultures can broaden knowledge of various cultural practices and traditions. Social media, intercultural educational websites, and language exchange programs offer rich resources for learning and practising intercultural communication. Engaging in discussions on intercultural topics with representatives of different cultures and immersing oneself in literature, cinema, and music from different countries worldwide can help develop a deep understanding of intercultural differences. Informal education offers flexible and individualised approaches to learning, allowing people to develop according to their interests, needs, and schedules.

The result of applying the proposed technology for developing intercultural competence among higher education students through informal education means the development of openness and tolerance, the expansion of cultural horizons, the development of communication skills, the formation of adaptive and flexible skills, the development of critical thinking and self-analysis, and the enhancement of professional competitiveness. The goal of the outlined technology is to teach students to understand, accept, and respect cultural diversity and develop skills for effective and respectful communication with people from other cultural groups. It helps students better understand other nations' cultural peculiarities, traditions, history, and values, which strengthens intercultural connections and mutual understanding. Teaching effective strategies for intercultural communication, including non-verbal aspects, communication styles, and conflict resolution methods, enhances their overall communicative competence. Preparing students for successful adaptation in multicultural and international environments, developing flexibility of thinking, and quickly adapting to new cultural conditions. It encourages students to analyse their own prejudices and stereotypes about other cultures and reflect on their cultural identity. In the context of globalisation and the internationalisation of the job market, intercultural competence becomes a significant advantage and an essential tool for professional growth.

A pedagogical experiment was conducted to evaluate the effectiveness of the proposed technology in developing intercultural competence among higher education students through informal education means. The experiment involved 123 higher education students, and their levels of competence were determined based on the number of results achieved. A high level was achieved by obtaining 5-6 results, a low level by obtaining 3-4 results, and a shallow level by obtaining 0-2 results. The control group consisted of higher education students who studied in the intercultural environment of the institution. In contrast, the experimental group used informal education methods to develop intercultural competence based on the proposed technology. Figure 2 displays the quantitative indicators of intercultural competence acquisition. The distribution of higher education students is even, with 61 students assigned to the control group and 62 to the experimental group.

As shown in Figure 2, implementing the proposed technology increased the number of higher education students who acquired intercultural competence at a high level from 5 to 20 people, at an average level from 26 to 36 people. In comparison, the low-

level indicators decreased from 30 to 6 people. These results indicate the effectiveness of the proposed technology. Figure 3

presents the percentage formation of intercultural competence among higher education students through non-formal education.

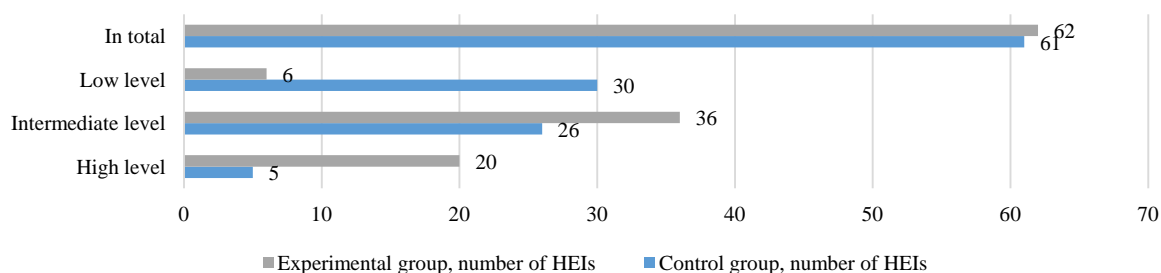


Figure 2. Quantitative Indicators of Intercultural Competence Acquisition by Students in Higher Education Institutions

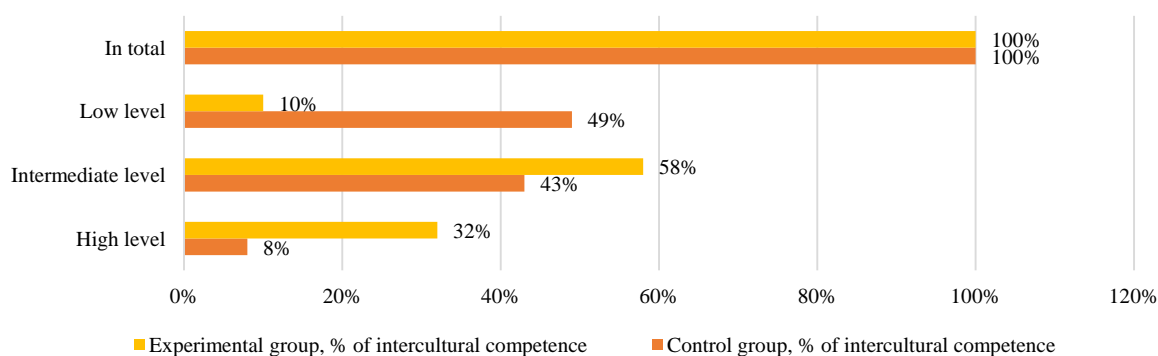


Figure 3. Qualitative Indicators of Intercultural Competence Acquisition by Students in Higher Education Institutions

After implementing the proposed technology, the high-level indicators increased by 26%, the medium-level indicators increased by 15%, and the low-level indicators decreased by 39%. It suggests the importance of applying strategies and their implementation tools by the proposed technology.

## 5 Discussion

Forming intercultural competence in students through informal education is an essential area of research in today's multicultural world. Intercultural competence comprises knowledge, skills, and attitudes that facilitate effective interaction with individuals from diverse cultures. Informal education takes place outside of traditional educational institutions and can involve various activities, such as intercultural encounters, volunteering, travel, and participation in cultural exchanges (Shalimova et al., 2022; Nite et al., 2023).

Studying the effectiveness of informal education in developing intercultural competence is crucial for preparing students for successful life and careers in the context of globalisation and cultural diversity (Xu et al., 2021). The data obtained will assist educational institutions and organisations in adapting and develop effective intercultural competency programs.

The advantages of informal education in developing intercultural competence include experienced teaching approaches, flexibility, accessibility, and soft skills development. Informal education often involves practical experience, which allows students to interact directly with representatives of other cultures. As noted by Han et al. (2020) and Björnin Svozil et al. (2020), this contributes to a deeper understanding and respect for intercultural differences.

Informal education programs can be customised to suit students' interests and needs, making learning more motivating and relevant. Participation in informal education contributes to developing soft skills, such as adaptability, empathy, and communication skills, which are crucial for intercultural interaction.

Simultaneously, developing students' intercultural competence through informal education may present specific challenges and limitations, including issues with assessment and accreditation, unequal access, and program quality. One challenge of informal education is the difficulty in assessing and formally recognising acquired knowledge and skills, which can impact the motivation of both students and employers to participate in and acknowledge such programs (Tovar et al., 2019).

Due to financial, geographical, or social barriers, some students may need more access to intercultural learning through informal education. Additionally, informal educational programs may need more consistency in diversity and depth, resulting in heterogeneity in intercultural competence among students.

Prospects for further research into forming students' intercultural competence through informal education include studying its integration with formal education, utilising technology, and enhancing cultural awareness among teachers and organisers. Creating bridges between formal and informal education can improve the structure and assessment of informal educational initiatives and broaden access to them. Digital platforms and social media can provide new opportunities for intercultural learning and interaction, reducing geographic and financial barriers. To effectively implement informal education, teachers and organisers must possess high intercultural competence and be able to adapt programs to the needs of students from diverse cultures.

The discussion on developing intercultural competence through informal education highlights its potential and prompts consideration of ways to overcome current challenges. With the increasing globalisation and intercultural integration, the significance of such education will only continue to grow, necessitating innovative approaches to learning and mutual understanding from educational systems and society.

## 6 Conclusion

Developing intercultural competence in students through informal education is a multifaceted process that requires a



comprehensive approach and active student involvement. Research and practice in this field have shown that informal education can play a crucial role in forming intercultural competence due to its flexibility and diverse range of forms and methods. Informal education can promote a deeper understanding and respect for cultural differences by providing students with practical opportunities to interact with representatives of different cultures. Direct contact with another culture is often more effective in developing intercultural skills than theoretical lessons.

Reflection on acquired experience is an essential component of informal education. Reflective tasks can assist students in examining their impressions, analysing their biases, and developing empathy. Educational institutions must provide organisational and methodological support to effectively develop intercultural competence. Creating opportunities for intercultural communication and organising thematic meetings, workshops, and projects with intercultural content can significantly enhance the impact of informal education.

Informal education allows for flexible approaches to learning, considering students' individual interests and needs. It contributes to increased motivation for learning foreign cultures and languages. Intercultural learning in the context of informal education often relies on social learning principles, where interaction with other participants is a critical element of the educational process. It promotes the development of communicative skills and the ability to work in teams with representatives of different cultures.

Informal education plays a crucial role in shaping students' intercultural competence, offering unique opportunities for deep immersion in other cultures and developing necessary communicative skills. However, to achieve maximum effectiveness, appropriate support and integration with formal education must be ensured, as well as stimulating active reflection and critical thinking among students.

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**Primary Paper Section: A**

**Secondary Paper Section: AM**

## FEATURES OF PSYCHOSOMATIC MANIFESTATIONS IN INTERNALLY DISPLACED PERSONS DURING THE WAR

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**Abstract:** The large-scale invasion of Russian troops in Ukraine in 2022 caused a significant number of social and individual tragedies, one of which was the mass exodus of people from dangerous areas due to the loss of their homes and the threat to their lives and health. By the end of November 2022, the number of internally displaced persons reached nearly 7 million. The suddenness and high intensity of stress in these conditions contributed to the emergence of various emotional and physiological reactions. Unprocessed trauma and psychological experiences related to the ongoing war triggered several psychosomatic disorders that may develop into diseases in the future. Therefore, it is necessary to identify effective ways to prevent the somatisation of psychological stress and reduce the impact of stress factors on the nation's health in the future. The study aimed to analyse and experimentally investigate the spectrum of psychosomatic disorders in internally displaced persons and the individual psychological characteristics of the personality that contributed to their manifestation. The research methodology is presented by theoretical methods such as analysis and synthesis, systematisation, and generalisation of the obtained information and modelling. Using correlation analysis, it was proven that some psychological defences, such as compensation, regression, and projection, have a direct connection with psychosomatic disorders. Based on the analysis of theoretical materials, methods, and questionnaires that reflect the presence and structure of psychosomatic manifestations, as well as the personal characteristics that affect this, were selected.

**Keywords:** psychosomatic disorders, internally displaced persons, somatisation, somatic complaints, psychological tension, stress, traumatisation, psychological protection, alexithymia.

### 1 Introduction

Psychosomatic disorders and diseases are becoming increasingly relevant today. This is especially true for Ukrainians. Since the start of the full-scale phase of the war that Russia launched against Ukraine, stress has become not something individual and abstract, living in the mind of a single person, but a genuine, large-scale, all-encompassing factor influencing the life, health, and in many cases, the physical survival of every citizen. The suddenness and intensity of the stressor caused an overload of physiological and psychological processes in the human body. They triggered a reaction in the body as the last line of defence against the stressor and adaptation to new conditions. A particular category of people in this context is internally displaced persons. If a person manages to survive and move to a safer place, which often happens on adrenaline and not entirely consciously, the next period involves processing and responding to the traumatic experience and settling into a new place.

At this stage, the risk of developing psychosomatic disorders increases rapidly. It primarily depends on the individual's psychological and physiological characteristics and the social environment in which the person finds. Therefore, it is essential to promptly identify and influence the factors that significantly cause the somatisation of psychological stress to prevent the occurrence or development of more severe and prolonged diseases.

Many domestic and foreign scientists have studied psychosomatic disorders. Sigmund Freud and his followers, such as G. Groddeck, M. Schur, A. Mitscherlich, F. Dunbar, and others, formed several psychoanalytic theories about the origin of psychosomatic diseases.

F. Alexander's theory of specific psychodynamic conflict is considered fundamental today. Cannon and Selye (2023) studied stress and its impact on bodily processes. J. Nemiah and P. Sifneos identified alexithymia as a psychological factor of somatisation in patients.

Among domestic scientists studying psychosomatics in medicine, S. D. Maksymenko (2004), O. S. Chaban, and O. O. Khaustova (2023) can be highlighted. Among psychologist-scientists studying psychosomatic disorders are O. M. Chervynska (2013), H. P. Mozghova, and D. M. Kharchenko (2012).

Research on the impact of armed conflicts on forcibly displaced persons and refugees and their ability to recover from stressful or traumatic events has been conducted by many scientists during and after the wars in the Persian Gulf, Syria, and the Balkans. Among them are A. Prorokovic, M. Cavka, L. Jolof, P. Rocca, A. Sabioncello, D. Kocijan-Hercigonja, and others. It has been found that resilience to diseases and the subjective sense of health of refugees is indeed related to improving their mental state. However, researchers also emphasise that cultural, social, material and personal factors play an essential role in the formation of psychological resilience (2022).

Research conducted by scientists has established that, compared to soldiers and the civilian population, forcibly displaced persons have higher levels of psychosomatic and depressive symptoms during the war period. It also indicates the relevance of the research topic and the importance of focusing on the selected population category.

The study aims to actualise the topic of psychosomatics during war trauma, to analyse and experimentally investigate the spectrum of psychosomatic disorders of IDPs, and to identify individual psychological characteristics of the personality and psychological defence mechanisms that contribute to their manifestation.

The research methodology is presented by theoretical methods such as analysis and synthesis, systematisation, and generalisation of the obtained information and modelling. For conducting the empirical study, the following methods were used: the Giessen Complaint List (GCL); the Symptom Checklist SCL-90-R, BSI-18 modification (Derogatis, Lipman, Covi); the Toronto Alexithymia Scale (Gratz, Roemer); the Lifestyle Index (Plutchyk, Kellerman). Statistical methods such as correlation analysis of indicators were also used in the work.

### 2 Research results

According to the formulated objective, three stages of the study can be distinguished. In the first stage, we determined the empirical sample. Thus, 61 people aged 18 to 55 years participated in the study. Among them, 57 were women, and 4 were men. All respondents are internally displaced persons residing in the Vinnytsia community.

The survey was conducted online using a Google form. Correlation analysis was also used to determine the strength of the relationship between the measured indicators. The empirical study was conducted among internally displaced persons who left occupied territories or areas where military actions took place and moved to Vinnytsia. A total of 61 individuals participated in the empirical study. In the introductory questionnaire, respondents were asked about their age, gender, and general health assessment.

It was found that among the respondents, three individuals were aged 18 to 24 (5%), 17 individuals were aged 24 to 34 (28%), 24 individuals were aged 35 to 44 (39%), and 17 individuals were

aged 45 to 55 (28%). The structure of respondents by age is presented in Table 1 and Figure 1.

Table 1. Respondents' Age Grouping

Age	Total	
	Number of people	In %
18-24	3	5%
25-34	17	28%
35-44	24	39%
45-55	17	28%

In the question, "How do you assess your health condition?" six respondents answered that they were healthy, 49 had some health problems, and 6 had severe health problems. Thus, 90% of the respondents do not consider themselves healthy, which is a concerning trend and a signal for urgent intervention.

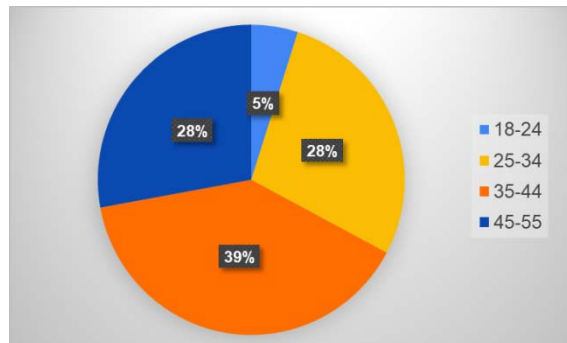


Figure 1. Diagram of Respondents' Age Grouping.

Table 2. Distribution of Complaints Intensity according to the Giessen Questionnaire.

Severity of complaints	Exhaustion	Gastrointestinal complaints	Rheumatic factor	Heart complaints	Severity of complaints
Low – up to 20%	5	32	2	26	7
Medium – 20% - 40%	23	18	16	23	31
High – 40% - 70%	19	10	24	11	21
Critical – more than 70%	14	1	19	1	2

The data collected using the Giessen Complaint List allows for analysing the intensity level and structure of respondents' complaints. The results are presented in Table 2.

In order to provide a visual representation of the data, it is proposed that the information be presented in the form of graphs.

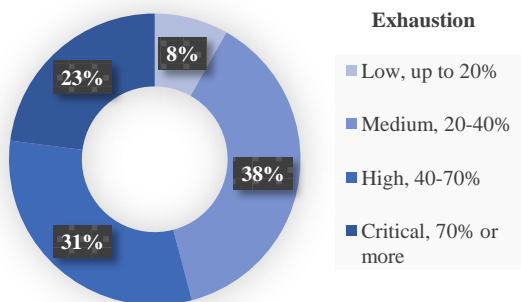


Figure 2. Severity of Complaints on the Exhaustion Scale.

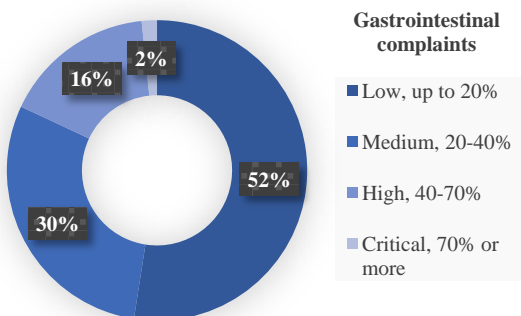


Figure 3. Severity of Complaints on the Gastrointestinal Complaints Scale.

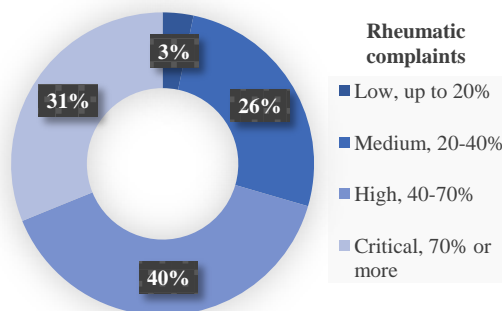


Figure 4. Severity of Complaints on the Rheumatic Complaints scale.

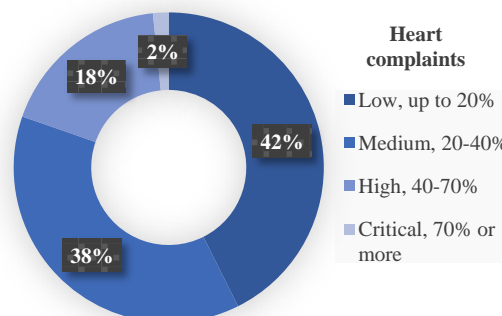


Figure 5. Severity of Complaints on the Heart Complaints scale

We see that the surveyed respondents often feel exhausted. Only 8% do not have or very rarely experience any symptoms. Regarding rheumatic complaints, the situation is even more critical, as two-thirds of respondents frequently or very frequently have related symptoms and body pains. Only 3% of those surveyed do not complain of rheumatic pains.

The situation with the cardiovascular system and gastrointestinal tract is better. Twenty per cent of respondents have a high and critical level of heart complaints, and around forty per cent occasionally experience various symptoms. It is important to

note that these twenty percent include younger people, half of whom are aged 25-34 (6 individuals) and 35-44 (5 individuals). It is a dangerous trend for the development of cardiovascular insufficiency in the future.

Regarding stomach complaints, 18% have a high or critical level, and 38% occasionally experience symptoms. These are mainly feelings of pressure or fullness in the abdomen and stomach pain. Some respondents occasionally or rarely complained of belching and heartburn.

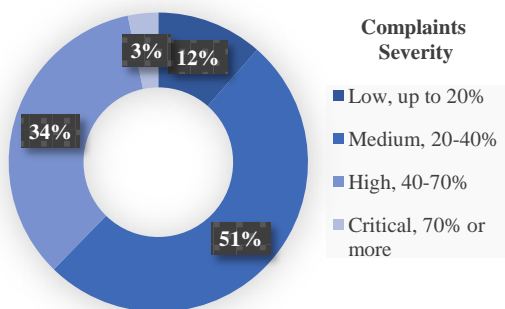


Figure 6. Overall Severity of Somatic Complaints.

Consequently, from the calculations, 85% of internally displaced persons predominantly have a medium to high level of somatic complaints. Moreover, a high or critical level of exhaustion and rheumatic pains are observed in 54% and 71% of respondents, respectively, which predisposes them to more severe illnesses. Discomfort in the cardiovascular system (medium, high, or critical) is occasionally experienced by just over half of the respondents, while about 40% complain about stomach issues. It is important to note that, for more accurate identification of people with psychosomatic symptoms, respondents with chronic organic diseases are usually excluded from the sample, as such diseases can independently cause discomfort and not be a result of stress. On the other hand, organic diseases related to psychosomatics can worsen against the backdrop of additional stress factors. Considering the category of internally displaced persons, we can assume that respondents have a relatively high-stress level to some extent so that we can disregard this remark in our study.

Looking at respondents in terms of well-being, out of 54 people with a medium, high, or critical level of psychosomatic complaint intensity, only three consider themselves healthy. Most indicate that they have some health problems, and 5 out of 54 have serious health problems, all of whom fall into the category with a high level of somatisation.

From the above, we can conclude that the vast majority of respondents have various psychosomatic symptoms and need psychological and psychotherapeutic assistance. Additionally, 49 out of 61 respondents expressed interest in participating in a corrective program to reduce and prevent psychosomatic disorders.

The data collected using the following methodology, the "BSI-18 Symptom Checklist," gave us an idea of the respondents' levels of anxiety and depression. This questionnaire also includes a somatisation scale, which allowed us to compare the results with the data from the Giessen questionnaire. We will display the data in graphs for visual representation.

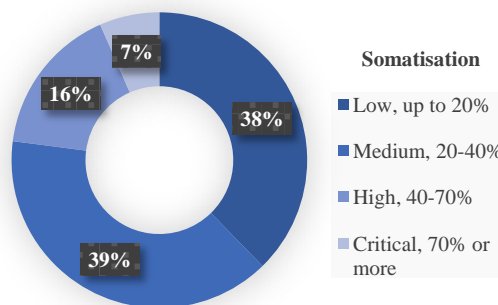


Figure 7. Complaints Severity by Somatisation Scale.

Consequently, 23% of respondents have a high level of somatisation, and about 40% have various symptoms. Only 2 out of 38 people consider themselves to be somatically healthy. The others indicated that they have some or severe health problems.

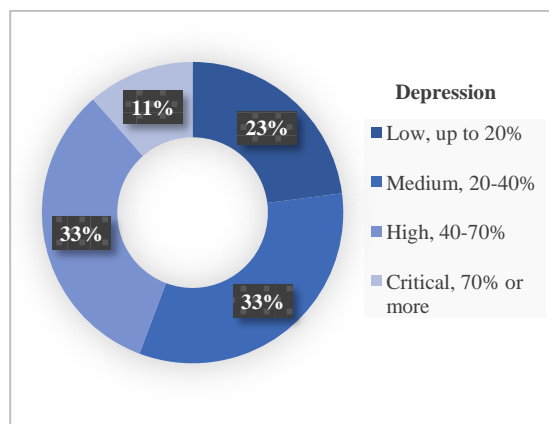


Figure 8. Complaints Severity on the Depression scale.

On the depression scale, a high level was found in slightly less than half of the survey participants (44%). Among the symptoms, respondents most frequently noted having a depressed mood and a lack of interest in anything, feelings of hopelessness and worthlessness. One person mentioned having thoughts of suicide very often.

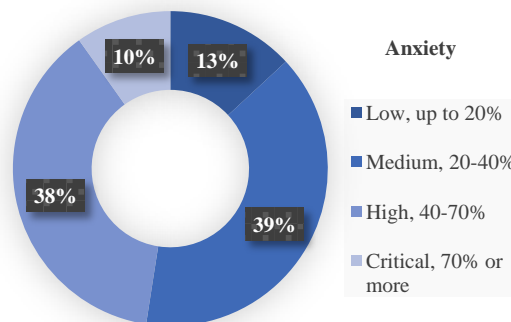


Figure 9. Complaints Severity on the Anxiety Scale.

It is worth noting that the level of anxiety is also relatively high. Only 13% do not report significant symptoms of anxiety. Meanwhile, around 40% have some manifestations of anxiety, and about half experience anxiety often or very often. It is essential to pay attention to such manifestations and teach people methods and techniques to overcome anxious states, expand their coping strategies, and promote the flexible use of psychological defences.

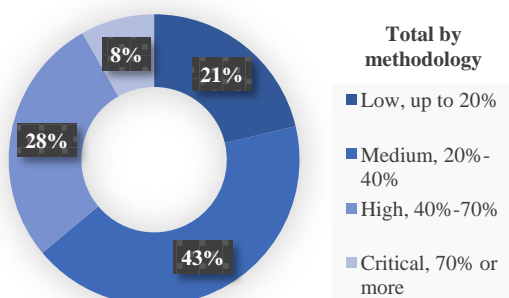


Figure 10. Complaints Intensity according to BSI-18 Methodology.

Thus, using the methodology, we found that the vast majority of respondents suffer from anxiety and depression, with more than half having a moderate to critical level. According to this questionnaire, somatisation is observed in more than 20% of respondents, while 80% occasionally experience various symptoms. This difference in symptom manifestation between the two methodologies can be explained by looking at the correlation between the somatisation scale of the BSI-18 questionnaire and the scales of the Giessen questionnaire.

From Table 4, it is clear that the somatisation scale of the BSI-18 has a closer correlation with the rheumatic factor and heart complaints than with exhaustion and stomach complaints. Therefore, we can assume that the questions selected in the BSI-18 questionnaire are inclined towards identifying these particular symptoms. In contrast, the Giessen questionnaire covers a broader range of symptoms.

Using the following methodology, we determined the level of alexithymia among the participants. This crucial indicator is one of the factors provoking psychosomatic disorders. Since a person is unable to identify their feelings or is in a state of constant negative well-being and cannot distinguish between normal and discomfort, such a person is not motivated to resolve internal conflicts effectively. Thus, a permanently high level of arousal leads to hormonal imbalances in the body and, as a result, provokes psychosomatic disorders.

Scientific literature states that alexithymia occurs in 10% of the population and can arise in several psycho-emotional states. Analysing the data collected through the questionnaire, we can assert that the level of alexithymia among internally displaced persons is significantly higher than the average. The results are presented in Table 3.

Table 3. Alexithymia Level

Presence of alexithymia	Number of people	In %
Absent, up to 62 points	18	30%
Risk zone, 63-73 points	22	36%
Presence of alexithymia, 74 and more	21	34%

Table 4. Respondents' Grouping by Complaint Intensity according to the BSI-18 Questionnaire

Tension	Somatisation	Depression	Anxiety	Total on the scale
Low up to 20%	23	14	8	13
Medium 20% - 40%	24	20	24	26
High 40% - 70%	10	20	23	17
Critical more than 70%	4	7	6	5

The graph shows that 25 out of 61 respondents have a high level of tension in psychological defences such as regression, projection, and reaction formation. Additionally, the respondents actively use defences such as denial, repression, compensation,

Consequently, it was found that among the respondents, a third exhibited alexithymia, and another third were at risk. It is a very high indicator, which may be explained not by a congenital predisposition but by the nature of the psycho-emotional state these individuals are experiencing. A high level of stress and the intensity of negative experiences harm the nervous system.

As a result, the psyche tries to protect itself from excessive emotional experiences by blocking emotional sensitivity. In turn, due to the high intensity of experiences and a wide range of emotions from negative to positive, coupled with reduced cognitive functions, the brain does not have time to process the entire emotional experience. Therefore, many experiences remain background, unconscious, and mixed, leading to a sense of oppression without understanding why and an inability to trace cause-and-effect relationships.

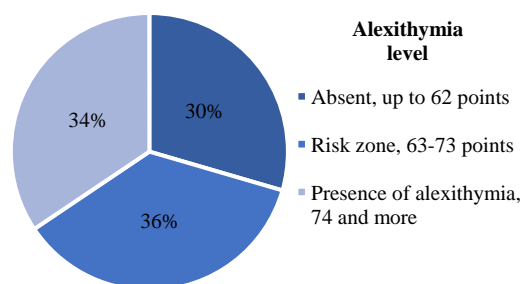


Figure 11. Respondents' grouping by Alexithymia level.

To correct and prevent alexithymia, it is necessary to consult a psychologist who can help trace the emotions and thoughts that cause it and provide practical recommendations and exercises for independent work on this problem. Otherwise, as scientific research has proven, there is a high risk of psychosomatic disorders.

The last methodology offered to respondents was the "Lifestyle Index." Using this questionnaire, we collected data on the psychological defences typical of the respondents. According to this methodology, studies indicate that most women aged 28-30 have a 40-50% defence tension. It includes 75% of the surveyed respondents. Among individuals with neuroses, this figure usually exceeds the 50% level, which allows us to assume that the Lifestyle Index reflects fundamental but unresolved external and internal conflicts (Zlyvkov et al., 2016).

In the context of studying psychosomatic disorders, we can rely on these data to analyse the psychological defences of our survey participants, as unresolved conflict situations influence changes in the overall emotional background and the autonomic components of emotional reactions, which is one of the factors in the occurrence of psychosomatic reactions and disorders. To assess the data for each defence scale, we use the following gradation: up to 40% – low tension level; 40-70% – active use of defence; more than 70% – high tension level. The analysed data are presented in Table 4.

and rationalisation. Regarding the tension of defences, the results are distributed as follows: low, up to 40% – 6 respondents; medium, 40-50% – 14 respondents; high, more than 50% – 41 respondents. The data are visually represented in Figure 12.

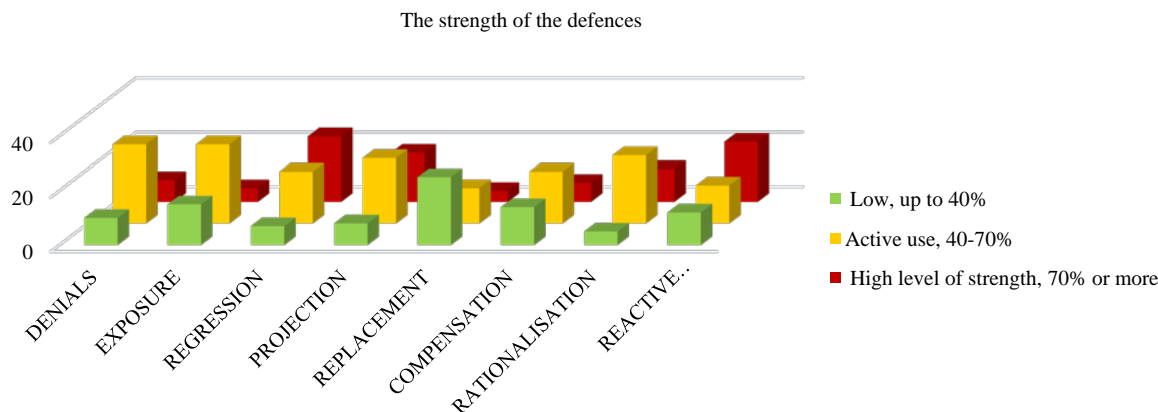


Figure 12. Respondents' Grouping by Frequency of Using Psychological Defences.

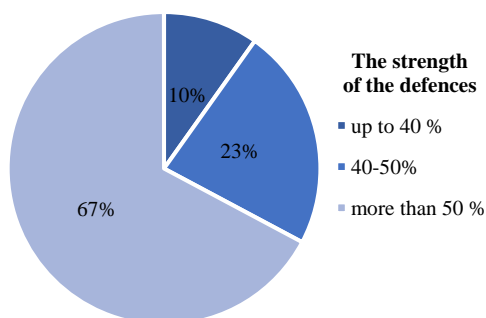


Figure 13. Respondents' Grouping by Protection Intensity.

Looking at the overall strength of defences, 67% of respondents exhibit a high strength—more than 50%. It indicates that most respondents predominantly use unconscious defence

mechanisms. It can be concluded that individuals cannot resolve many internal and external problems, so the psyche tries to adapt through mechanisms learned in childhood. In the context of psychosomatic illnesses, it is also essential to analyse the proportion of primitive defences and higher-level defences in the overall assessment of defences. Primitive defences are more destructive for individuals as they disrupt social connections, increasing stress levels and leaving problems unresolved. Primitive defences include regression, projection, and displacement, while higher-level defences include compensation, rationalisation, and reaction formation. Regarding denial and repression, these defences can be effective in certain situations. However, it should be noted that high tension on the repression scale may indicate a tendency to encapsulate traumatic experiences, which in turn is a high risk for the development of PTSD. The correlation between the types of defences used by respondents and each scale of the Giessen Questionnaire will be analysed. The analysis data are presented in Table 5.

Table 5. Correlation of Psychosomatic Complaints

	Exhaustion	Gastrointestinal complaints	Rheumatic factor	Cardiac complaints
1	2	3	4	5
Exhaustion	1			
Gastrointestinal complaints	0,492304	1		
Rheumatic factor	0,419404	0,480104	1	
Cardiac complaints	0,678136	0,553805	0,5949	1
Somatisation BSI-18	0,514232	0,547181	0,751538	0,774838

From the data analysis, we can conclude a correlation between the intensity of somatic complaints and the tension of defences, approaching a medium strength of 0.41. Specifically, regression and displacement have a medium or nearly medium correlation with exhaustion, heart complaints, and the overall intensity of somatic complaints. There is also a weak correlation between these scales and projection. It confirms our hypothesis about primitive defences and their impact on the manifestation of psychosomatic complaints. It is worth noting that stomach

complaints and the rheumatic factor do not connect with psychological defences, except for regression and the overall tension of defences, which weakly correlate with rheumatic complaints at 0.32 on both scales. We also used a different approach to determine the relationship between defences and somatic complaints. We identified the proportion of primitive and higher defences in the overall defence structure and determined the correlation between these indicators.

Table 6. Correlation between Types of Psychological Defences and Somatic Complaints according to the Giessen Questionnaire.

Protection type	Exhaustion	Stomach complaints	Rheumatic factor	Heart complaints	Severity of complaints
1	2	3	4	5	6
Denial	-0,24	-0,23	0,03	0,01	-0,14
Displacement	0,11	-0,12	0,20	0,02	0,07
Regression	0,41	0,16	0,32	0,45	0,42
Projection	0,38	0,14	0,20	0,31	0,33
Substitution	0,52	0,27	0,22	0,40	0,45
Compensation	0,17	0,06	0,09	0,28	0,19
Rationalisation	-0,08	-0,16	-0,21	-0,04	-0,14
Reactive formation	0,09	0,01	0,22	0,12	0,14
Defence intensity	0,42	0,06	0,32	0,47	0,41

Consequently, we see that the more significant the proportion of primitive defences in the overall structure of psychological defences, the higher the level of exhaustion and overall intensity

of complaints in an individual (+0.57 and +0.54, respectively) (Table 7).

Table 7. Correlation between Primitive, Higher and Other Defences and Somatic Complaints

Protection type	Exhaustion	Stomach complaints	Rheumatic factor	Heart complaints	Severity of complaints
1	2	3	4	5	6
Primitive	0,57	0,37	0,28	0,46	0,54
Higher	-0,37	-0,14	-0,32	-0,30	-0,33
Other	-0,42	-0,36	-0,08	-0,33	-0,38

It indicates a direct relationship between these somatic manifestations and the intensity of using regression, projection, and displacement. There is also a weak correlation between stomach (+0.37) and rheumatic (+0.28) complaints and primitive defences. Conversely, we observe a weak but inverse correlation with more constructive defences, such as compensation, rationalisation, and reaction formation, indicating a reduction in psychosomatic manifestations when these psychological defences are used. Similarly, an inverse correlation approaching medium strength is observed between other defences (denial and repression) and exhaustion (-0.42). A weak negative correlation is found regarding other scales and the overall intensity of somatic complaints.

These calculations confirm our assumption that it is essential to pay attention to the structure of psychological defences to understand whether they help a person cope with stress or, on the contrary, contribute to increased tension. It can be analogous to coping strategies, which can also be constructive or destructive. When working with clients, it is necessary to develop constructive stress-coping mechanisms and the ability to apply them flexibly.

In the next stage, we determined the closeness of the relationship between the BSI-18 questionnaire data and the alexithymia scale. The results are presented in Table 8.

Table 8. Respondents' Grouping by Frequency of Using Psychological Defences

Type of psychological protection	Low, up to 40 %	Medium, 40-70%	High, 70% or more
1	2	3	4
Denial	15	34	12
Displacement	22	35	4
Regression	10	24	27
Projection	11	28	22
Substitution	35	19	7
Compensation	18	32	11
Rationalisation	7	39	15
Reactive formation	17	19	25

The calculations show that there is a direct, reasonably close relationship between the somatisation, depression and anxiety scales. The data are presented in Table 9.

Table 9. Correlations between Alexithymia and Somatisation, Depression and Anxiety Scales

	Somatisation	Depression	Anxiety	Total by the methodology
Depression	0,57			
Anxiety	0,65	0,71		
Alexithymia	0,35	0,46	0,40	0,46

Anxiety correlates most strongly with depression (+0.71). It means that if a person feels anxious, they are likely to try to limit their actions to ensure peace of mind, which in turn will reduce activity and cause internal dissatisfaction with oneself. Against this background, anxiety will grow even more, as a lack of confidence in one's abilities will make problems seem even more catastrophic.

Regarding alexithymia, we see a positive correlation with anxiety (+0.40) and depression (+0.46), which is moderate. However, alexithymia has a weak influence on somatisation. As we have already mentioned, the alexithymia scale scores in our sample significantly exceed the average, which high-stress levels may cause due to constant life risks and negative news from which a person cannot distance themselves, even while being in relative safety. However, the inability to distinguish one's feelings is not a permanent characteristic of a person and may be situational. For example, short-term work with a psychologist can significantly improve understanding of one's emotions.

Many studies have confirmed the influence of alexithymia on the development of psychosomatic disorders (Chervynska, 2013) Consequently, it can be assumed that a high level of alexithymia over time can lead to health problems, the basis of which will be a psychological factor. Therefore, it is worth improving individuals' ability to recognise their feelings and find the cause-and-effect relationships that contributed to their occurrence.

### 3 Discussion

The impact of armed conflicts on internally displaced persons and refugees and their ability to recover after stressful or traumatic events has been studied by many researchers during and after the wars in the Persian Gulf, Syria, and the Balkans. Among them are A. Prorokovic, M. Cavka, L. Jolof, P. Rocca, A. Sabioncello, D. Kocijan-Hercigonja, and others. Over the past year, Ukrainian researchers have conducted surveys and analyses of the psychological state of Ukrainians and its impact on physical well-being. Among them are O. Kokun ("Your resilience in wartime"), M. Matiash, and S. Maksymenko ("Ukrainian syndrome. Behavioural and functional changes of Ukrainian youth in the context of the full-scale Russian invasion in 2022").

Prolonged stress and uncertainty have led to long-term consequences for the mental health of refugees and soldiers, primarily manifesting in psychosomatic symptoms. Psychosomatic complaints dominated among soldiers and refugees at all points of assessment ( $F=210.30$ ;  $p<0.001$ ). The highest level of depressive symptoms was found among refugees ( $F=4.17$ ;  $p=0.016$ ). The level of psychosomatic and depressive symptoms varied over time. Soldiers reported an increase in psychosomatic complaints over time, while refugees showed a sharp decrease in the somatisation of psychological



manifestations. This is evidenced by long-term studies (1993-2004), where psychosomatic complaints and depressive symptoms were assessed in civilians, refugees, and soldiers during the war and in the post-war period in Croatia (Prorokovic, Cavka, & Cubela Adoric, 2005; Chervynska, 2013).

Assessing the impact of distressing consequences of the war on the mental health of the civilian population can be exemplified by Syria (Shebanova, 2012).

The military conflict has led the population of Syria to a high risk of mental disorders: according to a survey of 195 individuals aged 19-25 years, 44% developed a probable severe mental disorder; 27% had a probable severe mental disorder along with all PTSD symptoms; 36.9% had all PTSD symptoms, and only 10.8% did not exhibit any positive PTSD symptoms or mental disorder. Thus, about 60% of the civilian population reported symptoms of moderate to severe mental disorder. About 86.6% of respondents indicated that the war was the leading cause of their mental dysfunctions, and 46% noted that they needed mental support (Tiurina & Solokhina, 2022).

Studies have shown that 49.9% of people changed residence due to the war, and 27.6% did so three or more times. Additionally, 64.3% of respondents lost loved ones due to the war, and 85.4% had a relative or close friend who was at risk of war-related injury.

High PTSD rates were most influenced by the number of times residence was changed due to the war, education level, psychological trauma and suffering from the sounds of war (Tiurina & Solokhina, 2022; Kharchenko, 2012).

Many students in Syria – nearly 60% – have PTSD symptoms and/or problematic anger. It is known that experiencing two or more traumatic events significantly increases the risk of developing PTSD, and the percentage of women with PTSD was four times higher than that of men. A meta-analysis conducted on studies of 29 adults who experienced psychological trauma indicates that the impact of a traumatic event on younger individuals was a decisive risk factor for developing PTSD symptoms (Kharchenko, 2012). Fearfulness, anger, nervousness, sleep disorders, lack of faith and hope in the future, and periods of terror or panic became negative consequences of psychological trauma among refugees from Syria. Medical sources studying the consequences of the war in Syria have recorded traumatic conditions of teeth and genitals as a result of the impact of PTSD and other mental disorders; a high percentage of individuals with laryngopharyngeal reflux, also caused by the war; and around 50% of the civilian population of Syria diagnosed with allergic rhinitis caused by the direct or indirect effects of the war (Kharchenko, 2012).

Refugees are usually a significant problem for all host countries, but they constitute only a tiny fraction of all those who have experienced war globally. If we look at the global scale, many more people have survived the war, individuals who do not want or cannot find asylum, and who continue to live in former or current conflict zones. There is no particular UN agency for these people, as there is for refugees, and no official statistics exist for them. Despite the very diverse findings regarding the prevalence of mental disorders among refugees, on average, the prevalence of PTSD and depression is not higher than among the population that remained in the conflict zone (Chervynska, 2013; Priebe, Giacco, & El-Nagib, 2024). For individuals who have survived the war, PTSD and/or depression have serious health consequences for their respective communities (Kudrytska & Kharchenko, 2018; Morina, Hoppen, & Priebe, 2020).

- PTSD and depression can have a chronic course and lead to significant mental suffering for individuals affected by the war, as well as their partners and families.
- Disorders associated with functional impairments affect the establishment of interpersonal relationships, reduce the quality of life and productivity, and result in significant overall health costs.

These studies indicate a correlation between unaddressed anger and PTSD. Consequently, this may be a cause of further domestic violence, increased desire for revenge, and subsequently heightened and provoked future conflicts.

PTSD generally coexists with other forms of psychopathology, and 90% of those with PTSD symptoms have at least one comorbid condition during their lifetime (Shebanova, 2012; Kessler, 1995). These comorbid conditions are most often depression, alcohol abuse or dependence, and other anxiety disorders. Increasingly, scientific literature presents evidence of comorbid conditions associated with borderline personality disorder (Pagura J. et al., 2010; Shebanova, 2012).

#### 4 Conclusions

The empirical study aimed to determine the level of somatisation among internally displaced persons and the factors influencing this. Based on the analysis of theoretical materials, methodologies and questionnaires were selected to reflect the presence and structure of psychosomatic manifestations, as well as the personal characteristics influencing these. Thus, we selected four methodologies and surveyed 61 individuals. After analysing the collected data, we found that between 30% and 50% of respondents have high and critical levels of psychosomatic complaints. More than half of the respondents frequently or very frequently experience exhaustion and body pain. No less than a third complain of somatic symptoms in the stomach and cardiovascular system.

We also assessed the levels of depression and anxiety using the BSI-18 questionnaire. More than 70% of respondents have moderate to high scores on these scales, indicating a high level of stress currently experienced by displaced persons. Using the "Lifestyle Index" questionnaire, we determined the structure of psychological defences and their overall level of tension. As a result, 67% of respondents have more than 50% overall defence tension.

Regarding the factors directly affecting the ability to cope with stress, we found a correlation with such psychological defences as projection, regression, and compensation. Although the correlation is not very strong, it is evident that the tension of these defences directly affects the level of exhaustion, rheumatic complaints, and the overall intensity of psychosomatic complaints, according to the Giessen questionnaire. We also found a dependency between the structure of psychological defences and the level of somatisation. The more significant the proportion of primitive defences in the overall structure, the higher the level of psychosomatic disorders a person exhibits. As for higher defences, such as compensation, rationalisation, and reaction formation, an increase in their proportion in the overall structure of defences reduces psychosomatic manifestations. An inverse correlation is also observed between denial and repression, which we classified as "other defences" and the "exhaustion" scale.

Analysing the Toronto Alexithymia Scale data, we found that more than two-thirds of respondents fall into the risk zone or show signs of alexithymia. We also studied the impact of alexithymia on the levels of anxiety and depression and found a direct connection between these indicators. Thus, improving the ability to understand and verbally express one's experiences can reduce or prevent the occurrence of psychosomatic disorders. Therefore, it is essential to work on the awareness of one's emotions and experiences, learning to identify, describe, and determine which thoughts or events triggered a particular reaction.

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**Primary Paper Section: A**

**Secondary Paper Section: AN**

## FORMULATING ALTERNATIVE APPROACHES TO STRESS MANAGEMENT BY UNDERSTANDING ITS EFFECTS ON PSYCHOLOGICAL AND PHYSIOLOGICAL WELL-BEING

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**Abstract:** The article highlights the importance of overcoming the effects of stress on the mental and physical health of individuals. It also emphasises the inadequacy and lack of research into the outlined issues in the scientific explorations of foreign and Ukrainian scholars. The study aims to identify the characteristics of stress impact on mental and physical health for further consideration in developing effective stress management strategies. The object of the study is stress as a type of destructive reaction of the organism to traumatic events. The research methodology comprises complex theoretical techniques (analysis, comparison, systematisation) and psychodiagnostic techniques (V. V. Boyko's 'Research of Emotional Burnout' technique, MBI burnout questionnaire (C. Maslach and S. Jackson), C. D. Spielberger's Anxiety Scale (adapted by Y. L. Hanin), SAN method) and methods of mathematical statistics. The results obtained permitted the formation of a profound comprehension of the extent to which stress impacts the mental and physical well-being of the respondents during a state of war. It was determined that there is a correlation between the prevalence of health issues among respondents and the prevalence of a destructive psycho-emotional state. It has identified a risk group that requires quality psychological assistance and support. Considering the results above, a comprehensive training programme has been developed to minimise the effects of stress. The system is suitable for the current context. It combines various types of psychotherapeutic work and can be implemented in three stages. The content of the training programme is presented to demonstrate the potential of its use. It is generally acknowledged that this direction of psychological assistance requires continuous improvement and the introduction of innovative approaches to minimise the negative impact of stressful situations to ensure a high level of psychological resilience under the conditions of the Russian-Ukrainian war.

**Keywords:** coping strategy, experiment, martial law, post-traumatic stress disorder, psychodiagnosics, stress types, traumatic stress, psychodiagnosics, experiment, coping.

### 1 Introduction

In the modern world, an individual's inclusiveness is associated with numerous and often significant stresses that negatively affect the psycho-physiological state of a person. There has been a significant increase in interest among psychologists and scientists in studying the phenomenon of stress. A fundamental characteristic and a key determinant of the emergence of stress in an individual – a civilian participant in military actions – is the conscious absence of the ability to satisfy basic safety needs.

In modern society, there is a demand for immediate and effective resolution of problematic situations, with the imperative that destructive consequences for physical and mental health be avoided. Individuals residing in complex and potentially traumatic conditions (for example, war) demonstrate superficially formed skills in using techniques to reduce the destructive impact of stress yet are not capable of choosing and implementing constructive actions to improve the current situation. Instead, they opt for the emulation of referent group representatives. This situation will likely become a fundamental basis for the appearance of destructive behaviour shortly. It could manifest as an increase in the level of aggressive manifestations, a decrease in control over one's actions, excessive use of psychoactive substances, and gamification. Furthermore, it could result in a deterioration in physical and mental health. Therefore, it is crucial to study this issue to develop effective stress management strategies to minimise the destructive consequences of prolonged stress.

### 2 Literature review

In recent decades, scientific studies have been investigating the determinants and phenomenology of stress and resilience manifestations. It is crucial in the current realities. Research into the emergence, development, and improvement of stress resilience is essential for individuals involved in various potentially stressful situations. The investigation of stress-inducing factors during wartime is hindered by the fact that the work of professionals does not consider the actual level of individuals' readiness to react constructively and act in stressful situations. In conditions of war, a person is subjected to a range of psycho-emotional influences.

The scientists who have significantly impacted this issue's development are also worth noting. Their achievements correspond to current social challenges. Accordingly, the study conducted by J. Kong et al. (2021) has significant scientific and practical value, making an essential contribution to understanding the relationship between the anamnesis of childhood adverse experiences, stress, and health. It also indicates potentially effective strategies for supporting the target audience. D. B. O'Connor et al. (2021) highlight the potential impact of stress on various biological systems within the human body. They conclude that further research is necessary to investigate the influence of stress on health, particularly the role of early-life adversities in shaping subsequent stress responses in adulthood. In the work of R. D. Romeo (2017), the impact of stress on the brain structure of adolescents and its consequences for mental health are considered. Special attention is paid to the amygdala, hippocampus formation, and the brain's prefrontal cortex. A. Akpınar (2021) noted in his study that teenagers are facing an unprecedented level of stress and mental health problems. In their systematic review, Z. Li and F. Hasson (2020) investigated the interaction of resilience, stress, and psychological well-being among students from different countries. The authors concluded that high-stress levels among student youth often affect their psychological well-being. N. Zhyhailo and T. Sholubka (2022) analysed the process of forming psychological resilience in students of higher education institutions during the war. The research of I. Vahia and colleagues (2020) focused on the elderly.

D. O'Connor et al. (2021) examine the cumulative relationship between stress and adverse health outcomes. They highlight that stress can affect health in two ways: directly, through autonomic and neuroendocrine responses, and indirectly, through changes in health-related behaviour. J. Gianaros and T. D. Wager (2015) investigated the connection between psychological stress and physical health, as well as the underlying mechanisms of this connection. P. M. Lehrer et al. (2020) conducted a systematic and meta-analytic review of biological feedback with heart rate variability (HRVB) for various symptoms and human functioning in states of rest and stress. H. Yarıbeygi et al. (2017) examined some of the primary effects of stress on the major physiological systems of the human body. K. S. Khan et al. (2020) examined the mental health issues faced by various cohorts and groups, including the general population, medical staff, students, school children, sports and entertainment workers, and other vulnerable groups.

The authors have identified and characterised the most common types of stress. Special attention is given to traumatic stress, which is the emotional reaction of an individual to severe events. Traumatic stress is considered a normal reaction to abnormal circumstances (events that go beyond the usual life experience of a person). D. Rose et al. (2017) explored the connection between work-related fatigue and mental and physical health in working people. The study by D. Yuan et al. (2022) investigated the impact of professional stress on the emergence of health risks among employees in the sewing industry.

In the study by K. Lee et al. (2020), several factors that negatively impact human health were analysed, including stress caused by the pandemic, self-integration, self-efficacy, and resilience. Practical and detailed suggestions and guidelines were also developed using research that considers these factors, particularly for overcoming stress caused by COVID-19, social support, and physical activity. K. Tsamakis et al. (2020) indicate that the COVID-19 pandemic has led to a catastrophic situation of global proportions in the healthcare sector, causing unprecedented fear and anxiety in some individuals. Stress related to this biothreat has clinical consequences in all aspects of medicine, both mental and physical health. The study's findings by A. Shimura et al. (2021) aim to provide empirical evidence of the consequences of the new work scenario using remote technologies for individuals and organisations in connection with the COVID-19 pandemic, considering health status and stress levels.

A. D. Crosswell and K. G. Lockwood (2020) provide a comprehensive account of the optimal methodologies for measuring stress, delineating the specific aspects of stress factors and stress responses to be recorded and how they should be recorded. They also consider the circumstances under which it is preferable to utilise psychological or physiological stress indicators. The study by V. Violant-Holz et al. (2020) found that physical activity is an effective strategy for combating the psychological consequences of the COVID-19 pandemic, which contributes to the further anticipated increase in the prevalence of mental disorders. C. Herbert et al. (2020) noted regular physical and aerobic exercises' health benefits and stress reduction. P. Coventry et al. (2021) examined various practical methods for minimising the negative impact of stress and improving mental health, including gardening, physical exercises, and nature therapy.

As a result of the theoretical analysis of scientific sources dedicated to studying various aspects of the impact of stress on mental and physical health, it should be noted that several discrepancies justify further research into the outlined issues. It is also important to note the limitations of the available empirical evidence, which reflects stress's complex and multifaceted impact on mental and physical health. It makes it challenging to identify the fundamental indicators of the impact of stress on mental and physical health. However, the high practical applicability of systematic approaches to psychological support makes them a valuable tool in this context.

The study aims to identify the peculiarities of stress's impact on mental and physical health and consider them in developing effective stress management strategies.

### 3 Methods

A survey method was employed to diagnose the specific impact of stress on mental and physical health. This method allowed for the rapid acquisition of psychodiagnostic material with a high level of reliability, which could then be used in further research and the development of a training programme to minimise the destructive impacts of stress on mental health. The data obtained from the study were analysed, systematised and compared within the defined sample.

The initial psychodiagnostic technique employed in the experiment was V. V. Boyko's 'Research of Emotional Burnout' method, designed to assess the degree of emotional burnout. The Maslach Burnout Inventory (MBI) (by C. Maslach and S. Jackson) facilitated a deeper comprehension of the respondents' psycho-emotional state. The utilisation of C. D. Spielberger's Anxiety Scale (adapted by Hanin) facilitated the formation of a comprehensive understanding of the current levels of personal and reactive anxiety. The fourth psychodiagnostic technique employed in the experiment was the SAN methodology for diagnosing well-being, activity, and mood. The sample (90 respondents aged 20-45) was divided into three groups according to their health status to confirm or refute the empirical hypothesis. The first group - no health problems - comprised 30 people. The second group - 30 people with chronic diseases diagnosed before the war. The third group - 30 people with health problems that appeared during the war. The study focused on empirical testing of the following hypothesis: the emotional state of a respondent in a stressful situation may have a different configuration of health status and the effectiveness of combining psychological resources of resilience to emotional burnout.

### 4 Results

The 'Diagnosis of Emotional Burnout Level' technique proposed by V. V. Boyko was employed to ascertain the extent of emotional burnout. The findings are presented in Figure 1 for summary and analysis.

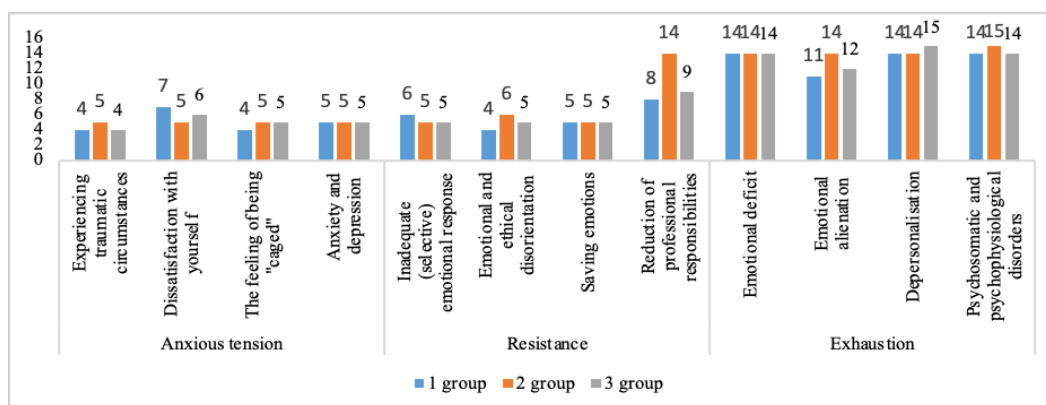


Figure 1. Phases of Emotional Exhaustion in Respondents with Different Health Conditions  
Source: own research

It is important to note that the symptomatology of emotional burnout in respondents from the first group (who do not have health problems) indicates an initial formation stage. These respondents have a simplified attitude towards their professional duties, manifested in the desire to optimise factors that lead to destructive emotional reactions. Indicators of the control group (0.19 and 0.5, respectively), we can assert the proven effectiveness of the proposed pedagogical technology.

Figure 2 reveals that emotional burnout is three-dimensional, encompassing three subscales: emotional exhaustion, depersonalisation, and reduced personal accomplishment. Directing attention to respondents who exhibit a high level of emotional exhaustion is crucial. This aspect is considered the primary component of emotional burnout, manifesting as a decline in emotional tone, indifference, or excessive emotional tension. A reduced emotional tone can result in losing interest in studying or work, communication with others, and leisure

activities. It often leads to a sense of meaninglessness in life. Respondents exhibit symptoms of excessive emotional tension,

such as anxiety, irritability, and nervousness. It can result in sleep problems and health deterioration.

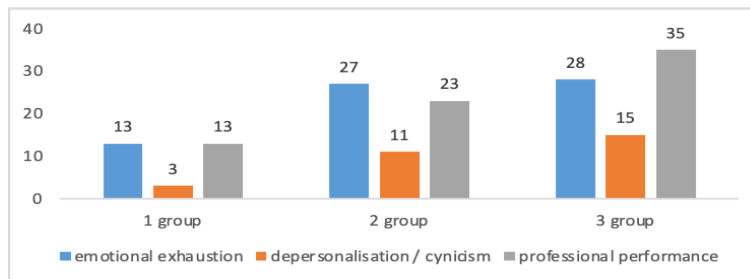


Figure 2. Dynamics of Psychological Burnout Indicators in Respondents with Different Health Conditions  
Source: own research

The group with a high level of depersonalisation included respondents who, according to the study results, were classified as having a high or medium level of emotional exhaustion, which manifested in deteriorating relationships with others. An increase in feelings of negativity and a cynical attitude towards other people can accompany this. Respondents who exhibited a high level of reduction in personal achievement were found to engage in negative self-evaluation, tend to devalue their achievements and feel limited in their capabilities and obligations towards others.

of war can exacerbate their physical problems, intensifying existing illnesses or the emergence of new ones. These respondents require a comprehensive approach that includes medical but also psychological and social support.

The second group of respondents may demonstrate greater stress resilience than the first group. Their health issues are less vulnerable to changes associated with the war as they have adapted to living with chronic diseases. However, they can still experience stress due to the war, which can lead to the exacerbation of their chronic issues or deterioration of their condition.

The third group, comprising respondents with health problems that emerged during the war, was included in the group with a high level of psychological burnout. Those in the second group, with chronic diseases that manifested before the war, were included in the medium-level group. In contrast, those in the first group, without health problems, were included in the low-level group. The third group of respondents exhibits not only physical symptoms but also psychological symptoms such as anxiety, depression, feelings of helplessness, and loss. The stress factors

Respondents in the first group are the least vulnerable to stress compared to the other groups. They show greater resilience and adaptability to new conditions, which may help them better cope with the stress of war. Nevertheless, they can also be subjected to stress due to the war and exhibit psychological symptoms, especially if the war is in an active phase for an extended period.

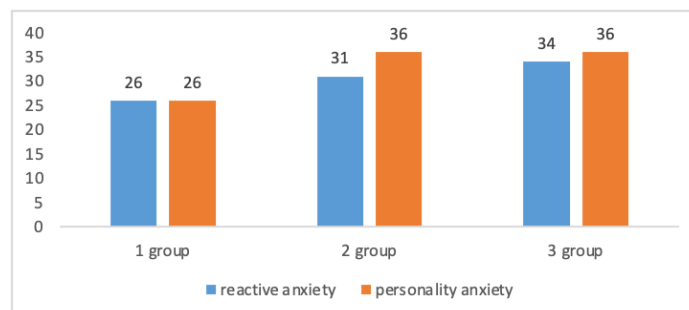


Figure 3. Personal and Situational Anxiety of Respondents with Different Health Conditions  
Source: own research

The results obtained using C. D. Spielberger's Anxiety Scale (adapted by Y. L. Hanin) (see Figure 3) indicate that as health status deteriorates, both reactive and personal anxiety levels increase. Furthermore, personal anxiety levels rise more rapidly

and reach 36 points in both the second and third groups of subjects.

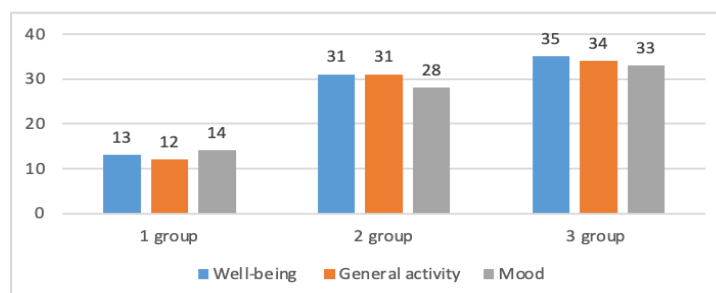


Figure 4. Health Dynamics in Respondents with Different Health Conditions  
Source: own research

The findings presented in Figure 4 corroborate the notion that alongside a decline in health, there is a concomitant deterioration in well-being and mood and a reduction in overall activity. While there are respondents with more favourable indicators according to this methodology, their results represent a minority and do not significantly impact the broader picture of the research findings. The formulated empirical hypothesis has been validated.

For the three experimental groups, an optimal algorithm for the comprehensive improvement of the respondents' psycho-emotional state has been developed using methods of psychotherapy and psycho-correction.

Research convincingly demonstrates that a quarter of individuals who have experienced traumatic situations develop post-traumatic stress disorder (PTSD). Most successfully adapt over time, function effectively, and perform social roles qualitatively. Post-traumatic personality disorder (during the subsequent life of a person who has experienced trauma) is associated with the ability to adapt to extreme and sub-extreme conditions successfully. Post-traumatic stress disorder is a non-psychotic delayed reaction to traumatic stress, capable of causing mental disturbances in virtually anyone. PTSD is a complex of human reactions to trauma, where *trauma* is defined as an experience or shock that causes fear, horror, or helplessness in most people.

Symptoms characteristic of traumatic stress include very high levels of anxiety; persistent re-experiencing of the event that is the source of the trauma while avoiding any circumstances in real life that may be related to the so-called stressor; sleep disturbances; the emergence of illnesses defined as traumatic stress after a certain period following the traumatic factor; prolonged tension that can last for several years. The treatment of traumatic stress is based on psychotherapy, as well as social integration activities.

The application of a set of psychodiagnostic techniques and the organisation of psychotherapeutic measures will allow for a comprehensive understanding of the respondents' psycho-emotional state and identify ways to improve their psychological well-being. Psychological rehabilitation techniques diminish the deleterious impact of stressful circumstances, optimise the overall psycho-emotional state, and enhance the quality of life of the respondents during periods of stress.

## 5 Discussion

In order to enhance or stabilise psycho-emotional resilience, it is advisable to activate the necessary resources that will help minimise the impact of stress on mental and physical health. By resources, we mean internal and external variables that provide psycho-emotional resilience in stressful situations. Given that a person is a social being, social support is fundamental for stabilising psycho-emotional resilience in stress conditions. The social environment can provide optimal conditions for reducing the extent of destructive influence under challenging situations and contributing to the growth of psycho-emotional resilience (Stults-Kolehmainen & Sinha, 2013).

Psychological competence, which determines the level of education on current issues, is also an essential resource for psycho-emotional resilience. Physical resilience ensures the activation of care for one's health status and determines its value priority. The availability of material resources profoundly influences the formation of psycho-emotional resilience. Using developed information resources enables the skilful application of various tools to achieve goals (Zhyhailo & Sholubka, 2022).

It is crucial to highlight that during the minimisation of the destructive impact of psycho-emotional stress on physical and mental health, group therapy is the most effective approach, as it provides an environment conducive to the expression of current

experience in stressful situations, minimises the destructive desire for isolation and the feeling of guilt (Shavitt et al., 2016).

A high level of mutual trust and guaranteed confidentiality are fundamental to ensuring an open psychotherapeutic environment where participants can feel support and safety while displaying their emotional reactions. It is, therefore, of the utmost importance to understand group dynamics to facilitate successful communication between participants and define and resolve potential conflicts or difficulties. In this context, developing effective stress management strategies becomes particularly relevant. Their application is appropriate in the current realities (Schulz et al., 2011). The psychotherapeutic system comprises specific directions of psychological work, which are implemented in three stages.

Experimental studies demonstrate that the level of psychological stress depends on dominant coping strategies. Individuals who actively employ active coping strategies to manage stress appear to be less susceptible to stress's negative impact and experience its effects less. When passive coping is used, stress initially takes hold of emotions and consciousness, reflecting the response to the individual's physiology. Consequently, this leads to psychosomatic disorders. Experimental studies have shown that each person uses coping strategies to overcome stress based on their own experience and personal psychological resources.

The initial stage of the psychotherapeutic process involves the implementation of psychological training, which includes the differentiation of the primary indicators of destructive psycho-emotional reactions and mental states, the utilisation of autogenic methods of psychological assistance, self-control, and psycho-emotional self-regulation, the application of emergency psychological assistance to others, and the minimisation of the destructive impacts of stressful situations on the psyche in the future, along with the identification of effective strategies for their successful levelling.

In the second stage of minimising the destructive impact of stress, the following measures can be implemented: a comprehensive assessment of the psychological state and psychological support, including emergency psychological assistance (if necessary).

The final stage of the process is aimed at implementing preventative measures and controlling the psycho-emotional state. This stage includes the following psychological measures: psychodiagnostic to detect signs of psychological traumatization, the current level of psychological safety, the likelihood of developing post-traumatic stress disorder (PTSD) in the future, and the provision of psychological assistance in an individual format (if necessary). The 30-hour training programme reduces stress's negative impact on mental health and emotional state. It aims to increase individuals' awareness of optimising their psycho-emotional state and implementing effective stress management strategies.

During the training programme, participants should analyse and identify:

- what situations during martial law cause tension, anxiety, fear, and uncertainty, i.e. understand the reasons for their behaviour and emotions (manifestations of irritability, shyness, impulsivity, restraint, joy, satisfaction, happiness, intemperance) (Gianaros & Wager, 2015);
- own motives, needs, aspirations, and attitudes; assess their adequacy, realism and constructiveness (Roberts et al., 1994);
- peculiarities of interpersonal interaction, causes of possible misunderstandings (Schneiderman et al., 2005).

A training programme was developed to facilitate developing and implementing effective coping strategies for stress management (Table 1).

Table 1. Health Dynamics in Respondents with Different Health Conditions

Training block	Techniques and exercises	Application purpose
Improving mental stability	Techniques of breathing exercises	to teach participants effective stress management strategies, increase their psychological resilience and adaptability to negative life situations, and provide them with the means to overcome emotional difficulties and maintain mental health in the context of military conflict
Development of communication skills	Reflective listening, "Mirror" technique, role play "Self-presentation", empty chair technique	to develop practical communication skills to improve psychological well-being and the ability to adapt to stressful situations; teach participants how to express their feelings, effectively listen and understand others, build positive interpersonal relationships and develop conflict resolution skills; help participants identify and use appropriate ways to express their needs and aspirations, which will improve their emotional state and perception of psychological distancing in stressful situations
Regulation of psycho-emotional state	Role modelling of reality using the method of analysing practical situations (case study); exercises to identify emotions and feelings	to train participants in effective strategies for self-regulation of emotions and reducing psychological discomfort in the face of stress and traumatic events, relaxation techniques, breathing exercises, meditation and other techniques that help calm the nervous system and reduce anxiety and tension. Participants gain the skills to understand and control their emotional reactions to stressful situations, which helps to maintain mental health and improve overall well-being.

Source: own research

In selecting methods and tools for working with individuals at risk of a destructive psycho-emotional state, it was considered that they require additional assistance in overcoming difficulties that prevent effective and rapid communication. It included increasing motivation for productive activity, developing alternative strategies and solutions, and understanding internal states and psycho-physiological features. Significant attention must be devoted to developing trust, communication skills, and observational abilities. Additionally, fostering the acquisition of self-acceptance and the capacity to accept others is crucial for providing adequate support to those in need.

## 6 Conclusion

Effectively minimising the consequences of stress is fundamental to ensuring individuals' psychological stability and preventing health deterioration. The study's results indicate that during a state of war, individuals display various symptoms of emotional burnout, depending on their health status and other factors. The presented training programme optimises the psycho-emotional state and can be implemented into the psychological assistance system. The programme will enable participants to gain an understanding of the circumstances that can give rise to feelings of tension, anxiety, fear, or self-doubt during a state of war. Given the complexity of the chosen problem, it is essential to define a narrower context for further study. Research on the Russian-Ukrainian war represents a novel and pertinent avenue for investigation. In-depth analysis and the development of a comprehensive framework of psychological and psychotherapeutic tools are essential for implementing effective stress management strategies in Ukrainians' daily lives. Further research and advancements in this field may lead to specific recommendations for enhancing psychological support programs.

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**Primary Paper Section: A**

**Secondary Paper Section: AN**

## INCLUSIVE EDUCATION: BUILDING SPACES OF EQUALITY AND SUPPORT FOR ALL STUDENTS

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**Abstract:** The question of the effectiveness of the inclusive education program with the provision of the principle of equality is becoming more and more relevant in the conditions of modern educational and social challenges due to the growing several pupils and students with disabilities. The problem of the research is to determine the optimal approaches to building spaces of equality and providing support for all participants of the educational process, taking into account their individual needs. The purpose of the article's research is to analyze modern strategies of inclusive education using digital technologies and ensuring legal principles of equality. Particular importance is attached to the need to improve pedagogical competencies based on the experience of European countries, which will contribute to improving the quality of educational services for students with special educational needs. The article examines the legal aspects of equality in education, the importance of adapting digital infrastructure, the experience of developed countries, and the role of pedagogical innovations in creating an inclusive educational environment. On the basis of the proposed methodology, the key areas of development of inclusive education are determined, including the integration of technologies, strengthening of professional training of teachers and development of comprehensive educational programs. The results of the study emphasize the need for further development of inclusive educational strategies, taking into account changes in the labor market and guaranteeing equal access to quality education for all students. The main challenges and prospects of inclusive education are outlined, taking into account the current trends of socio-economic development, and recommendations are offered for the effective integration of inclusive approaches into the educational process. The results of the article highlight the critical role of inclusive education in providing equal opportunities for the development of each individual, emphasizing the need for a comprehensive approach to its implementation.

**Keywords:** inclusive education, principle of equality, people with disabilities, digital infrastructure, pedagogical competences, legal principle, innovative technologies, multicultural integration.

### 1 Introduction

In recent decades, humanity has witnessed a constant increase in the variety of pupils and students with disabilities entering educational institutions at various levels of accreditation. The growth is due to significant advances in the medical field that have allowed children with various physical and mental challenges to live full lives, globalization processes that have contributed to population migration, as a result of which schools and universities have become more multicultural. The increase in the numerous students requires the adaptation of educational systems so that they can satisfy the principle of equality and accessibility for all students. Opportunities to deal with modern challenges include the development and implementation of inclusive educational programs, training of teachers and school administrators in effective methods of working with students with special educational needs. Providing physical access to learning spaces and integrating learning materials with new digital standards is critical to creating a fair and equitable learning environment.

The legal principle of equality between students and students with disabilities is recognized at the international level and in many national laws. It requires formal recognition of the right to education for all, creation of conditions under which every student can fully interact with the educational process and gain knowledge. In a changing labor market, where digital skills are becoming increasingly important, providing a digital infrastructure for inclusive education is of particular importance. Schools and universities focus on high-speed Internet access, adapted digital learning platforms and essential tools for learners with unique requirements. Digitization of education will ensure

equal access to education and prepare students for the challenges of the future labour market.

The improvement of pedagogical competences is especially relevant in the conditions of global changes in the educational field. Focusing on the experience of European countries, where inclusive education has a long history of development and significant successes, should become a useful source of inspiration and practical solutions. European educational systems use innovative approaches to learning through project-based learning methods, gamification, integration of social and emotional learning into academic programs, which are an example of the best adaptation of students with different needs. The exchange of experiences between teachers from different countries can contribute to the development and implementation of effective pedagogical strategies based on the principles of equality, respect and support. Cooperation will improve the quality of inclusive education and create a solid foundation for preparing future generations to live and work in a globalized world.

The purpose of the article is to analyze the effective strategies of inclusive education in order to build spaces of equality and provide support to all participants in the educational process, especially students and students with disabilities. The main problem is to define and adapt educational systems to the growing needs of the pupil and student contingent, considering their specific requirements and ensuring equal access to educational resources through digital transformation. The tasks of the research include the study of modern approaches of European countries to inclusive education, analysis of legal aspects of equality and accessibility of education, assessment of the impact of digital infrastructure on inclusive educational processes. The practical value of the research lies in the contribution to the development of inclusive education, providing recommendations for educational institutions regarding the implementation of effective inclusive practices and strategies, forming the basis for further scientific developments in this important social sphere.

### 2 Literature review

The matter of inclusive education around the world is considered through the prism of finding effective strategies for building spaces of equality and providing support for all students. Considerable attention was paid in the study (Makopoulou et al., 2022) to the experience of European countries in the implementation of inclusive practices at the level of university education. A scientist (Kielblock & Woodcock, 2023) analyzes the influence of national educational policies on the development of inclusive programs and approaches in universities, pointing out the importance of adapting curricula to the needs of all students. A scholar (Hazir & Harris, 2023) examines the role of technology in increasing the accessibility of education for students with disabilities, emphasizing the need for the development and implementation of innovative educational tools. The article (Chin, 2023) focuses on the concern of intercultural competence of teachers as a key factor in the success of pertaining to integrated schooling. The work (Mansur et al., 2023) highlights the methods of formation and development of pedagogical competence in interaction with learners requiring unique accommodations.

As outlined by (Armstrong et al., 2023), the use of interactive digital technologies for the integration of inclusive programs should stimulate the level of learning outcomes. This approach is also implemented in the article (Susilawati et al., 2023), which allows for a more complete understanding of the impact of inclusive practices on the educational experience of students. The author (Done & Andrews, 2020) uses statistical methods between the implementation of inclusive technologies and the academic performance of students, providing valuable data for the further development of policies in the field of education. The

article (Yasin et al., 2023) deals with the ethical criteria of inclusive education, which require careful consideration of geopolitical challenges and their possible development in the diplomatic environment.

The scientist (Rojo-Ramos et al., 2022) notes that the importance of ensuring confidentiality, protecting the personal data of participants and ensuring their free and impartial participation in empirical research should become a priority. According to (Naami & Mort, 2023), there is a need to adapt the research methodology to rapidly changing social and political conditions in order to ensure relevance and relevance to modern challenges. According to (Merrigan & Senior, 2023), special attention is paid to the development and implementation of strategies that can effectively respond to geopolitical changes, while ensuring inclusiveness and accessibility of education for all students. As highlighted in research (Page et al., 2023), the potential for international cooperation is constantly growing due to the importance of legal norms in the educational environment among the countries of the world. The author (Xue et al., 2023) points out that inclusive education requires educational institutions to restructure curricula and create an innovative learning environment where every student will feel valued and involved in the learning process in the post-pandemic period. The article (Azorín & Martínez, 2023) emphasizes the variability of interdisciplinary cooperation between educators, psychologists and social workers for the implementation of inclusive programs, which can be aimed at meeting the various needs of students with disabilities. As noted by (Donath et al., 2023), European countries demonstrate significant success in integrating inclusive practices into higher education through the use of innovative technologies and teaching methods, taking into account the personalized characteristics of students.

According to Jury, 2023, social integration should be implemented during the formation of an inclusive education strategy to ensure equality and overcome manifestations of discrimination. The author (Sirem & Çatal, 2023) claims that the construction of socio-economic infrastructure and the creation of appropriate conditions for integration into the economically active population can become the most important means of the modern public scientific space. The scientist notes (Makhambetova & Magauova, 2023) that compliance with legal norms and principles is key to conducting research in the field of education, because when working with students with special needs, the vulnerability of the social group must be taken into account. The researcher (Walton, 2023) claims that international cooperation should act independently of economic and political competition and form flexibility in approaches to inclusive education. The article (Ari et al., 2022) discusses the potential development of digital education for students with disabilities, emphasizing the need to integrate global and local strategies to address the changing global labor market. Therefore, the review of publications shows the difficulty of inclusive education in ensuring the qualitative principle of equality in modern conditions, requiring further research to develop effective and innovative approaches.

### 3 Methods

The research procedure is based on the evaluation of inclusive education based on the principles of equality and accessibility of education, and provides a comprehensive approach to studying the experience of European countries and the educational practices of universities. The study aims to identify key strategies used to support students with special needs and evaluate how inclusive practices are integrated into the educational process. Data collection was carried out through a critical analysis of empirical studies of journalistic publications, official documents of educational institutions and existing corporate, government practices in the field of education. Special attention is paid to analyzing inclusive education programs at leading universities to identify the most effective methods and approaches that can be adapted or modified for wider implementation. To achieve the goals of research, empirical

investigation techniques were employed, which include qualitative and quantitative methods. Qualitative analysis involves a detailed examination of European universities and state education policies in order to process internal views on inclusive education. Available methods include analyzing statistical data on the need to improve inclusive programs, evaluating the effectiveness of different approaches, and predicting their number due to the increase in many students with special needs. The methodology allows analyzing the state of inclusive education in Europe and identifying trends, challenges and best practices that can be recommended for implementation or improvement. Research on inclusive education, issues of ethical criteria occupy a central place, given the sensitivity of the topic and the need to protect the rights of the research object as a vulnerable social group. Considering the geopolitical challenges of migration crises and political conflicts is important for understanding the impact on inclusive education and developing strategies that can mitigate the potential effects of threats. Research into the development of inclusive education includes adapting to changing conditions, finding new solutions to ensure equal access to education for all students, regardless of their needs, and developing flexible educational programs that reflect global and local educational needs.

### 4 Results

In the period after the spread of the COVID-19 pandemic, a number of problems and challenges faced by inclusive education have emerged. The pandemic has had a significant impact on education systems around the world, particularly affecting students with special educational needs. The transition to online education due to school shutdowns created barriers to access to inclusive education, as not every learner enjoyed uniform access to digital technologies and support. The absence of direct interaction with educators and classmates, coupled with social seclusion, complicated the learning journey, especially for individuals requiring extra assistance. Situations exposed the necessity for the continued enhancement of inclusive educational materials and tactics capable of enduring future crises of a similar nature.

The use of digital technologies in inclusive education plays a key role in surmounting obstacles and guaranteeing equal access to educational materials for all students. E-textbooks, educational programs, interactive platforms and other digital tools can be adapted to the individual needs of students, providing support for those with learning disabilities. Along with the advantages, digitalization has also brought multiple problematic issues regarding ethics, equal access and protection of personal data. Not all students have equal entry to digital resources (devices and internet connectivity), thereby exacerbating educational disparities. There is a risk of misuse of personal information and a lack of attention to the digital well-being of students. A balanced strategy requires educational institutions and politicians to develop effective means of influence that would ensure the safe and ethical use of digital technologies in education.

Inclusive education in modern Europe reflects the growing understanding and acceptance of the guarantee uniform learning chances for everyone. This approach is based on the principle that every child has the right to a quality education that takes into account his individual needs and capabilities, regardless of physical, intellectual, social or economic limitations. The development of inclusive education in Europe is supported by international legislation in the form of the UN Convention on the Rights of Persons with Disabilities, which encourages countries to create barrier-free education systems. European countries are actively working on the integration of inclusive education into national education systems, implementing legislative and regulatory changes, developing teacher training programs, and introducing the latest educational technologies and methods. The principles of building universal education on the basis of equality are depicted in Figure 1., among the most powerful countries in Europe in regarding the caliber of schooling.

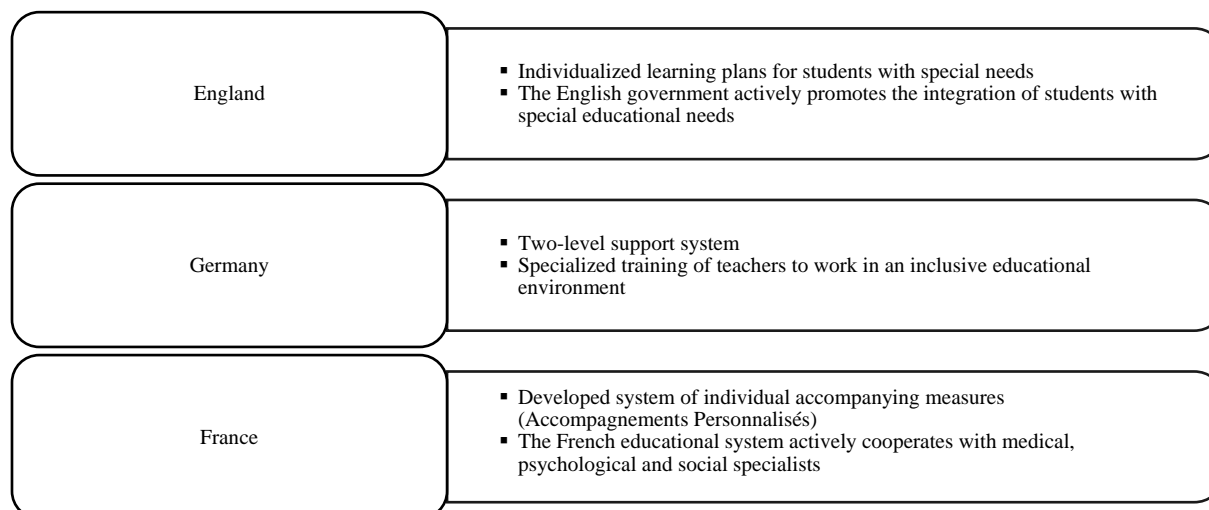


Figure 1. Principles of inclusive education in England, Germany and France

Source: developed by the authors

In the Scandinavian and Baltic countries, special education is based on the principles of equality, democracy and respect for the rights of every child. They are known for their innovative approaches to education, which include early identification of educational needs, integration of special and general education programs, and an emphasis on individualized learning. Finland implements the concept of “school for all”, where special attention is paid to adapting the learning environment to the needs of each student. The Swedish education system emphasizes inclusive pedagogical strategies that promote the participation and success of students with diverse educational needs. In Estonia, Latvia and Lithuania, the development of inclusive educational programs is financed, which emphasizes the joint efforts of the Baltic countries in the direction of cooperation.

The multinational community in Europe is distinguished by its cultural, linguistic and ethnic diversity, acting as a driving catalyst for the development of inclusive education. In the world, most countries are actively forming cooperative educational projects aimed at the integration and support of students with different cultural and linguistic aspects. Joint projects include international partnerships between schools, exchange programs for teachers and students, as well as joint research initiatives aimed at sharing experiences and best practices in the field of comprehensive education. Such interaction contributes to the expansion of the educational potential of participants and forms a deeper understanding and respect for cultural diversity, which is a key element of integrated schooling (Suprun, 2023).

Pedagogical practices aimed at the formation of equality among students in the context of unified education are the foundation for creating a fair and effective educational environment. The use of differentiated instruction, individualized approaches, and positive support allows teachers to respond to the unique needs of each student, promoting their active participation and academic progress. Pedagogical practice is about developing social skills and emotional intelligence that help students interact effectively with each other and maintain a positive school culture. A key element is the creation of an inclusive environment where each learner is cherished and embraced, which promotes mutual understanding, tolerance and mutual respect within the educational institution’s collective. Features of the approaches and their implementation with practical value are shown in Table 1.

In today’s world, we are witnessing a significant increase in the multitude students with special educational needs, which is stimulated by a number of factors, including geopolitical issues and advances in medicine. Geopolitical conflicts and migration crises mean that more and more children with traumatic

experiences need specialized educational support to adapt to new social and educational environments. Advances in medicine are contributing to a higher level of newborns, but with serious medical problems, who need access to education, according to the human rights framework. In turn, the question arises for educational systems regarding the task of adaptation and development of inclusive approaches capable of satisfying a wide range of students’ needs, while ensuring their full inclusion in the educational process.

Table 1. Statistical data on the use of information and communication technologies in the pedagogical process for the period from 2021 to 2023

Approach	Characteristic	Realization
Individualized training	Development of individual study plans to meet the unique needs of each student.	IEPs, adapted materials
Supporting diversity and inclusion	Creating an environment that welcomes and supports student diversity, promoting equality and acceptance.	Non-discrimination policies, inclusive clubs
Professional development of teachers	Giving teachers access to training and resources to improve their effectiveness in the inclusive classroom.	Trainings, online courses
Cooperation with families and the community	Inclusion of students’ families and the local community in the learning process to ensure comprehensive support.	Parents’ meetings, cooperation with NGOs
Accessibility and adaptation of the learning environment	Ensuring physical, sensory and technological accessibility of learning spaces for all students.	Barrier-free access, adaptive technologies
Interdisciplinary support	Involvement of specialists from various fields to provide comprehensive support to students with special needs.	Consultations of psychologists, therapeutic services

Source: developed by the authors

The latest technologies for teaching inclusive education open up unlimited opportunities for the development of digital technology parks and data centers to support various student needs. Interactive platforms, e-textbooks and adaptive software allow students to work at their own pace and based on their unique skills and passions. The use of electronic games and learning stimulation methods can further personalize the learning

process by automatically adapting materials to the needs of each student. For example, a range of students is constantly increasing

in England, which is shown in Figure 2.

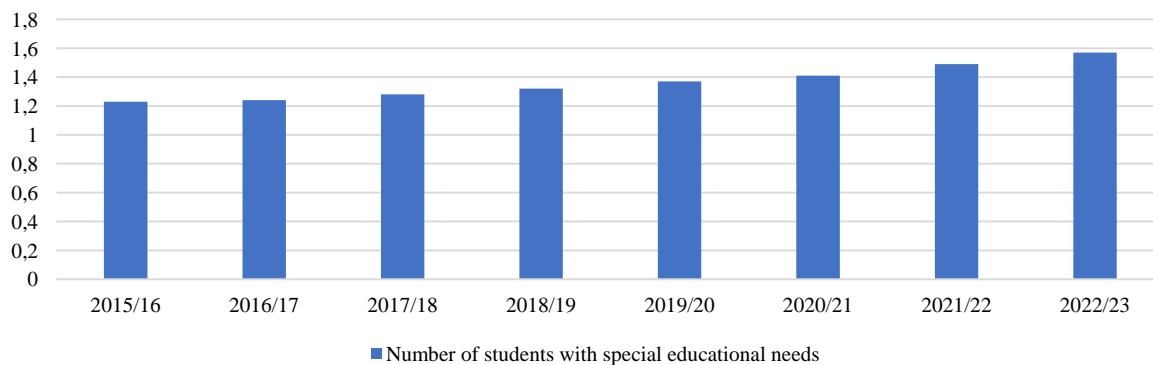


Figure 2. Number of students with special educational needs in England from 2015/16 to 2022/23 (in millions)  
Source: Compiled based on Statista (2024)

The importance of considering ethical issues in the field of universal education becomes special due to the provision of equal opportunities for all students. Violation of rights exacerbates the issue of respecting the rights and dignity of every person, preventing discrimination on any grounds, and guaranteeing access to quality education. The moral foundations of equitable schooling touch on confidentiality matters, the customization of learning plans, and the application of appropriate evaluation techniques that consider the distinct attributes of every student. Challenges related to ethical aspects require educational institutions to adapt policies and practices to develop a culture based on the principles of inclusiveness, tolerance and mutual respect (Suprun, 2018).

Further prospects for the formation of inclusive education in the future vary from the continued integration of innovative technologies to bolstering global collaboration in this domain. Ensuring the development of digital educational resources and adaptive technologies is expressed in a personalized approach to learning, while reducing barriers for students with special needs. Growing globalization and intercultural exchange are transforming the norms of international standards of inclusive education, which will allow joining the efforts of different countries in ensuring equal access to education for all. Implementation of legal perspectives will require significant efforts from governments, educational institutions and the public to create inclusive, accessible and adapted education systems for the needs of all students.

## 5 Discussion

The issue of inclusive education with the aim of building spaces of equality and support for all students remains a promising direction for discussion. The results confirmed that the implementation of inclusive technologies, which was emphasized by (Opoku-Nkoom & Ackah-Jnr, 2023), does increase the accessibility and effectiveness of education for students with special needs, but requires significant resources and training for teachers, similar to the findings. Research (Nwosu et al., 2023) confirmed the thesis of the importance of interdisciplinary cooperation, as the integration of efforts of psychologists, social workers and educators should create an effective inclusive educational system. According to (Ginja & Chen, 2023), geopolitical challenges and migration crises have been found to pose even greater challenges to inclusive education than previously anticipated, requiring adaptability from the digital education system. Ethical factors are emphasized (Karisa, 2023), who focused on the need to protect participants' personal data, especially in online learning. Our own research results, compared to the work (Efendi et al., 2022), allow us to emphasize the importance of an individualized approach in inclusive education, which is the key to success in the implementation of educational programs for students with various needs. The conducted analysis (Makopoulou et al., 2022) indicates the emergence of new methods of evaluating the effectiveness of inclusive programs, which is partially implemented in the experience of England, Germany and France. The practical result

(Sirem & Çatal, 2023) refers to the ethical considerations of protecting the rights of students in the process of implementing inclusive education, which is confirmed by the demand for growth based on the principle of equality. Confirmed theses of the article (Xie et al., 2023) regarding the potential risks of globalization of educational strategies without proper consideration of local cultural and socio-economic contexts. The author (Azorin & Martínez, 2023) emphasizes the need for further research on inclusive education with an emphasis on intercultural and interdisciplinary aspects, the approach of which is emphasized in his own analysis. It is worth agreeing with the statement (Jury et al., 2023) in the priority of developing digital solutions for students with special needs for further integration into the socio-economic space. So, based on the exploration of problematic issues, the problematic existence of ethical and digital solutions for inclusive education was revealed, which requires an individualized approach with an understanding of the specifics of local conditions and needs.

## 6 Conclusions

Thus, the appraisal of holistic education today shows that it is becoming more and more important and relevant in the conditions of a globalized world, where the cultural, ethnic, and socio-economic diversity of the population is constantly growing. The current cycle of events is taking place against the background of an increase in countless students with special educational needs, which is caused by both geopolitical changes and advances in medicine. Innovative technologies and approaches in the form of virtual reality, adaptive learning, provide unprecedented opportunities for personalization of education and its adaptation to the needs of each student. In turn, the corporate policy contributes to the creation of an accessible learning environment where every student, regardless of their individual characteristics, can achieve success. Such changes in the educational landscape require educators, politicians and the public to deeply rethink traditional approaches to learning and teaching. There are numerous problems and challenges on the way to the implementation of inclusive education. One of the biggest challenges is ensuring equal access to educational resources for all students, especially in remote or less developed regions. Physical access to schools and educational materials should be improved, but access to the latest technologies and the Internet remains equally important. The challenges of the COVID-19 pandemic have revealed the vulnerability of education systems to unpredictable global crises, highlighting the need for greater flexibility and adaptability in approaches to learning. To overcome them, it is necessary to take an array recommendations and measures for the further development of inclusive education. The focus should be on ensuring universal access to quality Internet infrastructure and educational resources for all students. It is necessary to develop global and national standards for the protection of student data and the ethical use of educational technologies. In order to overcome cultural and language barriers, it is necessary to implement more inclusive educational programs that take into account the diversity of the student body. Promotion

of international cooperation and sharing of best practices in the field of inclusive education should extend to the practice of educational practices among most civilized countries in the world to stimulate innovation and improvement in this important area. The measures will help create a strong and sustainable foundation for inclusive education that can meet the needs of all students in the foreseeable future.

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#### Primary Paper Section: A

#### Secondary Paper Section: AE, AM

## INNOVATIVE APPROACHES IN PROFESSIONAL FOREIGN LANGUAGE TRAINING OF FUTURE SPECIALISTS

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**Abstract:** In today's rapidly changing world, innovative approaches in the professional foreign language training of future specialists are becoming increasingly important to ensure the effectiveness of the educational process. The purpose of the article is to analyze the impact of innovative methods on the process of foreign language training, identify the main advantages of these methods and develop recommendations for their optimization. The methodology provides a comprehensive approach, which includes the analysis of the experience of international educational programs, market assessment and the practice of applying innovative approaches in language teaching. The results revealed that the use of digital platforms, interactive technologies and project-oriented learning significantly increases student motivation in the educational process. The study indicates the need to adapt innovative approaches to the specifics of the students' professional and linguistic environment. The practical significance lies in the integration of modern technologies into the process of foreign language training, as this requires teachers to have a high level of technological training. The article outlines the role of interdisciplinary aspects and the development of inclusive educational practices, which require educational institutions to be open to continuous professional development. A number of recommended measures to improve professional foreign language training, implementation of individualized training programs, and improvement of teachers' qualifications are provided. Prospects for further research are the development of modular educational programs that would enable the individualization of the educational process.

**Keywords:** innovative approaches, professional foreign language training, interactive technologies, project-oriented learning, gamification, interdisciplinary approach, distance learning, digital platforms, adaptive learning.

### 1 Introduction

In today's globalized world, the training of foreign language specialists is becoming extremely important. Proficiency in a foreign language is an indicator of general erudition and a necessary condition for professional development and competitiveness in the labor market. According to (Myronenko et al., 2023), many professions require basic knowledge of a foreign language, a high level of communicative competence, which allows effective interaction with international partners. From a cultural and ethical point of view, it allows you to understand professional literature, participate in conferences and seminars, and work in multicultural teams. With this in mind, the education system should provide future specialists with the necessary language skills that will allow them to integrate into the global professional space. Knowledge of foreign languages opens access to a wide range of information resources, which contributes to professional development and personal growth. The use of innovative pedagogical methods and approaches in teaching foreign languages is a key factor that ensures the effectiveness of the educational process.

Modern methods, such as project-oriented learning, interactive technologies, gamification, interdisciplinary approach significantly increase student motivation and their involvement in the educational process. According to (Artola, 2023), the experience of foreign countries, such as Finland, the Netherlands and Germany, demonstrates the successful implementation of these methods in the education system. Collaborative learning methods and interactive digital platforms are widely used in Finland, allowing students to actively interact with each other and with teachers. In the Netherlands, special attention is paid to the gamification of the educational process, which makes language learning more exciting and effective. In Germany, the integration of an interdisciplinary approach allows students to apply language skills in different professional contexts, which significantly increases their readiness for real working conditions. The development of digitalization and its impact on

the process of foreign language training is an important aspect of modern education. Digital technologies open up new opportunities for teaching and learning foreign languages, making the learning process flexible, accessible and individualized. The author (Buzási, 2023) believes that online platforms, mobile applications, virtual classrooms and multimedia resources allow students to learn at any time and in any place, which is important in the conditions of globalization and fast pace of life. Digital technologies contribute to the interactivity of the educational process, providing feedback and the possibility of adapting educational materials to the individual needs of each student. The use of machine learning algorithms allows you to create personalized learning trajectories, which increases the efficiency of learning the material. At the same time, digitalization poses new challenges to the educational system, such as ensuring equal access to digital resources and training teachers to use the latest technologies in the educational process.

### 2 Literature review

The issue of innovative approaches in the professional foreign language training of future specialists focuses on the analysis of various methods and strategies that contribute to the effective acquisition of a foreign language in a professional context. The importance of this topic in the modern educational space is emphasized in the work (Hughes et al., 2023), which points to the need to adapt educational programs to the needs of the labor market and specific professional requirements. A study (Gil-Flores et al., 2023) examines innovative teaching methods, including interactive technologies and project-based learning, that promote active student involvement in the learning process. The article (Wang et al., 2018) focuses on the use of digital platforms and interactive content. According to (Anyushenkova, 2023), digital technologies allow to ensure the understanding of the material in order to develop linguistic competences in a professional environment. The author (Pięta & Valdez, 2023) draws attention to the importance of an interdisciplinary approach in foreign language training, which includes the integration of language skills in various professional fields. The scientist (Guichot Muñoz & De Sarlo, 2023) analyzes trends in the further development of professional foreign language training, taking into account the role of investments in the development of language platforms and resources. The work (Trotzke, 2023) emphasizes that funding in the field of development and implementation of innovative educational tools is critically important for improving the quality of foreign language training. According to (Chernovalyuk, 2022), the development of language classes and interactive language programs facilitates access to modern educational resources and platforms for online learning. According to (López-Hernández, 2021), digital technologies for students create opportunities for self-education and support a continuous learning process.

The author (Gomes-Neves et al., 2023) points out the importance of partnerships between educational institutions and language schools for the creation of effective and relevant educational products. The scientist (Shchur et al., 2022) conducts research on the use of a combined methodological approach for a comprehensive understanding of the problems of teaching a foreign language in a professional context. The article (Häkkinen & Mikkilä-Erdmann, 2023) indicates that by means of questionnaires, interviews and case analysis it was possible to identify general trends in approaches to foreign language training in different universities. The author (Symonenko, 2020) believes that for the effective application of various teaching methods and the determination of optimal strategies for the development of foreign language skills, there is a need to create internal language platforms. The study (Cardinale et al., 2023) includes an assessment of the impact of socio-economic factors on students' access to language resources. The article (Pache et al., 2023) aims to develop recommendations for increasing

equality in foreign language training. The scientist believes (Klasen et al., 2023), that they combine traditional teaching methods with modern digital tools. The author (Vorozhbitova et al., 2020) points to the effectiveness of using online courses, interactive webinars and virtual language laboratories in stimulating students' interest in learning foreign languages. According to a study (Tanana, 2022), an important aspect is the development of language skills, critical thinking, communication skills and the ability to work in a team.

Analysis (Havrylenko & Shcherbyna, 2023) shows that the flexibility of educational programs and individual approach to each student contribute to the effective acquisition of foreign languages and professional skills. According to (Kuznetsova et al., 2023), the role of investment in educational technologies and platforms in the development of language training cannot be overestimated due to the growth of international cooperation and the role of multilingual communications. Theses (Antonova et al., 2023) provide insight into modern hardware, software, and interactive content development in creating a stimulating learning environment for foreign language learning. The author (Waddington, 2022) highlights the successful experience of using online platforms for distance learning, which provide convenient access to language resources. The work (Zaçellari & Shala, 2023) emphasizes the need to integrate digital tools into all aspects of the educational process, from lectures and seminars to independent work of students. It can be concluded that the peculiarities of conducting research in innovative approaches to professional foreign language training include the use of an interdisciplinary approach that allows you to cover various aspects of language learning and the development of professional competencies. Taking into account the dynamics of globalization and digitalization, the question arises of the importance of constant monitoring of educational innovations and their impact on the development of language skills and professional competencies of students.

### 3 Research goals

The purpose of the article is to analyze the impact of innovative approaches on the processes of professional foreign language training of future specialists, to identify the main challenges and to determine strategies for their effective implementation. The problem is to reveal the consequences of using innovative methods for professional language development and integration into the international environment. To achieve the goal, a comprehensive approach is used, which includes the analysis of scientific publications, pedagogical research, feedback from students and teachers, as well as real educational practices. One of the promising areas of research is the study of the impact of interdisciplinary integration and the use of modern technologies aimed at improving language skills in various professional contexts. The main tasks are the definition and identification of key features of innovative approaches, the analysis of the effectiveness of various teaching methods, and the development of recommendations to increase their effectiveness and adaptability.

### 4 Materials and methods

The research methodology focuses on the features of the application of innovative approaches in the professional foreign language training of future specialists. It involves three stages, each of which aimed to collect data to analyze the current state and trends in the field. The sample consisted of European countries, such as: Turkey, Bulgaria, Romania, Italy, Greece, France, Belgium, Denmark, Norway, Estonia and Ukraine. The first stage consisted in revealing the theoretical concepts of innovative methods and their application in teaching a foreign language for professional purposes. A number of interactive platforms and innovative methods used in language training were selected for technology research. At the second stage, an analysis of reports on the development of professional foreign language training was carried out, including statistics on the use and level of foreign language proficiency in the studied countries. With the help of the available statistical data, an

assessment of the possibility of applying innovative approaches in the educational process was provided using the deductive method. Focusing on market trends, increasing globalization processes, the study revealed key growth drivers and potential challenges faced by market participants. According to the collected data, the main criteria for the use of innovative approaches in professional foreign language training are disclosed. The appropriate approach made it possible to reveal the main methods of language training through online platforms and the potential of innovative methods. The third, final stage was the analysis of the impact of innovative approaches on the development of the industry of professional foreign language training and the outline of prospects for further development. It was determined that innovative approaches to language teaching play a decisive role in the formation of effective language skills. Pedagogical experience focuses on real language use in professional environments and communicative situations. In the conditions of constant digitization and globalization, the prospects for the further development of innovative approaches are closely related to the integration of the latest technologies. Technological innovations contribute to the integration of students into the learning process, ensuring continuous interactivity and the correspondence of educational methods to the real professional needs of the modern world. The practical experience of applying innovative approaches in the practice of European countries for implementation in Ukraine has been revealed. Based on the conducted research, the article provides recommendations on the possibility of applying innovative approaches in professional foreign language training and prospects for further development.

### 5 The results

Innovative approaches in the professional foreign language training of future specialists play a leading role in the modern educational process. The use of the latest methods and tools allows you to significantly increase the effectiveness of training, adapting it to the real needs of students and the labor market. One of the main tasks of modern education is to create conditions for the integration of language skills in the professional context. It provides graduates with competitiveness and readiness to work in multicultural environments. Various approaches emphasizing the active participation of students in the educational process, the development of their motivation and involvement, contribute to better assimilation of the material and increase the level of their communicative competence. The general state of development of language skills among European countries is shown in Figure 1.

Belgium, Denmark, Norway and Estonia demonstrate a high level of foreign language proficiency. In Belgium, only 22% of citizens speak no language, while 23.5% speak three languages. Denmark has 9.8% of citizens who do not speak any language, but 28.1% speak three languages. Norway stands out, where 43.7% of citizens speak three languages, and only 7.9% speak none. Estonia has the lowest percentage of citizens who do not know any foreign language (4.5%), and the highest percentage of those who know two (43.2%) and three languages (33%). The analysis shows that in countries with a high level of foreign language proficiency, such as Estonia, Norway, Denmark and Belgium, the use of innovative approaches in language training is more widespread and effective. Countries demonstrate that the integration of innovative methods, such as the use of digital technologies, gamification and project-based learning, can significantly increase the level of foreign language training of citizens.

The use of interactive technologies in language training provides a new level of interaction between students and teachers. Interactive platforms and resources allow you to create a dynamic learning environment where students can actively interact, receive instant feedback and adapt learning materials to their individual needs. Modern approaches promote the development of critical thinking skills, the ability to work in a team and solve complex problems, which are important



components of professional competence. Thanks to the use of interactive technologies, learning becomes more interesting and exciting, which significantly increases the motivation of students

to learn foreign languages. The main innovative approaches in the training of language competence specialists are listed in Table 1.

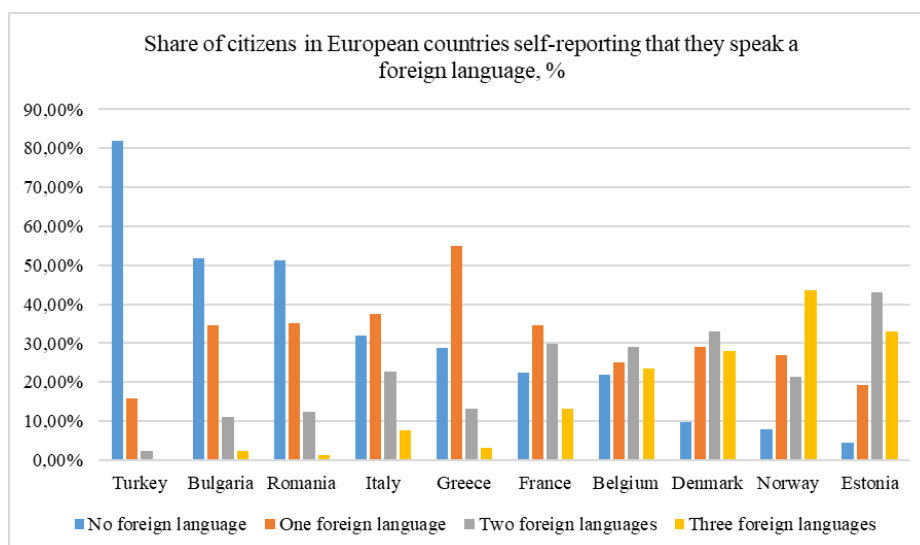


Figure 1. Share of citizens in European countries self-reporting that they speak a foreign language in 2022, by country  
Source: Compiled based on Statista data (Statista, 2023)

Table 1. Innovative approaches in professional foreign language training of future specialists

Innovative approach	Application	Foreign experience
Project-oriented learning	Students work on real projects using a foreign language	Finland - collaborative projects in interactive platforms
Gamification	The use of game elements in the educational process	Netherlands - integration of games in language courses
Interactive technologies	Use of multimedia resources and online tools	Germany - use of virtual classes and interactive platforms
Interdisciplinary approach	Integration of foreign language skills in different professional contexts	Germany - courses that combine language skills with professional disciplines
Online courses and distance learning	Learning with digital platforms and resources	USA - widespread use of MOOCs (massive open online courses)
Use of mobile applications	Mobile applications for learning foreign languages	China - the popularity of mobile applications for learning English
Virtual language laboratories	Virtual environments for interactive language learning	Canada - the use of virtual laboratories in language training
Artificial intelligence and machine learning	Personalized learning trajectories based on algorithms	Japan - implementation of AI in language platforms for curriculum adaptation
Multimedia resources	Use of video, audio and interactive materials	Great Britain - integration of multimedia resources into educational programs
Joint projects with international partners	Implementation of joint projects with universities and companies from other countries	European Union - Erasmus+ programs for joint educational projects

Source: compiled by the author

Digital technologies have become an integral part of modern language education, offering a wide range of tools to improve learning efficiency. Online platforms, mobile applications, and multimedia resources allow students to learn anytime, anywhere, making education flexible and accessible. Digital technologies contribute to the personalization of the educational process, allowing the creation of individualized learning trajectories that meet the needs and abilities of each student. The implementation of digital technologies requires teachers to have a high level of technological training and continuous professional development for the effective use of these tools in the educational process. An interdisciplinary approach in language training allows you to integrate language skills in various professional contexts, which significantly increases their readiness for real working conditions. This approach stimulates the development of language competences and professional skills, which are critical for a successful career. Teachers can use real cases, professional documents and situations that students may encounter in their future work. The pedagogical approach forms preparation for

professional activities, increases students' confidence in their language abilities and readiness to use them in practice. Innovative approaches to foreign language training also include the use of project-oriented learning and gamification, which makes the learning process more exciting and effective.

Project-oriented learning involves the implementation of real projects by students, which allows them to apply language skills in practical situations. Gamification, or the use of game elements in education, increases student motivation and makes the learning process interesting. The latest methods contribute to the development of critical thinking, creativity and the ability to work in a team, which are important components of professional competence. Thanks to such approaches, learning becomes interactive and the most popular in European countries. Key methods can be implemented in Ukraine, which is in difficult socio-economic conditions. These training approaches are systematized in Figure 2.

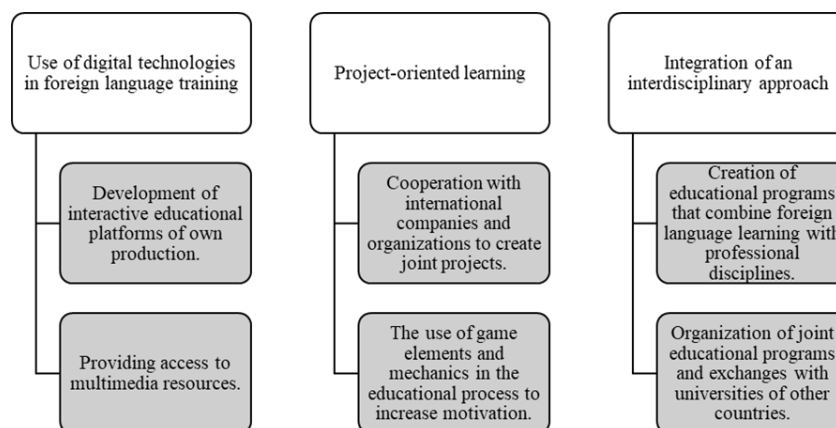


Figure 2. Possibilities of implementing innovative approaches in foreign language training of specialists in Ukraine  
Source: compiled by the author.

The prospects of professional foreign language training of future specialists in Ukraine are extremely important in the conditions of the war and its impact on the educational process. The war led to significant changes in the structure and organization of education, which required adaptation and introduction of new approaches to foreign language training. One of the key prospects is the development of distance learning, which is becoming not just an alternative, but a necessity for many students. Online platforms make it possible to ensure the continuity of the educational process, even in conditions of displacement or stay in dangerous zones. The implementation of interactive technologies and resources that provide feedback and adaptive learning is becoming critical for maintaining student motivation and engagement in learning.

It is appropriate to implement the integration of an interdisciplinary approach to foreign language training, which takes into account the language skills and professional competencies of students. In the conditions of war and post-war reconstruction of Ukraine, it is important to train specialists who will be able to work effectively in an international environment, communicate with foreign partners, attract investments and contribute to the recovery of the country's economy. The integration of language courses with professional disciplines such as business, medicine, engineering and IT will allow students to develop the necessary skills for their future professional activities. Cooperation with international educational institutions and the organization of joint programs, exchanges and internships will also contribute to the improvement of the quality of education and the formation of global thinking among students.

Therefore, support and development of teaching staff capable of effectively teaching foreign languages in conditions of rapid changes and challenges is critically necessary. Training teachers to use the latest technologies and interactive teaching methods is critically important. Attracting foreign experts to conduct trainings, seminars and exchange of experience will contribute to improving the qualifications of Ukrainian teachers. Creating conditions for the professional development and support of teachers, especially in wartime, will help ensure the stability and quality of the educational process. Investments in technology, infrastructure and educational resources, as well as the development of strategies to overcome the psychological and social consequences of war for students and teachers, are necessary for the restoration and development of the system of professional foreign language training in Ukraine.

## 6 Discussion

The study of innovative approaches in the professional foreign language training of future specialists revealed a significant influence of interactive teaching methods, which is confirmed in the research of other scientists. The use of digital platforms and

interactive content in an article (Karhut et al., 2023) showed an increase in student engagement and an improvement in their language skills, which correlates with self-reported results. Our study reinforces the idea (Handabura et al., 2020) about the importance of project-based learning, which allows students to integrate language skills in a professional context. Compared to the conclusions (Dumasivskiy, 2023), which emphasize the use of an interdisciplinary approach, the actual study confirms the need for a comprehensive approach to foreign language training. The author (Gallagher-Brett & Lechner, 2023) points to the value of online platforms for distance learning, which is confirmed by the results about convenient access to language resources and support for independent learning. According to (Mikhailenko & Zharkova, 2023), the integration of digital tools into all aspects of the educational process is critical. Analysis (Cinganotto, 2023) emphasizes the role of investment in educational technologies for the development of language training, which finds confirmation of the hypothesis in the results regarding the need for modern resources. On the other hand, the work (Mikroyannidis et al., 2023) emphasizes the need for a combined methodological approach, which encourages consideration of innovative technologies for teaching. The hypothesis (Iwata et al., 2023) regarding the use of modern equipment and interactive content is supported by our results about a stimulating learning environment. The obtained results support the idea (Bertotti & Fargion, 2023) about the development of language laboratories and interactive programs to ensure access to modern educational resources. Despite the high evaluation of the effectiveness of digital tools, as stated in the study (Matsumura, 2022), it remains critical to ensure equal access to resources for all students. Therefore, the training of future specialists in foreign language competence is critically important, but the methods of achievement require further research.

## 7 Conclusion

Thus, the analysis of innovative approaches in professional foreign language training of future specialists was carried out. It was found that the use of interactive platforms, mobile applications and web tools contributes to a significant increase in students' motivation, improvement of their language skills and active involvement in the educational process. Theoretical analysis confirmed the effectiveness of project-oriented learning and an interdisciplinary approach, which allows for the integration of language skills in the professional context. Empirical data obtained during the research showed that modern technologies facilitate access to educational resources, provide opportunities for independent learning and professional development. It was determined that the integration of the latest technologies into the process of foreign language training requires teachers to have a high level of technological training and continuous professional development in accordance with the experience of the Baltic countries.

However, there are certain problems that can affect the effectiveness of the implementation of innovative approaches in professional foreign language training. One of the main problems is uneven access to digital resources among students from different regions and socio-economic strata, which can create an additional barrier in the learning process. An important challenge is the need to adapt educational programs to rapidly changing technological conditions and labor market requirements. This includes constant updating of course content, teaching methods and learning materials, which requires significant financial and human resources. The integration of new technologies into the educational process can cause resistance from teachers and students who are used to traditional teaching methods, which requires additional training and motivation.

Based on the conducted research, a number of recommendations and necessary measures can be provided to improve professional foreign language training. First, equal access to digital resources should be ensured for all students by developing infrastructure and providing financial support. Secondly, it is necessary to implement training programs for teachers, which will include training in modern technologies and methods of their use in the educational process. It is also important to develop individualized educational programs that would take into account the specifics of the students' professional environment and their personal needs in learning a foreign language. An ongoing dialogue between educational institutions, language schools and technology companies should be maintained to create effective and relevant educational products. It is important to carry out regular monitoring and evaluation of the implemented innovative approaches to identify their effectiveness and make the necessary adjustments in a timely manner. The proposed measures will ensure a high level of professional foreign language training and prepare students for the challenges of the modern globalized world.

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**Primary Paper Section: A**

**Secondary Paper Section: AI, AM**

## INTERNATIONAL LEGAL REGULATION OF CYBER POLICY, CYBER SECURITY, AND DIGITAL CONFLICTS: INTERNATIONAL COOPERATION OF STATES

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**Abstract:** Information can be as harmful as weapons in today's world. Cyber threats are increasing every year, making this issue more relevant than ever. Cyberattacks are chaotic activities that aim to cause harm or destruction to vital information. The purpose of the article is to examine the relationship between international law and cyberspace, specifically focusing on the legal aspects of cybersecurity and digital conflicts. The protection of the information space is a pressing issue that requires fruitful cooperation among leading countries worldwide. International cooperation in cybersecurity aims to find ways to protect against external threats by improving the regulatory and technical framework. It is important to note that the security situation in the world is increasingly threatened by cyber threats every year. Currently, countering cybercrime is mainly focused on improving international legal norms and balancing the legislation of leading countries in the world. The article discusses the importance of studying cybersecurity in modern cyberspace. It characterises the main concepts of the topic and reveals the content of international methods for combating cybersecurity. Emphasis is placed on the expediency of fruitful cooperation among leading countries in overcoming the negative impact of cyberattacks on infrastructure, economy, government, and security sectors. The importance of Ukraine's collaboration with major global powers in safeguarding the information space is highlighted.

**Keywords:** cyberattack, cybersecurity, digital conflict, Internet, international law, unauthorized actions with information, countering cyber-attacks, finance, financial security.

### 1 Introduction

The topic of cybersecurity is a prominent issue in international legal discourse. Discussions on this topic have been ongoing for decades and have yielded fruitful results. Strengthening cyberspace is not the responsibility of one state alone but requires a comprehensive approach from all developed countries. As the saying goes, "many hands make light work". The cooperation of developed countries in the field of cybersecurity is reinforced by legal developments and outlined by strategies that must be followed. The purpose of the study is to examine the unique features of international law in relation to cyberspace, specifically focusing on cybersecurity and digital conflicts.

### 2 Literature review

Insufficient attention has been given to researching the peculiarities of international law and cyberspace, as well as aspects related to cybersecurity and digital conflicts in domestic practice. Some domestic scholars study this problem based on domestic experience. In international law, cybersecurity is a significant issue. In his research, M. V. Kamchatyi (2017) outlines the main principles of conducting cyber warfare in the international information space. Another researcher, Yu. H. Danyk, investigates the basics of cybersecurity and cyber defence, elucidating key concepts such as "cybersecurity", "cyber threat", "cyberattack", and others. V. Ya. Novytskyi suggests that one of the main reasons for conducting cyber warfare is to influence contemporary world politics. The author describes the unique aspects of conducting cyber warfare in the current political and legal landscape.

### 3 Research methods

The paper employs general scientific and specific research methods. General scientific methods are used to identify the main issues of the topic, such as cyberspace, cybersecurity, and information technology. Specific methods include the systemic-structural method, which characterises the international legal mechanisms actively employed in modern international law to combat cyber threats. In general, the use of scientific and technical methods provides comprehensive coverage of international law and cyberspace issues.

### 4 Results

The development of science and technology has influenced the nature of collaboration among people. As non-verbal communication is the primary form of interaction, ensuring information and cybersecurity becomes particularly important in this context (Novytskyi, 2021, 85).

It is essential to note that there are currently 7.8 billion people inhabiting the planet Earth, 4.2 billion of whom are active internet users. The UN reports a steady growth in the number of new internet users. The COVID-19 pandemic in 2019 highlighted the importance of the internet for remote work, education, online sales, negotiations, business, and communication, in addition to entertainment. According to the UN's statistical data, internet traffic tripled during the pandemic period (COVID-19, 2020).

The main tasks facing state institutions include ensuring information and digital sovereignty:

- bringing legislation in line with international standards in the field of cybersecurity;
- preventing the use of advanced information technologies to disseminate harmful information that could harm society and individual groups;
- finding a socially acceptable balance between freedom of speech and the dissemination of information;
- transition of state institutions to the use of software and hardware that has several levels of protection, etc.

The significance of the Internet is widely acknowledged. Statistical data highlights the need for regulation of legal relations pertaining to its use, protection of human rights and freedoms, peaceful network usage, self-defence against cyberattacks, and safeguarding information and data confidentiality. Other issues that may arise during network usage must also be addressed. The issue of defining and establishing an international legal regime for cyberspace deserves special attention (Nihreieva, 2020).

As per Article 2, Clause 54 of the Law of Ukraine "On Electronic Communications", the Internet is defined as a global electronic communication network designed for data transmission. It comprises logically and physically connected elements of individual communication networks, and its functioning is based on specific processes and network protocols (Law No. 1089-IX, 2020). In scientific literature, the term "cyberspace" refers to an environment created by physical and non-physical components, which is characterised by computing technology and the electromagnetic spectrum for the purpose of modifying, storing, or exchanging data using computer networks. Some researchers define "cyberspace" as a specific environment consisting of a set of computer networks (Kamchatyi, 2017, 153).

Law No. 2163-VIII provides definitions for key concepts related to cyberspace, including "cyberspace", "cybersecurity", and "cyber defence". According to Article 1 of the Law, cyberspace refers to a virtual space that facilitates communication and social

interaction. This space is created through the operation of compatible communication systems that use the Internet or other global data transmission networks.

Clause 5, Article 1 of the Law defines cybersecurity as the protection of important social and state interests during the use of cyberspace. Its purpose is to ensure the development of the information and communication environment, and the timely detection and neutralisation of potential threats to Ukraine's national security in cyberspace.

As per Clause 7, Article 1 of Law No. 2163-VIII, cyber defence refers to a collection of organizational, legal, engineering, and technical measures designed to prevent cyber incidents, promptly detect and protect against all forms of cyberattacks, mitigate the consequences, and restore information, communication, and technological systems.

Given the issues outlined, it is worth noting that the terms "information space security" and "cybersecurity" are relatively new concepts that have arisen from the development of IT technology, as well as input from specialists, consultants, policymakers, and other key stakeholders. The Oxford English Dictionary defines "cybersecurity" as protection against unauthorized use of electronic data or measures adopted to achieve such protection (Voronenko & Tuzhyk, 2017).

The World Economic Forum's Global Risks Report for 2019 identifies cyberattacks as one of the top ten global risks. Between 2017 and 2019, 90% of national critical infrastructure institutions, such as those in the energy, healthcare, industry, and transportation sectors, experienced at least one cyberattack. These attacks had a detrimental impact on their operations, according to the Ponemon Institute (2019).

According to Ye. V. Kotukh, "cyber" is a complex element of the information society that is closely intertwined with various elements of the legal, economic, and political security sectors. Cybersecurity encompasses several important factors, including risk assessment incurred during cyberattacks, emergency recovery, cryptography, and performance of security operations (Kotukh, 2022).

V. F. Antypenko (2013) argues that international partners must take immediate action to protect against and eliminate cyber threats. One of the primary objectives of international law is to support and maintain peace, which cannot be achieved if war is used as a means of national policy. Therefore, international legislation should respond promptly to emerging modern challenges.

The UN General Assembly passed a resolution on December 11, 2000, expressing concerns that the application of science and technology for military purposes could lead to the development of advanced weaponry, including weapons of mass destruction. The UN General Assembly's 1975 Declaration noted with concern that scientific and technological advancements could be used to fuel an arms race or suppress national liberation movements, potentially depriving individuals or peoples of their rights. O. O. Merezko, a domestic researcher, points out that international law lacks clear criteria for distinguishing simple computer vandalism from attacks that have a serious impact on a state or society (Merezko, 2010).

According to M. Yu. Yatsyshyn, there are two possible approaches to defining and establishing cyberattacks in modern international law, which shape cyber warfare. This would fall under the purview of international humanitarian law if certain defining criteria are met:

- 1) Cyber means of influence are classified as military force or military violence.
- 2) They are carried out within a state or by organized armed groups.

Within the virtual space, borders cannot be clearly defined, making it difficult to determine the origin of a particular cyberattack (Yatsyshyn, 2018).

The initial advancements in the field of informatization and telecommunications date back to 1998, with the research conducted by the First Committee of the UN General Assembly. The primary objective of this committee was to guarantee information security through international collaboration and to engage as many states, private sectors, and civil societies as possible in discussing and addressing pressing issues in the realm of information and digital security. Since 1998, the cyber information space has rapidly developed.

In the event of cybersecurity breaches, the task of bodies combating cybercrime is to determine which specific international laws need to be invoked to address violations in cyberspace. Cybersecurity is recognized as a transnational task at the international level, aimed at protecting against unauthorized influences. This is a common goal of all civilized countries. Efforts to overcome cyber threats demonstrate an increase in international security in the cybersphere. However, they also highlight the need to find new ways, measures, and guarantees that can effectively combat and neutralise cyber threats.

It is worth noting that international law is based on national cybersecurity strategies of individual states and regional security strategies when it comes to cyber defence and the realisation of global public interests in the event of a global threat. Thus, at the regional level, cybersecurity is implemented according to a number of principles, including:

- administrative-territorial organisation of cyber defence of society, protection of places and objects of critical infrastructure that may be subject to cyberattacks;
- an integrated comprehensive approach to the organisation of cybersecurity in a particular region;
- inseparability of security from the development of society and the state, etc.

Cybersecurity cannot be effectively ensured at the regional level. However, effective mechanisms should be put in place to facilitate protection within small territorial units, as well as at the national and international levels (Danyk, 2019, 57-58).

According to K. Spansion, cyberattacks are weapons of terrorist states during hybrid wars. Following the full-scale invasion, cyberattacks have become a frequent occurrence in various sectors of the domestic economy and society, including the government and economy. It is important to note that humanity's reliance on cybersecurity has created significant challenges, not limited to a single country. The energy, medical, economic, and state sectors have been the primary targets of cyberattacks recently.

When discussing economic stability, it is important to note that interference in the state's financial sector has a negative impact on all of its activities (Spansion, 2022).

According to researcher S. B. Tsybenko, a state should aim to end any digital conflict or intervention. Any security measures taken to protect against cyber threats must adhere to the international standards outlined in the 1950 Convention (Tsybenko, 2022).

The international community is actively responding to issues related to the protection of privacy, personal data, and information security as the protection of human rights, freedoms, and privacy rights is recognised as a worldwide priority. However, cybercrimes are now recognised as a serious threat to international peace and security. Several states have committed to combating cybercrime and cyberterrorism through close and productive international cooperation in the fields of law and security. This cooperation involves monitoring technologies, communications, and resources used as tools for committing crimes on the Internet. Significant progress has been made

recently in developing norms of bilateral and multilateral cooperation to combat cybercrime (Cybersecurity, 2021).

The opinion of S. Fedoniuk regarding the increasing complexity of information security issues with each passing year is noteworthy. This is primarily due to the development and application of information and communication technologies and network interactions. However, this exacerbation does not exclude world politics. Currently, there is competition among influential political actors, namely the most powerful states in the world, and their external and internal strategies in the development of information security.

From a policy perspective, there are generally two different views on information security. Some states implement norms that entail strong government control over information, while others support a position that may threaten political stability. The world has divided into centres where their own concepts and visions regarding the protection of the information space from cyberattacks and threats have been developed (Fedoniuk, 2022).

The Prosecutor of the International Criminal Court, K. Khan, has stated that cyber-crimes may fall under the jurisdiction of the ICC if they meet the requirements of the Rome Statute (1988). Cyberattacks, according to the prosecutor, can have the same impact as armed attacks, but without the physical presence of a perpetrator. They can result in human rights violations, destruction of critical infrastructure, loss of property, and other valuable resources. Therefore, it is necessary to review the institution of international law to ensure that all instruments interact comprehensively and effectively.

As such, the prosecutor proposes expanding the application of the Rome Statute of the ICC to cyberspace. International criminal law, by its nature, refers to cases that occurred in the past. However, it is crucial to look ahead and focus all efforts on finding new ways to combat cybercrime (Khan, 2024).

According to Ukrainian cyberspace researcher I. V. Diorditsa, to prevent cyber threats and their negative consequences, it is important to create a legitimization plan. This involves developing and enshrining legal definitions at the legislative level to avoid misunderstandings and discrepancies in their application by different states. These procedures can help prevent collisions with other regulatory acts, define their content, and establish legal practices (Diorditsa, 2017, 100).

## 5 Discussion

Leading European countries are compelled to take decisive action to combat cyberattacks. Since the 1990s, EU countries have been actively developing and implementing measures to enhance protection against cyberattacks. There have been discussions in the international legal space for a long time regarding the regulation of cyberspace. However, discussions were brought to an end and a shift towards direct action was made due to constant interference in the cybersecurity of countries.

It is important to note that countries are often interdependent in both informational and conceptual aspects when studying cybersecurity threats. This becomes evident when one state depends on another. Ukraine was such a state until recently. Furthermore, Europe has not consistently been willing to counteract Russia's information aggression and establish an effective policy to combat disinformation (Diorditsa, 2015).

In today's society, every state faces the urgent challenge of ensuring information security in the face of cyber threats. The yearly global cybersecurity evaluation raises significant concerns regarding the inadequate protection of citizens in the current information landscape. The spectrum of problems varies widely, from technical weaknesses of a state to vulnerabilities in its systems (Maria Claudia Menezes Leal Nunes, 2021).

It is advisable to establish partnerships between leading countries to quickly respond to unlawful incidents caused by cyberattacks. To effectively combat cyberattacks and unauthorized breaches, it is important to strengthen not only the legal sphere of protection but also the economic, political, social, and security sectors. It is crucial to address the human factor as well, as many employees lack the knowledge to properly respond to external threats. Only IT professionals can recognize subtle cyberattacks. Standard rules should be developed for employees to follow in case of a suspicious situation.

The development of a national cybersecurity system capable of adequately protecting the country's information space is currently the most important task for many international organizations. The state of cybersecurity in Ukraine over the past two years of full-scale intrusion has shown not such a weakness after all. Various cyberattacks from aggressors have demonstrated that the domestic cyber system is capable of resisting external threats. According to the international agreements it has concluded, Ukraine cooperates in the field of cybersecurity with leading countries worldwide, including their defence departments. At the same time, Ukraine directs its efforts towards consolidation and close cooperation with NATO countries in joining the collective cybersecurity assurance system.

Currently, Ukraine is actively leveraging the experience of NATO and other state agencies of member countries to develop a national cybersecurity system. Organising resistance to cyber threats, implementing information and communication security standards, and developing technical capabilities of Computer Emergency Response Teams (CERT) to respond to cyber incidents are all included in cybersecurity. Due to hybrid warfare and e-governance, cybersecurity is a top priority for Ukrainian state policy.

Therefore, like the rest of the world, the level of protection against cyberattacks in Ukraine is inadequate. Although international cooperation in this area continues, no country can claim to be completely protected from all cyber threats. However, achieving the goals of the state and society requires collective efforts to combat cybercrime. Reforms that have already been implemented are yielding positive results (Dumchykov, 2022). Collaboration with international partners, public, governmental, and non-governmental associations to protect against cyber threats is yielding positive results.

Regarding the contribution of non-governmental organizations and society in combating cybercrime, it is important to note that their primary role is to prevent criminal violations in cyberspace by ensuring greater internet network security. One of society's main responsibilities is to use licensed equipment, protective software, exercise caution when using PCs and internet resources, and protect personal data. Considering these measures can improve overall internet security and reduce the number of cybercrimes (Holub, 2016).

Modern cyberattacks often have a latent period lasting several months, making timely detection difficult. Therefore, experts must regularly search for new forms of protection. Effective cybersecurity requires comprehensive and constant application of innovative developments and cutting-edge technologies. To ensure a high level of protection, continuous research and development in cryptography, steganography, and technical security are necessary. A comprehensive approach is required to achieve the desired result and create a reliable network that is no longer vulnerable to external threats.

Considering the new information security strategies of leading countries, international bodies have prioritised addressing cybercriminals' use of the internet to carry out cyberattacks. To achieve this, these institutions are actively developing and implementing effective strategies and mechanisms to prevent the dissemination of harmful materials on the internet.

## 6 Conclusions

The level of effective functioning of Ukraine's domestic cyber system can be indicated by the country's international cooperation and the experience of leading countries in the field of cybersecurity. In today's world, threats are constantly evolving, and criminals are increasingly using new resources to weaken national security, seize personal data, or obtain other valuable information. After researching the issue, it is important to note that the security of the world is increasingly threatened by cybercrime each year. The main focus in countering cybercrime is currently on improving international legal norms and balancing legislation among leading countries worldwide. The continuous advancement of scientific and technological progress leads to new forms of cyberattacks. However, most of these attacks do not cause significant harm, and their consequences can be restored relatively quickly in most cases.

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### Primary Paper Section: A

### Secondary Paper Section: AG



## LINGUISTIC DIVERGENCE IN THE CONTEXT OF GLOBALIZATION: AN ANALYSIS OF LINGUISTIC CHANGES AND ITS IMPACT ON CULTURAL IDENTITY

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**Abstract:** The article investigates how linguistic differences affect cultural identity within the framework of globalization. In a modern world where global communications and cultural exchange are closely intertwined, language is becoming a key factor in the formation and expression of cultural values and identity. The paper explores modern methods of analyzing language change and considers the impact of language policy on the preservation of cultural diversity. The study focuses on expanding the understanding of the relationship between language and culture in the era of globalization. It also emphasizes the importance of expanding linguistic and cultural diversity in the modern world. The article aims to determine the impact of linguistic divergence on cultural identity and to highlight the methods of analyzing linguistic changes in the context of globalization. The research findings revealed that the issue of linguistic diversity in the context of globalization is very complex and multifaceted.

**Keywords:** linguistic divergence, cultural identity, language policy, global communications, language technologies, cultural diversity, relationship between language and culture.

### 1 Introduction

Language divergence is a consequence of external influences and internal dynamic processes within a linguistic community. This process can be initiated by certain sociocultural or historical events, such as revolutions, political changes, or economic transformations (Auer et al., 2005). Additionally, the development of technology and mass communication tools, including social media and online platforms, impacts the linguistic exchange among people, giving rise to new slangs and communication standards. Language divergence is also linked to the process of identity and the principles of national and cultural self-awareness. Sometimes, language becomes a symbol of national identity. Besides, in the context of globalization, people may strive to preserve their language to safeguard their cultural roots and unique identity.

Globalization, on the other hand, is a worldwide phenomenon that involves increasing interaction and integration among different parts of the world in the realms of economics, culture, and social relations. Globalization makes the world more interconnected, reducing distances and communication barriers (Blommaert, 2010). In a globalized society, information spreads rapidly through modern mass communication tools and the Internet. This makes the world more informed and united, allowing people to perceive and analyze data from various sources and perspectives. However, globalization also sparks debates and criticism due to its potential negative consequences, such as job loss resulting from deindustrialization and economic inequality or the loss of local cultural identity due to the dominance of global cultural standards (Gogolin, 2018).

Linguistic divergence is a process of linguistic evolution that occurs under the influence of different cultures and language groups. It is inextricably intertwined with globalization. The latter causes intensified communication and cultural exchange between different corners of the world, uniting geographically distant regions into a single network of interconnections (Brown & Ainley, 2009). This combination has a global impact and creates new challenges and opportunities in the field of

preserving cultural identity, linguistic diversity, and mutual understanding between different groups of people. In this aspect, language is becoming more than just a means of communication. It is becoming a symbol and a tool for expressing cultural values and identity.

### 2 Literature review

Due to the rapid spread of globalization in the modern world, linguistic divergence has become a subject of active research in linguistics and other related fields. The essence of this phenomenon lies in the differences and distinctions between language variants that arise due to the interaction of different cultures, language communities, and global processes (Kramsch, 2018). Linguistic divergence becomes a key issue in studying linguistic changes and their impact on cultural identity in the context of globalization.

One of the main factors leading to linguistic divergence is the influence of globalization processes. The commonality of cultural and linguistic influences accompanying globalization leads to changes in language communication. Scholars identify various aspects of this phenomenon, including lexical changes, syntactic transformations, and pronunciation peculiarities (Pennycook, 2018). Researchers point out that globalization has a contradictory impact on linguistic divergence. On the one hand, it may contribute to the spread of certain dominant languages, mainly English, and reduce the importance of smaller language communities (Kolibaba, 2005). On the other hand, globalization also promotes the mutual influence of different languages and the creation of new linguistic phenomena, which can enrich the vocabulary of languages.

Furthermore, linguistic divergence becomes a significant factor in defining cultural identity. Language serves as a key element of cultural heritage and determines who we are, where we come from, and to which cultural community we belong. The impact of language on cultural identity is highly important, especially in the context of globalization. Language is a means of communication and a way of conveying cultural values, traditions, and history (Suresh, 2019).

Linguistic divergence in the context of globalization plays a crucial role in shaping cultural identity and mutual understanding between different language communities. Academics in this field make a significant contribution to understanding the processes underlying linguistic divergence and its impact on cultural diversity. Their studies help to identify and explain linguistic changes that occur in the context of globalization. They also emphasize the importance of preserving linguistic heritage for future generations (Liddicoat, 2016).

### 3 Methods

The research on linguistic divergence in the context of globalization is based on a meticulous analysis of language changes in different cultures and their impact on the cultural identity of linguistic communities. Our research methodology encompasses the following key steps:

- **Data Collection.** Linguistic data was gathered from various linguistic communities and cultures to analyze linguistic divergence. It includes poly-national English as an example of linguistic divergence. Texts, audio recordings, and other sources were utilized for this purpose.
- **Analysis of Language Changes.** The collected data underwent linguistic analysis to identify language changes in different cultures. We examined various aspects of language, including lexical differences, syntax, pronunciation, idiomatic expressions, and grammatical features.

- *Comparative Analysis.* The methodology includes a comparative analysis of language changes in different cultures. We compared English in the United States, the United Kingdom, and other linguistic communities.
- *Study of Impact.* The research included an analysis of the impact of language changes on cultural identity and the consequences they bring about. We carefully examined how language alterations affect the perception of cultural heritage and the identity of linguistic communities.
- *Analysis of Language Policy.* The study encompassed an analysis of the role of language policies in shaping cultural identity. We examined the measures taken by states and governments to support minority languages and preserve cultural diversity (James, 2015).

This methodology allowed us to thoroughly explore linguistic divergence in the era of globalization and its influence on the cultural identity of linguistic communities. The analysis of linguistic changes in different cultures has provided an opportunity for a better understanding of the interrelationship between language and cultural identity in the modern global world.

**4 Results and Discussion**

Linguistic divergence in the context of globalization presents a multifaceted and intricate challenge. While globalization facilitates communication and the exchange of ideas and information among people from various parts of the world, it also gives rise to complexities. This fosters opportunities for the prominence of "global" languages like English, Spanish, and French, which function as mediums of communication that bridge diverse cultures (Risager, 2015). These languages become tools of international communication and are used in various domains, including business, science, politics, and culture. Globalization motivates numerous individuals to acquire proficiency in these "global" languages, thus improving their opportunities in the international job market and enabling effective communication with individuals from diverse nations. Mastering such languages becomes a priority for many people, as it can open new opportunities and provide a competitive edge.

On the other hand, this process can reduce the importance and usage of less widely spoken languages. Minority languages and dialects may become less competitive in the context of globalization, leading their linguistic communities to face challenges in preserving their linguistic heritage. The impact of globalization on linguistic diversity in different parts of the world is illustrated in Figure 1.

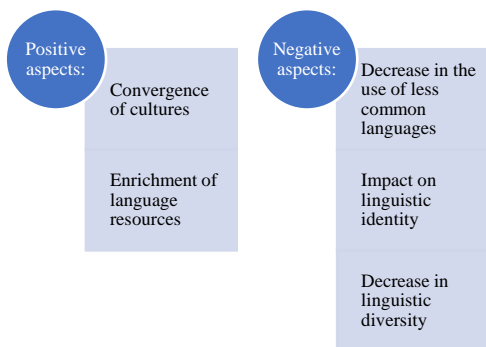


Figure 1. Positive and negative aspects of globalization for linguistic diversity. Source: compiled by author

Positive aspects include:

- *Convergence of cultures.* Globalization allows people from different parts of the world to interact and exchange cultural values, leading to increased interest in other languages and cultures, as well as a growing popularity of learning foreign languages.

- *Enrichment of language resources.* Globalization allows languages to borrow from other languages, leading to the enrichment of linguistic resources.

The negative aspects are as follows:

- *Decrease in the use of less common languages.* Globalization can decrease the significance of less widespread linguistic variants as "world" languages become dominant. This may threaten minority languages and dialects.
- *Impact on linguistic identity.* Globalization results in a change in linguistic identity. People may feel pressured to use "world" languages rather than their native language, which can affect their cultural identity.
- *Decrease in linguistic diversity.* Globalization influences the standardization of language variants and leads to a loss of linguistic diversity. Some language variants may become endangered or less frequently used.

Each language carries unique cultural values and traditions, and preserving them is essential for describing the cultural richness of the world. When adapting to a new sociocultural environment, linguistic identity may be abandoned in favor of a dominant language, leading to its gradual extinction. Preserving linguistic diversity in the era of globalization requires coordinated efforts from both national and international communities. It is essential to develop language programs, support minority languages, and create opportunities for intercultural exchange to preserve the richness of linguistic diversity in the modern world. Various methods and approaches are used to investigate linguistic changes in the context of globalization, allowing the detection and analysis of linguistic phenomena. The primary contemporary methods for researching linguistic changes are analyzed in Table 1.

Table 1. The main modern methods of studying language changes.

Method	Description
Corpus-based study	Corpora of language data, which include text and audio recordings. They allow linguists to analyze large volumes of texts to identify language changes in different contexts and parts of the world. This method helps to identify the popularity of certain words, phrases, and lexical differences.
Sociolinguistic research	Sociolinguistics studies how sociocultural factors influence the use of language. It helps to analyze linguistic changes depending on age, gender, social status, and other factors.
Linguistic analysis of media	Scholars examine the utilization of language in mass media like television, radio, newspapers, and the Internet to pinpoint linguistic shifts and assess the influence of globalization on communication.
Ethnographic studies	The research on language changes includes the study of language practice and perception in different cultures and communities.
Quantitative analysis	Utilizing statistical techniques for the identification and analysis of linguistic transformations using data from corpora and various sources.
Anthropological studies	Research examining language within the framework of sociocultural shifts and exploring how globalization influences cultural identity.

Source: compiled by author

These methods allow researchers to obtain detailed information about linguistic changes and their impact on the contemporary linguistic landscape. They help understand the processes of linguistic divergence in different cultures and regions of the world. The influence on linguistic diversity is not limited to the

popularity of "world" languages alone. World media, international news agencies, movies, television, and music often use English and other "world" languages to create content with a global audience. This leads people around the world to encounter these languages on a daily basis and even learn them through consuming such content.

The growth of international organizations and international business relations in the modern world opens up vast opportunities for some languages to become essential tools of global communication. Organizations like United Nations (UN) and the World Trade Organization (WTO) use English and other languages as official languages for documents, meetings, agreements, and communication among different countries. This makes these languages essential for international communication and conducting international trade, cooperation, and diplomatic relations.

Under the influence of international organizations, many people in different countries study English as a second language since it offers more opportunities to participate in international projects and communicate with partners from other countries. The growing number of individuals proficient in English and other global communication languages plays a role in disseminating these languages across diverse regions worldwide. Additionally, multinational firms, corporations, and business partners from different countries also use English for communication and making agreements.

Multinational English exhibits a wide array of dialects and variations, spanning British English, American English, Australian English, and various other regional forms worldwide. These variants of the English language have differences in pronunciation, vocabulary, and grammar.

The lexical differences between American and British national variants of pluricentric English are essential for understanding the linguistic diversity of the English-speaking world for several reasons:

1. *Reflection of historical and cultural contexts.* Lexical differences have arisen due to historical and cultural processes. They reflect colonial legacies, migration patterns, sociocultural features, and language development in two distinct environments. Understanding these differences helps to gain a better insight into the history and culture of each region.
2. *Means of self-identification.* Lexical differences can be significant for residents of each region as a means of self-identification. They use specific words and expressions to emphasize their belonging to a particular cultural group.
3. *Communication and mutual understanding.* Knowing these differences is vital for communication and mutual understanding among English speakers from different regions. Enhancing language proficiency can be advantageous for travel, commerce, educational endeavors, and international exchanges.
4. *Language study and linguistics.* Lexical differences become the subject of study for linguists and language researchers, helping to expand our understanding of language processes taking place in the world (Chandler & Munday, 2011).

In conclusion, lexical differences create versatility in the use of the English language and reflect the cultural and historical diversity of an English-speaking world. This diversity enriches the language and provides it with numerous options for expression and communication.

An example of lexical differences between American and British English pertains to words used to describe an automobile. In British English, the term "car" is often used, whereas in American English, the more common term is "automobile" or the shortened form "auto." These variations in the use of words can lead to misunderstandings in international communities and

underscore the influence of cultural and historical differences on language.

Another illustration of lexical disparities between British and American English pertains to the vocabulary used to describe technical objects. In British English, a polyethylene sheet is referred to as a "polythene sheet" or "polythene film," while in American English, it's called a "plastic sheet" or "plastic wrap." In the United Kingdom, the term "lift" is used to refer to vertical transportation, such as an escalator or elevator. However, in the United States, this object is called an "elevator." This difference in terminology reflects the use of different technical terms and highlights how, even in specialized fields, there can be lexical variations within these two variants of the English language.

The same applies to cuisine. In British English, a fruit dessert with a crumbly topping is usually called a "crumble," whereas in American English, it's a "fruit cobbler." In British English, "chips" refer to thinly sliced, deep-fried potatoes, while in American English, such a dish is known as "fries" or "French fries." This difference in terminology is quite common and can lead to minor inconveniences when ordering food in restaurants or fast-food establishments in different countries.

In the British national variant of English, there is a phenomenon known as "Received Pronunciation," which is the pronunciation standard for British English. In this version of pronunciation, some consonant sounds are pronounced differently than in the American version. For example, in British National English, particularly in the southern regions, the consonant sound /r/ is usually not pronounced before a vowel sound, i.e., "car" is pronounced /kɑː/. In the American version, on the contrary, the /r/ sound is pronounced before vowels, and the word "car" is pronounced like /kɑːr/. This difference in sound pronunciation is one of the most prominent characteristics that differentiate British and American English, and it can occasionally lead to misunderstandings for speakers of both language variants.

1. A notable grammatical distinction between British and American English lies in the use of diverse grammatical constructions and expressions:
2. *The use of Present Perfect Tense.* British English tends to employ the Present Perfect tense more frequently to signify past actions with present relevance. In contrast, American English often opts for the Past Simple tense. For instance, in British English, one might say, "I've just finished my work," emphasizing the action's connection to the present moment. On the other hand, in American English, the expression might be, "I just finished my work," with less emphasis on its current relevance.
3. *The use of Present Continuous Tense.* In American English, Present Continuous is sometimes used to express future actions, especially when discussing plans or arrangements. In British English, the "going to" construction is the more prevalent choice for this purpose. In American English: "I'm meeting him at 5 PM tomorrow." In this example, the Present Continuous indicates a future action and expresses a plan for the future. In British English, the same sentence might look like this: "I'm going to meet him at 5 PM tomorrow." In British English, the "going to" construction is more frequently employed to express future plans, while the Present Continuous tense is typically reserved for more general future actions without a strong emphasis on premeditated plans.
4. *Noun Variants.* In American and British English, different words or expressions are sometimes used to refer to the same objects. For instance, in the United States, the term "apartment" is used to refer to a flat, whereas in the United Kingdom, "flat" is used.
5. *Use of Articles.* There are cases where articles, for example "the", are used in American English, where they may be omitted in British English, and vice versa. American English: "I'm going to the hospital." British English: "I'm going to hospital."
6. In this example, in American English, "the" is typically used before the word "hospital" to indicate a specific hospital. In

British English, the article "the" may be omitted, and the phrase "to hospital" is used to convey the same meaning but without the article.

Different language communities have their own idiomatic expressions, idioms, and slang words that differ in terms of lexical specificity and semantics from other language varieties. Such a diversity of linguistic expressions reflects not only the cultural peculiarities of each language community but also historical connections, ethnic influences, and regional language usage features. Idioms and idiomatic expressions are often the most exciting aspects of a language, revealing the depth of cultural diversity and the specificity of each language community:

1. *"Taking the biscuit"* (British English) and *"Taking the cake"* (American English). These idioms are used to express surprise or annoyance about something unfair or unacceptable. The expression "Taking the cake" is more common in American English, while in British English, "Taking the biscuit" is more frequently used.
2. *"Being on the ball"* is used to indicate that a person is alert and quick to respond to events. This phrase is equally used in both variants of the English language. In this case, British and American English are identical.
3. *"To be at sixes and sevens"* (British English) and *"To be at sixes and eights"* (American English). These idiomatic expressions are used to denote confusion and disorder. They differ in the use of the numbers "sevens" and "eights" and are considered regional variations.

The differences in vocabulary, pronunciation, grammar and use of the idiomatic expressions shown are examples of linguistic differences between British and American English. These differences have arisen as a result of historical, cultural and social influences in the course of adapting to the needs of different communities. At the same time, the coexistence and spread of different variants of one idiom around the world is possible in the context of globalisation.

Nevertheless, it's crucial to bear in mind that globalization may also result in the decline and disappearance of smaller language communities and linguistic variations. Conditions under which certain languages lose their significance may be associated with economic factors, migration, and other aspects of globalization. A notable instance illustrating how globalization has contributed to the decline of language communities is evident in the context of the Irish language (Gaelic). The Irish language is a part of Irish culture and national identity. However, globalization and other factors have led to its decline in many regions of Ireland.

The influence of globalization has increased the role of the English language as a language of international communication and economic importance. From this perspective, the Irish language has become less useful for professional growth and global interaction, resulting in a loss of interest in its study and use. The migration occurring within Ireland, along with the influx of foreign residents, has also fostered the fusion of linguistic communities, diminishing the count of Irish language speakers in specific regions.

Migration and intercultural exchange play pivotal roles in shaping linguistic diversity within the framework of globalization. Migration, which involves individuals relocating from one region to another, often in response to global economic and political shifts, offers people the chance to select new places to live, seeking improved economic and social prospects. This migration process commonly results in the blending of linguistic communities and facilitates the dissemination of specific languages in previously uncharted territories. As a result of migration, languages from diverse cultures can seamlessly integrate into the linguistic tapestry of a new region.

"Manglish" serves as an example of linguistic divergence that emerges in regions with a high immigrant population and a rich history of intercultural communication, like London. This

phenomenon entails the fusion of linguistic elements from various languages and cultures during interactions (Chandler D. & Munday R., 2011). In "Manglish," individuals incorporate words, phrases, or expressions from diverse languages, including English, Malay, Chinese, Tamil, and many others.

Language speakers can combine words and phrases from the English language with expressions from other languages, creating a unique linguistic style that reflects cross-cultural influences. This approach involves using words from different languages to describe specific concepts or using linguistic expressions that are typical for particular cultures. Below are some examples:

- "Lepak" is a Malay word that means to relax or spend time without a specific purpose. In "Manglish," this word can be used to describe leisure time or a relaxed atmosphere: "Let's just lepak at home this weekend" means, "Let's relax at home this weekend."
- "Makan" is another Malay word that means "to eat" or "food." In "Manglish," it is used to describe a meal: "Let's go makan at that new restaurant."
- "Jalan" is a Malay word that means road or path. In "Manglish," it is used to discuss a route or path: "Take the jalan on the left."

Intercultural exchange is a significant phenomenon that plays a key role in shaping the linguistic landscape and diversity. This phenomenon is largely driven by the growth of international communication, which enables people from different cultures and language groups to find common ground and exchange ideas. International travel is another essential aspect of intercultural exchange. People who travel or move to other countries study the language and culture of the new place, which can lead to the exchange of linguistic influences. Furthermore, education also plays a significant role in intercultural dialogue (Gumperz & Jacquemet, 2005).

Students from different countries come to universities and educational institutions abroad, studying and interacting with peers from various cultures. It fosters the exchange of knowledge and linguistic influences. Universities frequently establish international settings for learning and research, fostering an environment where students can collaborate in their studies and projects. Cultural events, such as international festivals, exhibitions, and concerts, also play a crucial role in intercultural exchange. These events attract visitors from around the world, creating unique opportunities for communication and the exchange of cultural and linguistic aspects.

Linguistic divergence occurring in the context of globalization has a significant impact on the cultural identity of communities and nations. Typically, the main function of culture is to preserve a nation's historical heritage, making it a crucial factor in shaping the identity of language speakers. Most groups refer to historical events in their past to reinforce a unified cultural identity that already exists. They may also seek to create a new cultural identity, providing them with a basis for reform or the implementation of specific social changes.

Clearly, the global migration of a large percentage of the world's population leads to cultural and social changes in both migrant and indigenous communities. The inexorable need to coexist and form a new cultural identity under specific conditions raises questions about the most beneficial changes in cultural identity within the framework of globalization for national communities and the international community as a whole.

Some critics of cultural identity argue that preserving cultural identity based on the principle of differentiation can create barriers in society. They note that cosmopolitanism, which regards all language speakers as part of one group, can provide a greater sense of community (Heller, 2019). In this context, it is essential to strike the right balance between the desire to stand out among others and be recognized as a representative of a particular culture and the necessity of adhering to the rules and

norms of the society in which you live, trying to overcome the disparity of styles and traditions that shape the original cultural identity of an individual and the new global culture.

Language is a key element of culture and often serves as a symbol and carrier of identity. The influence of linguistic divergence on cultural identity can be comprehended by examining interconnected and complementary fundamental aspects (Figure 2).

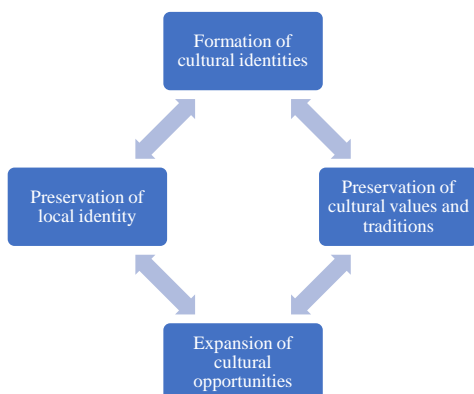


Figure 2. The main aspects of language divergence's impact on cultural identity.

Source: compiled by author

- *Preservation of cultural values and traditions.* Each language has its unique history, literature, and expressiveness that reflect cultural values and practices (Gunew, S., 2004). The loss of linguistic diversity can lead to the loss of these cultural aspects. Preserving languages and language variations helps safeguard cultural heritage.
- *Formation of cultural identities.* Language identity is closely tied to cultural identity. People identify themselves through language and use it to express their national, ethnic, and cultural belonging. Linguistic divergence can shape different language identities, affecting how one perceives themselves and their culture.
- *Expansion of cultural opportunities.* Preserving linguistic diversity allows communities to access a broader range of cultural resources. Language serves as a means of transmitting knowledge, literature, art, and other aspects of culture. Different languages provide the opportunity to embrace the diversity of cultural expressions.
- *Preservation of local identity.* In many cases, language is associated with specific regions and local communities. Maintaining language diversity helps safeguard regional and local identities in the context of globalization (Filler, 2016).

Overall, linguistic divergence has both positive and negative impacts on cultural identity. One example of the positive effect of linguistic divergence on cultural identity is the language issue in Scotland. Scottish Gaelic is a dialect of the Gaelic language used in the northern parts of Scotland. Due to various historical and sociocultural factors, including the dominant position of the English language and the past prohibition of Gaelic use, this language faced the threat of extinction. However, in recent decades, there has been a revival and support of the Gaelic language in Scotland through reforms in school education and initiatives aimed at preserving cultural heritage.

On the other hand, the negative impact of linguistic divergence on cultural identity can be observed in the disappearance of smaller language communities under the influence of globalization and the dominance of global languages. For example, the languages of indigenous peoples often face the threat of extinction due to the actual or potential disappearance of language communities through the adoption of dominant languages (James, 2015).

In many indigenous communities in Canada, globalization and the English language are encroaching on the traditional languages of the indigenous peoples. It leads to the threat of these languages and their associated cultural practices becoming endangered. For example, the Ojibwe language, which was a significant component of the cultural identity of this nation, is experiencing a decline in usage, especially among the younger generation. This process is a result of the growing dominance of the English language and the absence of language policies to support indigenous languages. The loss of the Ojibwe language leads to the loss of linguistic heritage and knowledge associated with this language, which is a crucial element of the cultural identity of this nation. A critical aspect of the impact of linguistic divergence on cultural elements is the development of unique linguistic traditions and literary works. Linguistic divergence also influences the emergence of different cultural norms and social customs (Canagarajah, 2018). Each linguistic community has its own rules regarding politeness, family relationships, celebrations, and traditions. This is an essential aspect of cultural diversity that arises from different languages and modes of communication.

For instance, questions of politeness and etiquette can vary in British English and American English. In British culture and British English, where there are longstanding traditions of royal protocol, politeness and formality are of significant importance. For example, British English speakers use expressions like "please" and "thank you" more frequently in daily communication. These polite phrases reflect the general norms of British culture, where a great deal of emphasis is placed on formality and etiquette.

Meanwhile, in American culture and American English, there may be a greater simplicity in communication and a greater focus on informality. The American national variant of the global English language contains fewer formal expressions compared to the British national variant, which makes communication more direct and informal.

Some examples of how British and American English speakers express politeness are shown in Table 2.

Table 2. Expressions of politeness by British and American English speakers.

	British English	American English
Greetings	«Good morning! How are you today?»	«Morning! How's it going?»
Asking about the name	«May I ask your name, please?»	«What's your name?»
Gratitude	«Thank you ever so much for your help.»	«Thanks a lot for your help.»
Request	«Could you possibly pass the salt, please?»	«Mind passing the salt?»
Saying goodbye	«Goodbye, take care»	«Bye, see you later»

Source: compiled by author

These examples demonstrate how American English often employs simpler and more informal expressions than British English, where greater emphasis is placed on formality and politeness. This difference in communication is part of the cultural specificity of these varieties of the English language.

Considering the multi-ethnic nature of the English language and its global dissemination, it is essential to acknowledge that sociocultural norms and customs can vary significantly in different parts of the world. Differences in sociocultural norms and practices create intriguing features in communication and the perception of words and expressions in the English language. For example, the word "dinner" in British English refers to the main evening meal, whereas in American English, "dinner" is used to denote a midday or evening meal.

Linguistic divergence contributes to the development of different aspects of culture. One vivid example of this is music and song lyrics. Different countries and linguistic communities use various linguistic features and idioms in song lyrics. This can influence the style, expressiveness, and perception of musical compositions.

Song lyrics in the English language are known for their metaphorical nature. However, in different variants of English, such as British and American, various linguistic means may be used to express emotions or ideas. This leads to the creation of music that reflects cultural and linguistic differences among different communities (Zentz & Svalberg, 2015). Similar tendencies can be observed in other forms of art, such as literature, film, painting, and other creative forms, where language and cultural context play a significant role in creating and perceiving artistic works.

The role of language policy in shaping cultural identity and influencing linguistic divergence in the era of globalization has two key aspects. Firstly, language policy supports the preservation of minority languages, contributing to the preservation of cultural diversity. It is achieved through the funding of language programs, the development of language education, and the creation of cultural initiatives (Moha, 2005). Secondly, language policy stimulates cultural heritage through language. It can support literary, artistic, and cultural projects that use a particular language to express cultural values and history, thus preserving unique aspects of cultural identity.

Ensuring quality language education is vital for the development and preservation of language. Language policy determines how it is studied, taught, and used in educational institutions. It can also regulate the use of different languages in society to ensure equality among language groups and prevent the dominance of one language to the detriment of others.

Some countries have a bilingual or multilingual language policy that supports the use of several languages for national communication. It helps celebrate diversity and the richness of cultural identity. To a significant extent, language policy determines which languages surround us daily. This policy influences the perception of language as a key element of cultural identity. Speakers and communities should actively care about preserving their language and cultural heritage in order not to lose an essential aspect of their identity in the context of global development.

## 5 Conclusions

Intercultural exchange and linguistic divergence play an essential role in shaping the linguistic environment and cultural identity in the context of globalization. International communication, tourism, education, and cultural activities facilitate the exchange of linguistic influences and expand the cultural opportunities of communities and nations.

The preservation of languages and their variants helps to maintain the historical heritage of nations and national communities and provides an opportunity to express cultural values and traditions. In addition, linguistic identity is closely related to cultural identity. Moreover, linguistic divergence can create different linguistic identities, affecting the perception of oneself and one's culture.

In the context of globalization, it is vital to balance the desire to preserve one's linguistic identity with openness to other cultures and linguistic influences. As a result of this balance, we can contribute to both maintaining our uniqueness and understanding and cooperating with different cultures in the context of global development.

The issue of language policy remains an important aspect of further research, which involves analyzing the government's efforts to preserve language communities, develop language education, and create cultural initiatives. The issue of the

multilingual approach in the language policy as a way to protect cultural diversity and cultural identities is also a subject of interest for future research.

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**Primary Paper Section:** A

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# MANAGING EMERGENCIES: UTILISING HISTORICAL INSIGHTS FOR STRATEGIC ENHANCEMENT

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**Abstract:** In a constantly changing world, the ability to manage crises effectively determines the stability and resilience of organisations in the long term. It is especially significant in the context of global interconnectivity and rapid technological development, where crises can immediately impact various aspects of life. The research conducted focuses on three key aspects of crisis management. The first section examines the significance of combining strategic planning with the latest innovations, enabling organisations to anticipate and respond to potential crises flexibly and efficiently. The second section analyses gender diversity in leadership and its impact on crisis management. Gender-diverse leadership teams can offer a broader range of approaches and solutions, enabling a more balanced and comprehensive crisis resolution strategy. In the third section, we explore the role of social media as a tool for effective crisis management, highlighting its ability to provide rapid data collection and analysis, which is essential for timely responses to crises. The research findings reveal innovative strategies and approaches in crisis management that merge strategic planning with gender diversity and the latest communication technologies.

**Keywords:** innovative strategies, communication technologies, emergencies, public administration, civil security.

## 1 Introduction

Crisis management becomes particularly relevant in a world constantly reshaped by economic shocks and political crises. Learning from the past and using that knowledge to enhance future strategies is vital for the survival and prosperity of modern organisations. Our article aims to deepen theoretical and practical knowledge in this critical area by underlining the importance of this task. Emergencies, ranging from natural disasters to technological accidents and epidemics, require prompt and effective public management decisions to ensure civil safety. Therefore, it is essential to develop flexible strategies that can be quickly adapted to changing conditions while still ensuring the protection and safety of citizens. In this context, practical crisis management approaches, strategic planning, and the inclusion of gender diversity in leadership are crucial for creating a public management system ready to meet contemporary emergencies' challenges.

The research results are divided into three sections, each highlighting specific aspects of crisis management. The first section concentrates on strategic planning and innovation, demonstrating how advanced technologies and creative approaches can enhance an organisation's capacity to anticipate and respond to crises. The second section examines the influence of gender diversity and leadership qualities on effective crisis management, evaluating how diverse perspectives can enrich decision-making processes. The final section concludes the review by discussing the role of social media in crisis management. It explores the potential of social media as a tool for rapid data gathering and communication with key stakeholders. Synthesis of these three key areas provides deeper insight into building robust crisis strategies that are effective for the present and future, leading to new heights of flexibility and progress.

This article aims to present an overview of current approaches and methodologies in crisis management, particularly emphasising the significance of crisis forecasting and the creation of predictive models. We seek to investigate the relationship between strategic planning, leadership, and innovation in addressing crisis challenges and analyse the effect

of gender diversity on decision-making processes in crises. In this study, we examine the function of social media in crisis management, specifically as a means of data collection and effective communication.

## 2 Literature review

In today's fast-paced world, managing crises is a significant challenge for organisations of all sizes and types. The study by Adamski and Gallagher (2022) emphasises the significance of an integrated approach to crisis management in critical care settings. It highlights the need for adaptation and rapid response to changing circumstances. Ahmed et al. (2023) further analyse the impact of integrated artificial intelligence on crisis management and lean production. Using a structural equation model, their research underlines how technological innovations can contribute to more efficient crisis management. Arrieta and Davies (2024) continue their research on local self-governance in England and the constraints of resilience in crisis management. They reveal that despite efforts, structural and resource constraints can hinder the effective resolution of crises.

The study by Asinithara et al. (2023) focuses on the practical application of digital social media analysis for crisis management. It demonstrates the potential of machine learning models to categorise tweets during disasters and identify and respond to emergencies in real time. Bahorka et al. (2022) examine the role of marketing activities in crisis management, highlighting the significance of establishing and retaining consumer trust during and after crisis periods. The authors' analysis enhances comprehension of how effective communication and marketing strategies can contribute to crisis management.

The research conducted by Bothe et al. (2023) analyses the role of the OSCE in supporting peace and security, with a focus on conflict prevention, crisis management, and peaceful dispute resolution. The study expands the discussion, highlighting the global aspect of crisis management and the significance of international collaboration for successful conflict resolution. Continuing the analytical literature review on crisis management, it is essential to note the study by Brecher and Wilkenfeld (2022). The authors provide a comprehensive overview of crisis theories and their management, analysing various dimensions of crises, from political to social, and offering a comprehensive view of mechanisms for effective response. This general understanding of crisis management is complemented by the study by Buhagiar and Anand (2023), which focuses on the synergy between leadership, knowledge management, and organisational learning as critical elements in crisis management. This triad contributes to the development of flexible strategies and increases the efficiency of crisis management.

Curmin et al. (2023) investigate the perception of strategic decision-making by crisis teams during training and identify key dimensions for assessing the effectiveness of crisis management. The research highlights the importance of practical training and strategy rehearsal in improving crisis preparedness. El-latif et al. (2023) analysed the impact of strategic intelligence on crisis management effectiveness in four and five-star hotels in Luxor and Aswan. The study found that a high level of strategic intelligence can significantly improve the ability to respond effectively to crisis events. Gernego et al. (2022) examine crisis management in the energy sector in the face of increasing epidemiological risks. The authors emphasise adapting crisis management strategies to the sector's specificities to ensure resilience. Haase (2023) discusses the uncertainty in crisis management, highlighting the importance of flexible and adaptable strategies for effective responses to unforeseen events. Jin's (2023) research proposes a Crisis Communication Think Tank (CCTT) approach to crisis management. The study highlights the importance of integrating communication

strategies with overall response plans and emphasises the significance of communication and interaction as a foundation for successful crisis management.

The following study, which is part of an analytical review of literature on crisis management, is by Pohrishchuk et al. (2023). The study focuses on modelling the application of crisis management in the economy's engineering sector. It highlights the importance of a strategic approach to crisis management in this field and the need for innovative solutions to overcome economic challenges.

Raut et al. (2022) conducted a study examining the impact of workforce flexibility on crisis management, focusing on job characteristics and support from higher administrative authorities in public management. The authors identify flexibility as a crucial factor enabling effective crisis response and promoting organisational resilience. Salnikova et al. (2019) propose a matrix approach to risk management in the national security system. The approach distinguishes criteria for selecting an optimal decision-making strategy, allowing for the systematic and efficient management of risks. It is crucial for ensuring national security. The study conducted by Sharma et al. (2022) analyses the evolving role of innovation in crisis management during the COVID-19 pandemic through an integrative literature review. The authors highlight the significance of innovation in addressing crises, providing novel prospects for improving crisis management effectiveness. Sharma et al. (2022) investigate the potential of big data analytics in crisis management from the perspective of information processing theory. The authors contend that big data can enhance an organisation's ability to respond to crises. Shpak and colleagues (2022a; 2022b) analyse the interconnection between macroeconomic indicators and CO2 emissions in the EU. They propose management strategies for reducing ecological impact. These studies are crucial for understanding the economic aspects of crisis management in the context of environmental sustainability. Shulga and Busser (2024) examine the management of the COVID-19 crisis in terms of human resource costs, emphasising the significance of transformational leadership and ethical climate. The study highlights the crucial role of leadership and organisational culture in effective crisis management.

Karlsen and Antonsen's research (2023) stands out in crisis management during pandemics. They offer a literature review of crisis management from 1984 to 2019, analysing how the perception of crisis management has changed. The authors emphasise pandemic preparedness and response, highlighting the importance of strategic thinking and adaptability. Ketter (2022) investigates crisis management strategies in tourist destinations, exploring their resilience and recovery after a crisis. The study highlights the distinction between recovering to a 'previous state' and achieving 'a better state,' which is crucial for comprehending the long-term effects of crisis events on tourist regions. Ledi et al. (2024) investigate the impact of gender diversity and strategic thinking on crisis management. Their findings suggest that integrating these factors into crisis strategies significantly improves efficiency. It is essential to note the need for straightforward integration of gender diversity and strategic thinking in crisis management. Li et al. (2023) propose an optimisation model for crisis management and public safety in cities through the integration of artificial intelligence technologies. The research highlights the potential of AI in improving responses to crises and managing public safety.

Maghdid et al. (2022) analyse the causes and consequences of crises in the public sector, emphasising the importance of transitioning from crises to effective crisis management. The authors suggest a deep understanding of crisis phenomena is necessary to develop resilient management strategies. The study by Oh et al. (2022) examines crisis management to ensure sustainable corporate value. The authors reveal the interplay between social distancing, crisis response, and its severity and determine that finding a balance among these factors is critical to effective crisis management. Oscarsson (2022) views crisis management as a dynamic process intertwined with everyday

work activities, emphasising the importance of adapting to changing conditions. This research shows that successful crisis management requires flexibility and integration with regular work processes. Park et al. (2022) emphasise the significance of internal resources in enhancing local government resilience, highlighting their importance in crisis management. The authors suggest that strengthening internal resources is crucial to effective crisis response.

In her study, Syrovatka (2024) examines the end of the strict austerity era and national competitiveness councils' failures. The author argues for the need to rethink European crisis management approaches and adapt strategies to the changing global economic circumstances. Tanashchuk et al. (2018) present theoretical and methodological principles for managing the capital structure in telecommunications operators' innovative activities. Their work emphasises the importance of innovation as a critical element in strategic crisis management, especially in technology-oriented sectors. Uy et al. (2023) demonstrate the application of the theory of adaptive crisis management, focusing on the dynamics of leadership in times of crisis. They find that flexible leadership can significantly improve an organisation's ability to respond effectively to unforeseen challenges.

Wolbers (2022) explores distributed sensemaking in crisis management, using the Utrecht terrorist attack as a case study. This account emphasises the significance of coordination and collaboration among organisations for effective crisis resolution. Xue et al. (2022) introduce the fundamental concepts of crisis and crisis management and discuss the challenges of transitioning to crisis management in China. This study reveals the global context of crisis management, indicating the universality and specificity of crisis strategies in different cultural and political conditions. Zhou et al. (2022) investigated the effectiveness of social media in crisis management, specifically focusing on the efficacy of non-pharmacological interventions for managing COVID-19 challenges. The study highlights the significance of digital platforms as tools for information dissemination and community support during crises. Each of these studies contributes to a multifaceted understanding of crisis management. They cover various topics, from developing innovative strategies to adapting leadership and using digital technologies. The studies emphasise the importance of flexibility, strategic thinking, and cross-sector collaboration for effective crisis response. However, exploring crisis management by learning from past experiences and improving strategies remains relatively uncharted territory. It affirms the relevance of our chosen topic.

### 3 Methods

To achieve this goal, we use a holistic approach that integrates systemic and structural-functional analysis to study the individual elements of crisis management and their interplay within the organisational structure. We apply the methods of analysis and synthesis to examine the components of strategic planning and leadership behaviour, their role, and their impact on the overall effectiveness of crisis management. The quantitative method is performed to process and analyse statistical data. It will enable us to assess the impact of various factors on crisis management outcomes and ensure the objectivity of our conclusions.

The results of the analysis will form the basis for recommendations to improve strategic management of crises. These recommendations will be helpful for leaders and managers of organisations across different sectors.

### 4 Results

I. In an often unstable world, strategic planning and innovation are crucial for crisis management. Strategic planning aims to predict potential crises and enable an organisation to adapt quickly, finding creative solutions to complex situations. Innovations, in particular offer new possibilities for responding



to current challenges and strengthening organisational resilience to future shocks.

The economic aspect of crisis management will be examined regarding market dynamics, as shown in Figure 1.

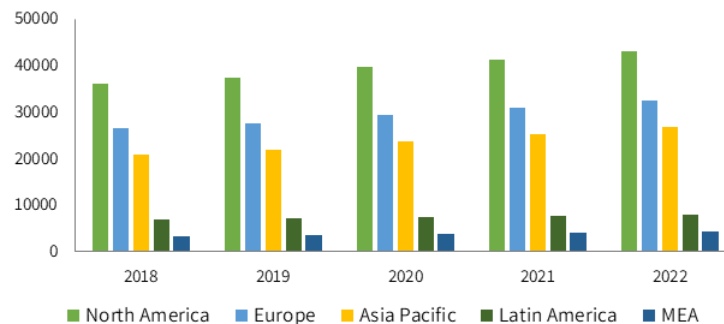


Figure 1. Global Crisis Management Market by Region  
Source: Global Market Insights (n. d.)

The graph presents data indicating global crisis management market changes from 2018 to 2022. Although the market has shown signs of instability, it also presents potential growth opportunities. The pandemic led to a surge in demand for management services, particularly in North America and Europe, highlighting the growing recognition of the need for crisis preparedness.

Innovations often involve introducing technologies that can improve data collection, analytics, and operational problem-solving in this field. It applies to information systems and organisational behaviour and leadership, requiring intellectual flexibility to adapt to changing circumstances. Therefore, strategic planning and innovation in crisis management go beyond simply responding to adversity. They are essential to actively shaping the future, where knowledge, technology, and readiness for change are fundamental for survival and development in an unpredictable world.

II. In contemporary crisis management, gender diversity and leadership are increasingly important. Gender diversity goes beyond just balancing the number of men and women in decision-making; it broadens perspectives, enabling organisations to incorporate a broader range of views and approaches, particularly in response to crises.

When examining leadership from a gender perspective, it is essential to note that diverse leadership styles can offer various strategies for crisis resolution. Women and men often exhibit different approaches to leadership, which can provide additional benefits in crisis management. For example, female leadership is often characterised by empathy and a cooperative style, while male leadership may be more assertive and risk-taking. Both approaches are essential and effective, especially when combined to create a balanced leadership strategy.

Studies have found that organisations with higher levels of gender diversity in leadership often perform better, particularly in the context of crisis management. Gender diversity fosters high creativity and a more significant number of ideas and strategies, which can lead to more innovative solutions in response to unpredictable challenges. Leadership in crisis management goes beyond traditional power and control, offering a flexible and inclusive model that includes a broader range of voices and experiences. In this context, crisis management requires a coordinated collective effort that embraces the full spectrum of gender perspectives, resulting in more resilient and enduring leadership.

III. Social media platforms have become integral to daily life, and their importance in management processes is increasingly recognised. They provide unique real-time situation monitoring and data collection opportunities that can inform decision-making and develop adequate crisis responses. In times of crisis, the speed and accuracy of response can often affect human lives and organisational stability. Social media enables early detection

of crisis trends, crucial for preventing or minimising harm. Data analytics from social networks help leaders understand public perceptions of organisational messages and quickly adapt communication strategies to changing conditions.

Additionally, social media serves as a two-way communication channel, engaging organisations, their clients, and stakeholders in dialogue. It promotes trust and transparency in crisis management, ensuring all interested parties have a voice. During a crisis, organisations can use social media to disseminate important messages, guidance, and support, positioning themselves as a reliable source of information.

Furthermore, analysing and monitoring social media reactions to crisis events can serve as a crucial indicator for evaluating the effectiveness of crisis responses. Collecting data on feedback, dissemination, and emotional reception of crisis communications can provide valuable insights that can be used to refine future strategies. Therefore, social media is not just a tool for communication during crises but also an integral component of crisis management, combining technological innovations, strategic vision, and the human dimension into a single practical system.

## 5 Discussion

The chosen subject matter includes questions that are continually discussed in the literature. We will focus on three critical debate points and express our vision for their development and resolution.

The first point we will emphasise is the substance and significance of strategic planning in crises. One perspective, as highlighted by the research of Curmin and colleagues (Curmin et al., 2023), emphasises the importance of flexibility and adaptability in strategies. It suggests that rigid adherence to predefined plans can lead to adverse outcomes in the dynamic conditions of a crisis. As advocated by Uy and others (Uy et al., 2023), the opposing viewpoint argues that well-structured strategic planning can provide clarity and guidance during a crisis, enabling organisations to recover more quickly. Our evaluation is that genuine strategic planning should harmonise flexibility with structure, allowing for adaptation to crisis conditions while having a clear roadmap for action.

The second focal point pertains to the impact of gender diversity on leadership during crises. There are debates between those who believe that gender diversity is crucial for innovation and a comprehensive understanding of crises (Wolbers, 2022) and those who emphasise the importance of expertise and competencies, regardless of gender. Gender diversity can enrich perspectives and encourage the creation of more flexible and inclusive leadership approaches.

Finally, discussions often centre on using social media in crisis management, raising questions about the effectiveness and reliability of the information provided by these platforms. Some

researchers argue that social media can exacerbate panic and disinformation (Uy et al., 2023), while others view them as a powerful tool for rapid information dissemination and data collection (Curnin et al., 2023). When used responsibly, social media can significantly improve the effectiveness of crisis management by providing a direct connection between the organisation and its audience.

## 6 Conclusion

Our research indicates that the resilience of organisations during crises is determined by the depth of strategic planning and the refinement of innovative approaches. It is crucial to strike a balance between flexibility, which allows for swift adaptation to unforeseen circumstances, and structured processes that provide stability and predictability in management. The novelty of this approach lies in establishing that effective crisis management requires a harmonious symbiosis of these two concepts, where strategic plans must be flexible enough to allow rapid course adjustments depending on situational developments yet maintain a clear set of goals and values that guide the organisation throughout the crisis.

Additionally, exploring gender diversity in leadership roles opens new opportunities for crisis management. Our analysis has confirmed that gender diversity at the management level can enhance innovation and creative problem-solving. Integrating this diversity into managerial structures can increase the breadth of perspectives and approaches utilised during crises and foster the development of more effective communication strategies that meet the needs of diverse stakeholder groups. This approach involves integrating diverse gender perspectives into decision-making to promote inclusivity and consider a broader range of experiences and knowledge. It enhances the overall adaptability and efficiency of crisis management.

The results underscore the importance of balancing flexible and structured approaches in strategic planning. Additionally, the contributions of women's leadership and the value of social media as a bidirectional tool for communication and data gathering are recognised. This work offers updated approaches to crisis management while acknowledging limitations arising from the variability of external conditions and the rapid evolution of technology.

Further exploration of the impact of cultural factors on the choice of crisis management strategies and investigation of the deeper psychological aspects of leadership responses to crises is recommended. It will enrich the theoretical foundations of crisis management and ensure the practical application of strategies across a broader range of crises.

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**Primary Paper Section: A****Secondary Paper Section: AE, AG**

## MARKETING APPROACHES AMID RAPID TECHNOLOGICAL SHIFTS: FORECASTING AND FLEXIBILITY

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**Abstract:** In the context of accelerated dynamism in innovative products, marketing strategies play a significant role in developing the global economy. This study aims to summarise the system of forming a business marketing strategy in a transformative economic environment amidst dynamic innovation. It also highlights the main contributions of the scientific community regarding the increasing role of marketing in implementing innovations in the business environment. Furthermore, the key technological trends of the present are identified and characterised. The interdependence between the growth of innovation ratings and the creation of additional value in the national and global economy is established. The main directions of marketing strategy adaptation and anticipation are outlined. The features and principles of marketing for dynamic technological innovations are delineated. An analysis of the principles of adaptation and anticipation marketing strategies is conducted. A comparative analysis of proactive and reactive marketing is carried out.

**Keywords:** technology, artificial intelligence, proactive marketing, reactive marketing, strategy, innovation.

### 1 Introduction

The global economy is undergoing rapid technological development, during which innovations and technologies are emerging on the market at an unprecedented rate. The proliferation of digital technologies is influencing consumer habits and expectations. There is a growing demand for personalised, interactive, and instant solutions, which requires new approaches to marketing. Businesses worldwide are actively investing in digital technologies, increasing competition in the market. Integrating digital technologies across various marketing channels, platforms, and tools presents new opportunities for brand formation, customer communication, and creating a unique market image. In light of the emergence of new digital technologies and the changing regulatory standards and legislative frameworks accompanying them, it is crucial to research and develop marketing strategies that can adapt to the ever-changing technological landscape. It is essential for ensuring companies' resilience, competitiveness, and success in the digital era.

### 2 Literature review

The role of marketing in the context of transformative changes in the global economy resulting from R&D development has been repeatedly explored by scholars from various fields. According to scholars, marketing is a company's cornerstone and crucial for strategic planning and business operations (Mitřęga, 2019), while digital transformation becomes a key area of business innovation (Pascucci et al., 2023; Ngo et al., 2023). Strategic marketing researchers are beginning to view marketing potential as an integral part of the overall dynamic ability to facilitate the commercialisation of radical innovations (Ren et al., 2009; Tsai, 2015). The long-term success of a business depends on its ability to create value for its customers, with marketing playing a pivotal role in achieving this goal (Wang et al., 2020; Ali et al., 2023). The formation of marketing strategies in the context of technological dynamic changes is increasingly associated with the circular economy. The circular economy emerged as an alternative to linear systems that have become obsolete. In the transition to a circular economy, companies must rethink and update their business models and ways of delivering value to their customers, considering environmental and social aspects (Suchek et al., 2021). The circular economy represents a significant strategy for corporate sustainability. However, a

recent study by Khan et al. (2020) found that most companies fail to integrate the circular economy concept into their corporate strategies, business models, and operations. Scholars posit that the most pertinent practices for the innovation process of a circular business model include the adoption of a lifecycle perspective, the utilisation of sustainable development-oriented tools, the generation of ideas for sustainable value propositions, the development of strategies and cultures of sustainable development, and the engagement and coordination of stakeholders in the business ecosystem (Edeh et al., 2020; Santa-Maria et al., 2021). To achieve sustainable development, companies are increasingly focused on creating and promoting environmentally friendly innovations (Mousavi et al., 2018). Scholars from different countries have studied the link between environmental strategic investments, technological innovations, dynamic capabilities, and company performance (Chen et al., 2023; Alkaraan et al., 2024; Coffay et al., 2024). Management can utilise this to integrate, coordinate and reconfigure resources to determine how to respond to environmental standards and implement practical and responsible innovations that enhance environmental business strategies. British scholars emphasise the innovative opportunities for businesses to influence environmental innovations in terms of dynamic transformations (Arranz et al., 2020). The research findings indicate that environmental legislation and the dynamics of green business strategies are positively associated (Valdez-Juárez & Castillo-Vergana, 2020; Chen, 2024). The dynamism and innovativeness of market development require the formation of effective strategic marketing to ensure competitive advantages (Klimova et al., 2023). Research conducted by Ukrainian scholars (Aleinikova et al., 2023) has demonstrated the synergistic interaction of innovations, digital technologies, strategic marketing, and business. An analysis of the presented publications indicates the necessity of systematising scientific-theoretical and methodological approaches to forming marketing strategies in the context of dynamic technological innovations.

This study explores and reviews strategic marketing approaches to staying ahead of the curve and adapting to the changing digital environment to ensure competitiveness and sustainable business development.

### 3 Methods

A systematic analysis and synthesis of the results of previous research were employed to identify key concepts, theories, and approaches. The study of specific cases of successful or unsuccessful implementation of marketing strategies in dynamic technological innovation environments was conducted using the case study method. An overview of experts' positions in marketing and innovation was applied to generalise their opinions, beliefs, and forecasts regarding strategies in dynamic technological environments. The utilisation of computer models to analyse the impact of various marketing strategies on business performance in technological innovation environments permitted the assessment of the influence of innovation on value creation and the formulation of forecasts for the near future. These methods, when employed in conjunction, facilitated the formation of a more profound comprehension of the theoretical foundations of marketing strategies in dynamic technological innovation environments.

### 4 Results

The advent of digital technologies has transformed the marketing landscape. Whereas print advertisements, billboards, and TV commercials were previously the dominant forms of communication, digital media has created a vast digital realm of social media, search engines, email campaigns, and mobile apps. This transformation is not merely a shift in platform but a fundamental shift in how companies communicate with their audience.

In order to effectively engage with consumers in the digital age, marketers need to possess a deep understanding of consumer behaviour online. The nature of digital platforms, rooted in data, provides unprecedented insight into what consumers want and how they interact with brands. With this knowledge, marketers can create a personalised experience that resonates more deeply with people. However, with big data comes a significant responsibility. Ethical considerations regarding privacy and consent are of paramount importance.

Adaptation is a critical factor in this rapidly changing environment. Strategies that were effective yesterday may prove inadequate tomorrow. Marketers must be flexible and prepared to adapt to emerging technologies and platforms. Social media algorithms change, search engine optimisation (SEO) rules evolve, and how people interact with content constantly shifts. Monitoring these changes ensures that marketing efforts remain relevant and practical. Table 1 presents an analysis of today's main technological trends.

Table 1. Modern technological trends

Trend	Features
Artificial intelligence (AI) and machine learning	AI is crucial in many industries, including medicine, finance, manufacturing, and transportation. Machine learning is becoming increasingly versatile and is used to solve complex tasks such as pattern recognition, speech, and forecasting.
Internet of Things (IoT)	IoT involves connecting various devices to the Internet to exchange and manage real-time data. It is used in home automation, industry, healthcare, and other fields.
Quantum computing	The development of quantum computers opens up new opportunities in cryptography, chemistry, materials science and other sciences.
Augmented reality (AR) and virtual reality (VR)	AR and VR are gaining popularity in various industries, from gaming and entertainment to education, medicine and design.
Blockchain and cryptocurrencies	Blockchain technology creates decentralised systems and ensures data security and confidentiality. Cryptocurrencies, such as Bitcoin and Ethereum, are gaining widespread use in various industries.

Source: WEF (2024)

These trends reflect rapid technological changes and impact the economy, society, and culture. Outpacing competitors, identifying critical success factors, and innovative leadership are essential for any company striving to remain competitive in a fast-paced world. It is crucial to consider the main approaches and strategies that can be used for this. To outpace competitors, it is essential to thoroughly research the market, identify competitors, and understand their strengths and weaknesses. It may include studying their products, marketing strategies, pricing policies, and other aspects of their business. Innovation is a crucial success factor for many companies. It may involve developing new products, services, or technologies that meet market needs and surpass competitors' products. Collaborating with other companies or forming strategic partnerships can help identify new opportunities and gain access to additional resources, knowledge, and technologies. It is important to assess one's strengths and weaknesses honestly to understand where opportunities for improvement and enhancement lie. Customer focus: understanding customers' needs and requirements of customers and ensuring their satisfaction can be crucial to success. Maintaining constant customer communication, collecting feedback, and implementing changes based on this information can help maintain competitiveness. In today's fast-paced world, it is essential to be flexible and respond quickly to market and competitive environment changes.

These approaches will assist companies in identifying opportunities to outpace their competitors, establishing key success factors, and achieving sustainable development. In rapid technological dynamics, marketing strategies become crucial for maintaining business competitiveness. Proactive and adaptive strategies, in particular, are of great importance, as they enable companies to effectively respond to changes in the technological landscape and adapt their marketing approaches accordingly. The advent of dynamic technological innovations is pivotal in shaping the future landscape. These innovations present both opportunities and challenges, necessitating a capacity for adaptability, strategic thinking, and flexibility to harness their potential effectively. The trend of dynamic changes in the Global Innovation Index (GII, 2023) is accompanied by increased added value to GDP (Figure 1,2).

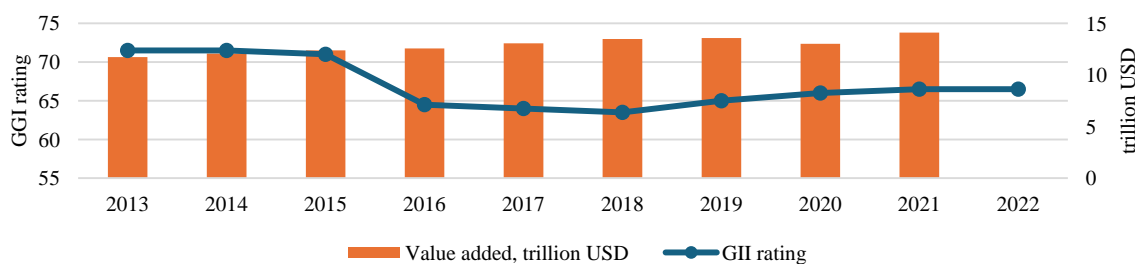


Figure 1. Dynamics of Value Added and Global Innovation Index Ranking in the world  
Source: The World Bank (2023)

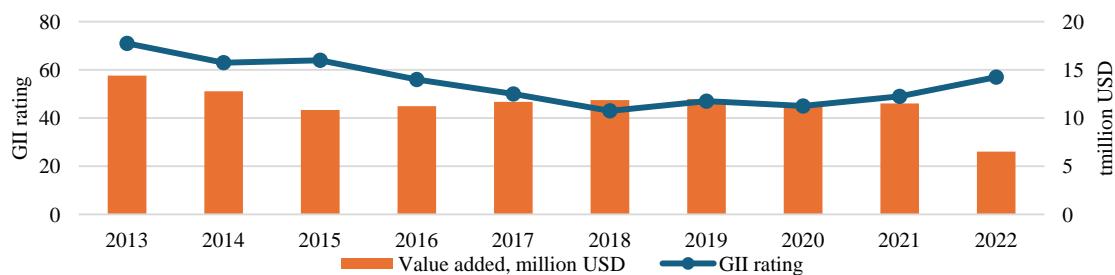


Figure 2. Dynamics of Value added and Global Innovation Index ranking in Ukraine  
Source: The World Bank (2023)

The analysis of trends in the change of added value created globally and in a particular country, including Ukraine, indicates a direct correlation with the Global Innovation Index (GII). This is evidenced by the higher the GII rating, the higher the added

value (manufacturing, value-added). Considering the observed trends in GII changes on a global scale, a forecasted level for 2023-2025 has been determined (Figure 3).

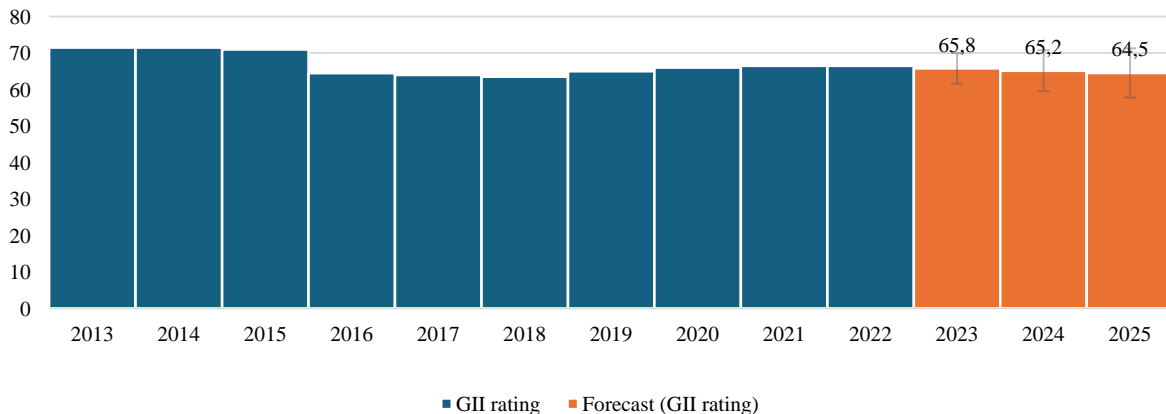


Figure 3. Global Innovation Index Forecast for 2023-2025  
Source: The World Bank (2023)

Consequently, those in managerial positions responsible for technology must ensure they can keep pace with changes and orchestrate the harmonious convergence of cutting-edge advancements. Their mission is to navigate the dynamic landscape of technological advancements and strategically integrate new technologies into business operations. They must understand the organisation's goals, market trends, and technological possibilities to do this. They then develop comprehensive strategies that leverage technology to propel the company forward.

A proactive or anticipatory strategy is focused on:

- systematic monitoring of the latest technologies, trends and innovations, allowing the identify potential opportunities for the development and introduction of new products or services
- focusing resources on research and implementation of new technological solutions that can provide a competitive advantage
- developing innovative products or modifying existing ones to respond to changes in the technology market and consumer demand
- positioning the company as a leader in innovation, helping to attract customers and create a positive brand image.

The adaptation strategy, or reactive strategy, involves:

- the ability to respond quickly to changes in the market environment, modify marketing strategies and adapt to new conditions
- conducting regular market research to analyse changes in consumer demand, customer behaviour and competitive actions
- adapting communication channels and customer engagement strategies to changes in the technological landscape.
- maintaining team competence through training and professional development in the latest technologies and marketing strategies.

In the context of dynamic technological innovations, it is crucial to combine both strategies-anticipation and adaptation-to ensure the stable development of the enterprise and maintain its

competitiveness in the market. Only a comprehensive approach to marketing management allows for effective interaction with technological innovations and their use for the benefit of the business.

Dynamic technological innovations play a crucial role in developing various industries and forming new paradigms in the modern world in business, science, medicine, education, and other fields. It is now appropriate to highlight the key characteristics of contemporary dynamic technological innovations (Figure 4).

To remain abreast of the present, one must maintain a state of constant vigilance, distinguish between trends that have the potential to become established and those that are merely ephemeral, integrate relevant developments into existing systems without disrupting core operations, and navigate the pressures of competition and the complexities of technology. The vast volume and speed of technological advancement can make this task daunting. Identifying the most relevant technologies amidst the noise poses a significant challenge.

In the present era, the application of artificial intelligence (AI) represents a valuable instrument for addressing cognitive limitations and alleviating many significant challenges confronting those engaged in technological management. AI can be of considerable assistance in this regard, as it can significantly reduce the volume of data to be processed by identifying and prioritising vital environmental signals indicative of significant technological advancements. AI can automate real-time monitoring processes through machine learning algorithms, providing curated information and alerts and enabling managers to focus on formulating strategic decisions and mitigating information overload. Artificial intelligence (AI) is poised to provide technological managers with a toolkit to combine human expertise and AI capabilities to ensure automated, dynamic, and rapid monitoring of new technologies. (Croeser, 2024).

Marketing dynamic technological innovations require a unique approach, as these innovations are often revolutionary and can radically change market standards, consumer habits, and business models. Table 2 outlines the characteristic features and principles of marketing dynamic technological innovations.

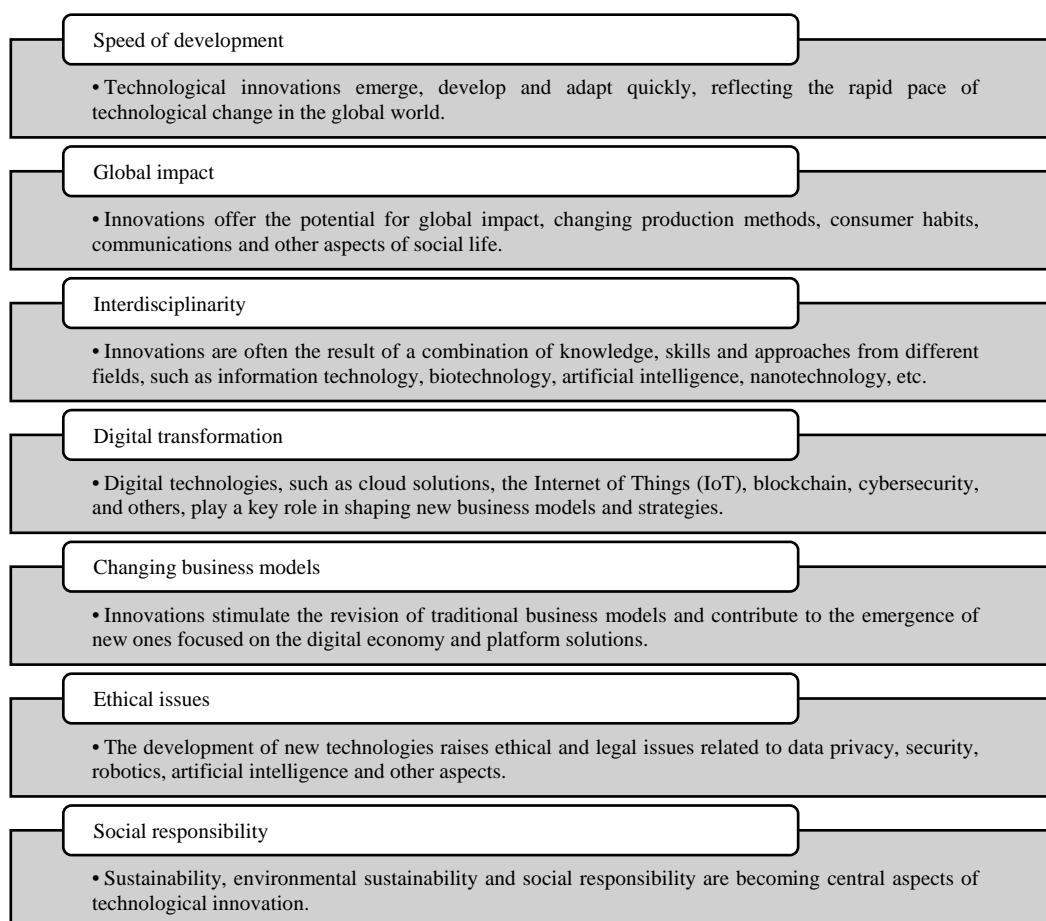


Figure 4. Key features of today's dynamic technological innovations

Source: Compiled by the authors

Table 2. Features and principles of marketing dynamic technological innovation

Principles	Characteristic features
Consciousness-raising	Developing marketing campaigns to raise market awareness of new technologies, their benefits and possible applications
Benefit demonstration	Highlighting the unique functions, properties and competitive advantages of innovations through visuals, videos, testing and demonstrations
Education and training	Organising webinars, seminars, workshops and other educational events to introduce customers to new technologies and methods of their application
Customer experience	Developing interactive and engaging user interfaces, applications and platforms to improve customer experience and engage consumers
Flexibility and adaptability	Responding quickly to changes in market conditions, customer demands and technology trends to adjust marketing strategies and tactics
Partnerships and collaboration	Establishing strategic partnerships with other companies, startups, accelerators and investors to jointly develop, test and commercialise technological innovations
Monitoring and analysis	Continuously monitor the effectiveness of marketing activities, collect customer feedback and analyse data to optimise strategies and improve marketing initiatives
Ethics and trust	Ensuring high standards of ethics, transparency and trust in all marketing activities, communication with customers and the community

Source: Compiled by the authors

Marketing dynamic technological innovations necessitate creativity, strategic thinking, and flexibility to effectively interact with changing market conditions, develop high-tech products, and ensure successful market implementation. The marketing strategy of anticipation is an approach that involves the active utilisation of innovations and the company's advantages over competitors to create a unique value proposition for customers and occupy a leading position in the market. The principles of marketing strategies of adaptation and anticipation (Figure 5) will now be analysed.

The anticipatory marketing strategy involves actively

implementing new technologies, products, services, or approaches that address market needs and differences. It also encompasses the company's ability to quickly adapt to market conditions, technological innovations, or consumer demands. Furthermore, creating personalised and valuable offerings requires a deep understanding of the target audience's needs, interests, and differences. Finally, it necessitates the development of a strong brand and unique market positioning that highlights the company's advantages and differentiators, differentiating the company from its competitors, conducting market research, monitoring market trends, and keeping abreast of technological and innovative developments to identify new opportunities and advantages; developing effective marketing

campaigns, propositions, and loyalty programs to attract and retain customers; conducting ongoing analysis of the market situation, competitive activities, and marketing results to adjust the strategy and action plans; developing strategic partnerships, alliances, and collaborations with other organisations, which can help in implementing innovations and expanding market presence.

Adaptation strategy	Strategy of being ahead of the curve
<ul style="list-style-type: none"> <li>• Innovation</li> <li>• Adaptability</li> <li>• Focus on the target group</li> <li>• Branding and positioning</li> <li>• Constant search for new opportunities</li> <li>• Attracting and retaining customers</li> <li>• Analysis and monitoring</li> <li>• Attracting and retaining customers</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding market features</li> <li>• Personalising the offer</li> <li>• Localisation of prices</li> <li>• Local promotion</li> <li>• Local promotion</li> <li>• Flexibility and responsiveness</li> <li>• Monitoring and feedback</li> <li>• Global coordination</li> </ul>

Figure 5. Principles of adaptation and proactive marketing strategies

Source: Compiled by the authors

The anticipatory marketing strategy enables businesses to not only survive in a competitive environment but also to assume a leading role by implementing innovations and creating high value for their customers. An adaptation marketing strategy involves adapting a company's marketing efforts, products, prices, promotions and distribution to respond to the characteristics and requirements of a particular market, target audience or geographic region.

The main features of an adaptation marketing strategy are:

- in-depth analysis and understanding of the cultural, economic, social and demographic characteristics of the market
- creating products, services and marketing communications meeting the specifics and requirements of the target audience

Table 3. Comparative analysis of proactive and reactive marketing

Direction	Proactive marketing	Reactive marketing
Strategy	The main focus is on planning and pre-activity, which allows the company to manage its marketing initiatives actively and create new opportunities.	Responding to existing market situations and events, such as changes in demand, competitors' activities or internal problems.
Responding to the market	Using market data and trend analysis enables the company to anticipate changes in demand, the competitive situation and other factors and respond to them in advance.	The company reacts to changes and events in the market that have already occurred, looking for quick solutions to solve problems and seize opportunities.
Proactivity	The company actively offers new products, services and market approaches to meet customer needs and differentiate itself from competitors	The company responds to competitors' advertising and marketing initiatives and will try to maintain or improve its offerings.
Searching for new opportunities and minimising risks	A strategy of continuously seeking new market opportunities, developing innovations and expanding the business.	Avoiding significant risks associated with initiatives and investments by monitoring and analysing market trends before making decisions.

Source: Compiled by the authors.

Therefore, the difference between proactive and reactive marketing lies in how a company plans and responds to market conditions: proactive marketing involves strategic planning and proactive initiative, while reactive marketing reacts to changes and events that have already occurred in the market.

**6 Conclusion**

Innovative marketing strategies drive growth and adaptation in the modern business landscape. These strategies enable companies to adjust to digitisation trends, overcome challenges such as global pandemics, and foster collaboration for resilience and profitability. By implementing innovative marketing

- adapting prices to the level of purchasing power, competitive situation and market requirements of each region or country
- developing and implementing marketing campaigns in line with local traditions, culture and consumer behaviour
- selecting the best distribution channels and outlets to ensure the availability of products and services on the market
- ability to quickly adapt marketing efforts to changes in market conditions, competitive situation or consumer demand
- continuously analysing the results of marketing activities and collecting feedback from customers to adjust strategy and action plans; a balanced combination of centralised and decentralised solutions to ensure harmony between global and local marketing initiatives.

A marketing strategy of adaptation allows businesses to effectively interact with diverse market conditions, cultural characteristics and consumer demands, contributing to increased competitiveness and success at the international and local levels.

**5 Discussion**

The primary distinction between proactive and reactive marketing lies in the planning stage. Proactive marketing is characterised by using analytics to determine the optimal direction for the marketing strategy before its implementation. Throughout the campaign, the marketing team analyses its progress and makes appropriate adjustments to ensure its success.

In contrast, the reactive marketing approach is developed without prior analysis and planning, and the campaign's results are determined at the end. This strategy results in inefficiencies in the marketing budget, as time and resources are wasted in vain. When data analytics is not the driving force behind the campaign, companies spend money unlikely to attract potential customers or increase brand awareness.

Proactive and reactive marketing represent two approaches to planning and executing marketing strategies (Table 3).

approaches, enterprises can strengthen their market presence, stimulate demand for new products, and enhance productivity across various aspects such as internal processes, customer relations, and financial outcomes. Furthermore, innovative marketing strategies facilitate establishing effective sales networks, expand market coverage, and support the development of small and medium-sized enterprises. In conclusion, implementing innovative marketing strategies is paramount for companies to remain competitive, drive innovation, and achieve long-term success in the modern, dynamic, complex business environment.



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**Primary Paper Section: A****Secondary Paper Section: AH, AF**

## MARKETING IN THE ERA OF CRISES AND INSTABILITY: STRATEGIES FOR ADAPTATION UNDER UNPREDICTABLE CONDITIONS

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**Abstract:** The intensification of economic relations under the current circumstances is combined with the tendency of crisis phenomena and conditions of instability. This requires fundamentally new approaches to the formation of marketing strategies. The article aims to analyse anti-crisis marketing strategies as an adaptive mechanism in the face of unforeseen conditions in terms of the sports business. The study was conducted to using general scientific methods: analysis, synthesis, generalisation, specification, induction, deduction, and abstraction. During the study, the authors investigated the main aspects of the formation of an anti-crisis marketing strategy in times of instability in the concept of sports industry development. They analysed the classification of anti-crisis marketing strategic directions. The article highlighted the main strategy of crisis management in times of sports market uncertainty. The specifics of modern marketing strategic decisions in terms of sports services and products are considered to level the impact of unstable conditions. The authors have substantiated the potential for improving the mechanism of anti-crisis management and marketing in today's unpredictable multifactorial conditions of economic activity. Also, they identified the need to enhance the mechanism of anti-crisis marketing as one of the priority components of the effective management system in times of instability. The author proposed a model of an anti-crisis strategy in the face of unpredictable conditions, specified local techniques, and a mechanism for tactics of its implementation. Such a model is a mutually consistent synergistic system of strategies, methodological support, and practical tools. The study proves that anti-crisis marketing strategies in the sports industry facing unpredictability should be focused on dynamic development, adaptation to new conditions of the sports business, and implementation of new solutions in sports products and services. The practical significance of the research results is seen in the possibility of their application for developing or optimising anti-crisis marketing strategies in the system of economic activity management in the face of uncertainty and crises.

**Keywords:** marketing information systems, anti-crisis management, optimization, strategy, effective development, changes, sports business, football industry, sports products and services, sports market strategy.

### 1 Introduction

The effectiveness of modern market players today is determined by a complex of marketing measures within the framework of forming a purposeful strategy to overcome the influence and consequences of crisis phenomena and conditions of instability. Such a conceptual basis ensures timely analysis of opportunities to optimize some aspects of the marketing system to obtain quality and timely information and effectively promote goods and services, including in the sports industry. The relevance of studying the theoretical aspects of forming a marketing model in the sports business, in the context of instability and crisis phenomena, is beyond doubt today. The outlined model should consider the specifics of positioning of sports products and services in the sectoral market and the priority dynamics of marketing tools depending on changes in demand.

The formulation of a marketing strategy requires a timely and objective assessment of market dynamics to search for adaptation opportunities with the existing resource potential. It underscores the relevance of developing crisis marketing approaches within the enterprise management system aimed at intensifying activity effectiveness, forming effective adaptation solutions, and gaining market advantage through the dynamic application of marketing tools.

Numerous current publications address the formation and improvement of marketing strategies in crisis and unstable conditions. Some modern scholars (Oliinyk et al., 2020; Bahorka et al., 2022) explore the transformation features of enterprise crisis marketing strategies in the context of global digitization. The studies of several researchers (Bahorka et al., 2021; Yepifanova, 2021) reflect the issue of enterprise marketing strategy formation aimed at preventing the impact of uncertainty factors in economic activities. Other scholars (Melnychenko, 2023; Zemko, 2021) note that amidst political, economic, and financial instability, research into the mechanisms of crisis emergence and prevention, as well as their consequences' elimination, gains special significance through the development of preventive marketing crisis strategic decisions.

The comprehensive issues of crisis globalization processes, necessitating the development of corresponding marketing strategies for overcoming them, are thoroughly examined in the studies of certain contemporary researchers (Ruda et al., 2023; Koval, 2022). Certain aspects of marketing's role transformation as a specific resource in management economic systems are reflected in the works of leading researchers in this field (Bocharova & Tupitska, 2023). They emphasize that the concept of crisis marketing continually evolves in response to the dynamics of external and internal influencing factors, creating conditions for business competitiveness development (Severyn & Solntsev, 2020). However, the development issues of crisis marketing strategy in the era of uncertainty and economic crisis processes are discussed by scholars in a selective format. It remains a relatively new and dynamic concept that requires further scientific consideration. Additionally, attention is needed to form practical algorithms of strategic marketing technologies in developing corresponding management decisions to mitigate the impact of crisis and instability. This study aims to analytically justify adaptive crisis marketing strategies as an effective mechanism for overcoming the influence of unforeseen conditions.

### 2 Literature Review

The works of Ukrainian and foreign scholars form the theoretical and methodological foundation for developing approaches to anti-crisis marketing. Many researchers focus on the issues of integrating marketing technologies into management processes in conditions of uncertainty and crises.

The development of anti-crisis marketing strategies during unstable economic, social, and political conditions has become highly relevant in modern scientific circles, particularly due to the martial law in Ukraine, which has caused chaos and destabilization. Most of the studies by Ukrainian scholars (Sadoviak et al., 2023) are mainly dedicated to methodological and technical aspects of implementing crisis marketing, classification of its mechanisms, and description of its tools. Meanwhile, the scientific contributions of foreign authors (Wang, 2021; Grewal et al., 2020) have an obvious advantage. They propose a comprehensive practical approach covering technical aspects, analytics, and evaluation from the standpoint of maintaining market efficiency.

When examining the role of marketing crisis systems in modern management strategies, the scholars (Bahorka et al., 2022) argue for the potency and multifaceted impact of targeted innovative tools on stabilizing business processes and positioning companies in the market. Scholars (Özoğlu et al., 2020; Sun et al., 2020) emphasize the relevance of anti-crisis marketing in promoting goods and services amidst severe crisis phenomena. Meanwhile, some researchers (Verma et al., 2021) focus on analyzing successful experiences of marketing digitization.

In the publications of several scholars (Goodell et al., 2020), the idea that contemporary anti-crisis marketing strategies provide maximum opportunities for effective promotion of goods and services in the market while also offering functionality for preventive protection is traced. According to some scholars (Alzoubi et al., 2022), the consequences of the global pandemic have accelerated transformational changes. Today, enterprises that ignore anti-crisis business transformation are at risk of losing significant opportunities.

The issue of implementing effective anti-crisis marketing strategies in the sports industry is addressed in research works by several scholars (Foster et al., 2020; Ruihley et al., 2020). At the same time, recently, studies on the marketing aspects of football clubs, ways to promote the brand in the sports industry, and adaptive strategies for developing the sports business in conditions of instability and crisis has become more relevant (Hammerschmidt et al., 2021).

Some scholars (Peñalba-Aguirrezabalaga et al., 2020) also thoroughly describe basic approaches to the implementation of strategic anti-crisis marketing tools by companies and their effectiveness in promoting goods and services in the market. However, despite acknowledging the scientific importance of the works of contemporary researchers, the relevance of issues related to the practical implementation of anti-crisis tools into marketing strategies and the identification of their impact levels and vectors on economic activity remains unresolved. There are still unanswered questions regarding the formation of a universal strategic marketing concept capable of promptly responding to dynamic market changes and the relentless development of digitalization. These circumstances necessitate further scientific research in the field, deepening and detailing it.

### 3 Methods that have been applied

The methodological framework for the study was based on a number of general scientific and special methods of cognition. These methods include abstract and logical, functional and structural analysis, synthesis, generalization, specification, induction, deduction, and theoretical modeling. A comprehensive systematic approach was applied during the research. It allowed us to study the research object as a system in a set of interconnections and interdependencies.

The methods of various types of analysis and synthesis were used to identify the development factors of the studied object, its defining functional elements, and transformational capabilities in relation to modern marketing strategies. The induction method was used during the implementation of a predictive analysis of the expected effectiveness of anti-crisis marketing strategies. By means of the method of abstraction, the conceptual framework of the management paradigm integrity as a structural and consequential system of interrelations was formed. The method of generalization was employed at the stage of forming the priority directions for optimizing the marketing strategy in the face of uncertainty and crises.

### 4 Research results

Today, anti-crisis marketing is considered to be a modern marketing concept aimed at maintaining customer loyalty and stimulating economic performance in an era of socio-economic crisis and social instability. This approach involves the development of specific strategies that take into account both the problems of the crisis and the opportunities that arise against its background. At the same time, anti-crisis marketing strategies include both short-term and long-term solutions. They include adjustments to pricing and communication schemes, as well as investment potential for the digitalization of marketing processes.

Anti-crisis marketing is an active component of the anti-crisis management system that helps businesses adapt to changing market conditions, maintains customer loyalty, and stimulates economic efficiency during a crisis. The features of anti-crisis

management that have the most significant impact on the formation of marketing strategies include:

- mobility in terms of implementing anti-crisis measures and an innovative approach to their formation;
- focus on preventive protection and early diagnosis of the consequences of crisis phenomena;
- an effective system of monitoring and control over the implementation of anti-crisis plans and programs.

Scientific approaches to identifying the functionality and potential capabilities of crisis management are a necessary step in shaping the ability of market participants to overcome crises. Research and analysis of marketing aspects in the era of crises and instability contribute to the disclosure of the basic principles and strategies underlying it. The components of the mechanism for optimizing anti-crisis marketing synergize the need to adapt and improve the internal structure, financial processes, and strategies for interacting with the external environment. The implementation of effective methods and tools of the strategy for leveling the consequences of crisis and instability allows for the effective management of crises, prevention of their negative consequences, and ensuring the stability of market functioning.

Anti-crisis marketing strategies are formed from a certain set of algorithmic actions and contingency programs. Based on the ratio of the potential of different components of the anti-crisis marketing strategy, in practice, there are preliminary structuring strategies, operationally urgent, phased, or comprehensive. The spectrum of influence and forecast of the development of crisis factors and conditions of instability determines the priority of strategy choice.

The process of developing and implementing effective anti-crisis marketing methods as a component of situational management involves the formation of non-standard solutions with the use of innovative methods. The current crisis realities in Ukraine require rapid information analysis on the impact of negative factors, prompt decision-making, and the use of special anti-crisis tools and technologies to ensure further effective functioning. At the same time, the process of selecting a methodology for overcoming the consequences of crisis phenomena and preventive protection against them requires minimizing potential financial and image losses of the enterprise.

In times of stability, the main goal of the anti-crisis marketing strategy is to monitor the situation of the enterprise, forecast possible risks, and develop effective preventive measures. At the same time, in case of unforeseen conditions and the impact of crisis phenomena, the marketing system should ensure the effective implementation of countermeasures. This includes a thorough diagnosis of the situation, the development of an effective plan of remedial measures, the distribution of responsibilities, and control over their implementation. In addition, this strategy should provide for the analysis of wrong decisions and the development of a mechanism for preventing their occurrence and minimizing their negative impact.

It should be noted that an effective anti-crisis marketing strategy is represented by the paradigm of convergence of effective means and approaches that are organically integrated into the concept of stable functioning.

The anti-crisis marketing strategy should have significant adaptive capabilities to the market dynamics and socio-economic, political, and demographic environment. Traditionally, the anti-crisis marketing strategy involves identifying the level of influence of the uncertainty factor and potential risks of influential crisis phenomena. Marketing strategies are particularly vulnerable when businesses are mainly focused on short-term results, sometimes only aiming to survive. For this reason, during a recession, it is essential not to forget about the priorities of anti-crisis marketing, which will help avoid any mistakes. At the same time, during a crisis, more attention and

resources should be directed to marketing activities in order to boost turnover at the enterprise.

Sports marketing is a specialized field within the socio-cultural services sector that encompasses organized forms of engaging in sports with various goals, as well as activities related to their provision. The effectiveness of implementing a marketing strategy in sports depends on the degree of correspondence to the market demands for sports goods and services, the dynamics of the sports industry's development, and its level of adaptability to crises and economic environment instability.

Subordinate to the general conceptual foundations of anti-crisis marketing, the sphere of sports business development requires ensuring operation within a constant dynamic flow of unstable economic conditions and solving a range of specific tasks. Among these, the most significant are establishing a stable demand for sports goods and services, strategic promotion of the athlete's, coach's, or sports club's brand aimed at creating a sustainable demand, and establishing an optimal system of marketing communications to satisfy the goals of subject-object interaction in the sports industry.

The formation of an anti-crisis marketing strategy is seen as a crucial stage of the management paradigm in an unstable environment. The assimilation of anti-crisis tools allows the company to get out of a problematic situation with minimal losses in the shortest possible time. A marketing strategy during instability and crisis contains a number of functional components, including:

- a comprehensive analysis of the performance and dynamics of economic activity;
- identification of factors that deepen the consequences of crisis phenomena;
- forecasting, monitoring, and evaluation of the internal potential of the business entity to localize and offset the effects of crises.

The era of instability and crisis imposes specific requirements on marketing strategies. Today, in order to stay in the communication flow, it is necessary to focus on current needs and deliver a quality product in a shorter time. In addition, the value of a project often depends on the level of creativity. For this reason, it is essential to generate relevant ideas for the current moment and implement them within time constraints. Relevant and high-quality communication, regardless of the duration and severity of the crisis, is seen as the driving force behind any marketing strategy. Obviously, marketing strategies for adaptation to unforeseen conditions are characterized by some specific features (Figure 1).

Based on Figure 1, it is worth noting that the customer base does not immediately feel the crisis from a financial perspective. During the financial crisis, society focuses more on the relevance of costs. The anti-crisis marketing strategy makes it possible to adapt the participant's potential according to the specifics of differentiated segments. Before developing an anti-crisis marketing strategy, it is necessary to understand the essence of the main processes that need to be taken into account during a crisis, as well as have the appropriate tools to implement the optimal algorithm for implementing the strategy. In general, the latter has the form of specific sequential actions with a meaningful and targeted load and consists of certain stages (Figure 2).

An effective marketing strategy during a crisis and instability of the socio-economic and political environment should provide for a predictive response to the dynamics of the market environment, in particular, by identifying relevant segments of the market environment. During periods of instability, anti-crisis marketing is seen as an effective way to turn the negative aspects of a recession to the benefit of the market participants.



Figure 1. Specifics of marketing strategy in the era of crisis and instability  
Source: author's elaboration

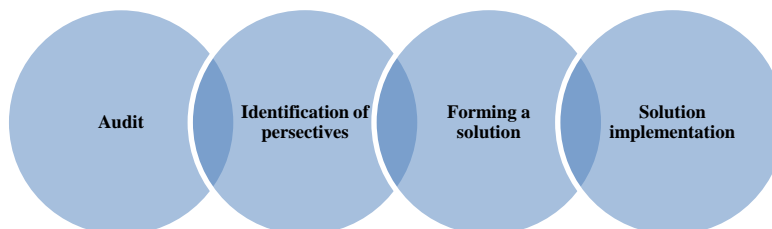


Figure 2. Algorithm for developing an anti-crisis marketing strategy in an unstable environment  
Source: author's elaboration

**5 Discussion**

The transformation of the economic potential of a modern market participant requires, first of all, radical dynamics of the marketing model. According to scholars (Rust, R. T., 2020), it involves the effective adaptation of the market object's activities

to the conditions of economic instability. Rust, R. T. believes that promoting a product for a specific demand or consumption variation requires the availability of appropriate established communication processes with the target audience, taking into account the factors of influence of crisis phenomena in society. We completely agree with the author.

According to the results of scientific research by modern scholars (Semeradova, T., & Weinlich, P., 2020), the dynamic adaptation of traditional marketing algorithms based on digital process optimization, ensuring effective communication, and attracting the capabilities of artificial intelligence technologies are necessary components of forming and improving anti-crisis marketing strategies to create competitive advantages in the market within challenging business conditions. At the same time, Semeradova, T., & Weinlich, P. argue that the use of functional chatbots, mobile applications, and media products for advertising and analytical purposes are promising means of increasing the efficiency of promoting goods and services in the market in the context of reducing advertising costs during the crisis. As a result, such a trend should be addressed.

Some scholars (Benbya, H., Nan, N., Tanriverdi, H., & Yoo, Y., 2020) claim that visualization is an essential requirement for modern marketing processes, which guarantees efficiency and versatility for a broad customer audience. According to them, today, there is a growing need to optimize information systems by introducing integrated software.

Chylinski, M., Heller, J., Hilken, T., Keeling, D. I., Mahr, D., & de Ruyter, K. (2020) argue that the effectiveness of a strategy for promoting services or goods in the market in fierce competition, with falling demand due to crisis phenomena, depends on the implementation of an integrated process for managing various forms of interaction. At the same time, as scientists emphasize, information modeling is an analytical and effective tool for processing large amounts of information. Their conclusions are synergistic with the results of the current study. They prove that modern anti-crisis marketing systems should ensure coordinated data management, automation of information exchange operations, timely response to demand dynamics, and prompt marketing strategy adaptation to new market conditions.

Following the preceding results, some modern scholars (Kalaiganam, K., Tuli, K. R., Kushwaha, T., Lee, L., & Gal, D., 2021) formulate the main requirements for the expected effectiveness of the anti-crisis transformation of the marketing strategy for promoting goods and services in the market. They include the rational use of tangible and intangible resources, minimization of human factor risks in information and analytical systems, availability for investment, reduction of costs for targeted advertising, and coordination of information flows. According to Kalaiganam, K., and colleagues, the result of implementing such a concept is the optimal satisfaction of customer demand and needs while increasing the company's competitiveness despite the factor influence of an unstable socio-economic environment. The conclusions of these authors are similar to the results of the present study.

The modern process of forming an anti-crisis marketing strategy for market players should be focused on optimizing the availability, completeness, and speed of information and forming an appropriate offer with further active promotion using digital tools. The scientists listed above are adamant in this regard. They argue that it is necessary to introduce new interactive tools and expand the scope of communication with different categories of consumers.

The results of scientific research of modern scholars are identical to the conclusions of the current study. This is especially true in terms of actualizing the need to optimize information systems to increase their impact on the formation and improvement of marketing strategies for promoting goods and services in the market in the context of crisis phenomena in society and instability of the socio-economic field. It can be argued that the identified conceptual principles are the basic vectors for optimizing the crisis marketing environment.

The main principle of anti-crisis marketing in the context of globalization of crisis phenomena is to provide analytics and monitoring of the market, consumer trends, and the combined impact of the political and socio-economic environment. The

outlined concept makes it possible to respond promptly to changes and adapt key marketing strategies, which is the basis of a successful management paradigm during a crisis.

However, as of today, there are few studies of crisis marketing issues characterized by limited practical developments. Most of the papers are devoted to theoretical aspects of digital transformation, description of algorithms for modeling management processes, and methods for assessing the effectiveness of transformation. There is also a lack of research on the capabilities of artificial intelligence in crisis marketing information systems.

The prospects for further research are seen in the formation of a practical toolkit for crisis marketing in an unstable economic environment and crises in society. This will allow the implementation of an individualized approach to the promotion of goods and services in the market, minimizing the risks of maladaptation to the needs of the final consumer under challenging conditions of functional activity.

## 6 Conclusions

The sustainability of economic activity in the face of instability and crisis phenomena within the socio-economic environment requires synergizing effective strategic decisions with the ability to quickly adapt to market dynamics in order to improve business processes in a challenging environment. The success of anti-crisis marketing is based on an integrated approach and consideration of specific conditions and peculiarities of the market participant's activities. It helps to form a reliable basis for further development and maintaining a stable position in the market in the face of uncertainty and changes.

During the study, the authors analyzed the potential for optimizing marketing strategies to build competitiveness and effectively promote goods and services in the face of instability and crisis. The study proved that the use of innovative digitalization opportunities in marketing systems can intensify performance and significantly increase the competitiveness of companies in difficult conditions.

As a result of identifying the priorities of anti-crisis marketing, the authors propose a universal algorithm for improving the efficiency of their implementation. The article identified the multifactorial capabilities of modern innovative marketing tools, including:

- optimization of the communication processes quality;
- increase of competitiveness;
- prompt adaptation of supply to the demand dynamics;
- enhancement of the company's investment attractiveness.

The proposed model of anti-crisis marketing strategy reflects an interrelated set of strategic and operational measures that are subject to common goals and objectives.

Anti-crisis marketing strategies in the sports industry are seen as essential for the functioning of the sports market under contemporary conditions of instability and crisis phenomena. Without harnessing their potential, it seems impossible to ensure the realization of the commercialization and communicative-social functions of the sports business.

The study described effective tools for automating marketing processes that help to optimize sales and increase profitability. The authors proposed some priority areas for further research on the subject, including the development of practical functionality for anti-crisis marketing activities.

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#### Primary Paper Section: A

#### Secondary Paper Section: AH

## MARKETING STRATEGIES FOR PROJECT MANAGEMENT IN THE DIGITAL AGE

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**Abstract:** The digitisation of socio-economic relations against globalisation and market integration trends necessitates fundamentally new strategies for forming marketing approaches to projects activity management. The article aims to analyse project marketing strategies as an adaptive mechanism within the management paradigm in the conditions of the information society. The research employed general scientific methods, including analysis, synthesis, generalisation, abstraction, specification, induction, and deduction. The study analysed a classification of strategic directions for project activities. The specificity of contemporary marketing strategic decisions for mitigating the impact of unstable conditions was considered. The potential for improving the mechanism for forming and optimising marketing approaches to project activity management was substantiated. The need to refine the mechanism of strategic marketing was identified as one of the priority components of an effective management system in the information society. It was proposed that a marketing strategy be developed by profiling according to project management subsystems. The research results have practical significance as they can be applied to develop or optimise marketing strategies in the project activity management system in the conditions of digitisation of societal processes.

**Keywords:** project management, promotion, strategy, effective development, competitiveness, investor.

### 1 Introduction

The effectiveness of modern market entities is determined by a complex of marketing measures aimed at forming a targeted strategy for the effective implementation of project activities. The primary goal of project activities is to achieve the operational objectives of the project, which may vary according to the dynamics of its implementation cycle. Innovative management approaches are necessary to achieve these objectives in the rapidly developing information society. In this context, implementing innovative marketing approaches to ensure effective project development while considering exogenous influences becomes relevant. This approach creates optimal conditions for forming a successful algorithm for implementing project activities amidst the digital dynamics of societal processes.

Several current publications focus on researching the development and enhancement of marketing strategies in the context of the information society. Contemporary scholars such as S. Ya. Kasian and D. O. Yuferova (2020) and O. M. Slobodianyuk, O. Yu. Mohylevska, L. V. Romanova and I. Yu. Salkova (2022) investigate the transformation of enterprise project marketing strategies under globalisation. The works of T. Sak (2023) and S. Omelianenko and N. Artiukhova (2021) reflect the aspects of developing a marketing strategy for an enterprise to mitigate the impact of uncertainty in economic conditions. Other researchers (Melnychenko, 2023; Zemko, 2021) have noted that in the context of global digitalisation of societal processes, it is essential to study the mechanisms of preventive risk mitigation in project activities and the elimination of their consequences by making strategic decisions in the project's marketing concept.

Contemporary scholars have thoroughly researched the general issues of strategic marketing in project activity, which require preventing and overcoming related risks (Ruda and Kopytko, 2023). Leading researchers have reflected on specific questions regarding transforming marketing's role as a specific resource in the management paradigm (Koval, 2022; Korohod and Myronenko, 2020). Moreover, scholars emphasise that project marketing continuously evolves in line with the dynamics of a

digitised society, creating optimal conditions for effective business competitiveness.

M. A. Severyn and S. O. Solntsev (2020) consider competitiveness strategies as components of project marketing. However, most of these works describe a fragmented set of tools for developing project management strategies. Therefore, developing a comprehensive approach to forming marketing strategies for managing project strategies in conditions of dynamically increasing competition in the information society is necessary.

### 2 Literature Review

The works of Ukrainian and foreign scholars have formed the theoretical and methodological basis for developing marketing approaches to project activity management. Many researchers have focused on incorporating marketing technologies into the management process in conditions of intense social informatisation.

Developing project marketing strategies in integrated economic and social conditions against global digitisation has gained significant relevance in contemporary scientific circles. The works of Ukrainian scholars, including M. S. Sadoviyak, L. I. Liubchynskyi, O. V. Bobko, T. S. Tymkevych, and S. R. Tsvyk (2023), primarily focus on the methodology of developing and implementing strategic project marketing, the classification of its mechanisms, and the description of its toolkit. Meanwhile, foreign authors' scientific work (Wang, 2021; Grewal, Hulland, & Koppalle, 2020) has an advantage in proposing a comprehensive practical approach that synergises technical aspects, effective analytics, and adequate assessment to maintain organisational competitiveness.

When considering the role of marketing systems as components of modern project management strategies, researchers R. T. Rust (2020) and B. Özoğlu and A. Topal (2020) affirm the effectiveness and multifactorial impact of targeted tools of innovative digital capabilities on stabilising the process of practical implementation of business projects and advantageous positioning of companies in the market. R. T. Rust (2020) highlights the importance of project marketing in promoting targeted projects in the information society. B. Özoğlu and A. Topal (2020) focus on analysing successful experiences in digital marketing.

Several scholars (Peñalba-Aguirrezabalaga, Sáenz, and Ritala, 2020) believe modern project marketing strategies offer maximum opportunities for practical start-up realisation and innovative project vectors. These strategies also provide preventive protection against potential risks. Researchers suggest that the global pandemic has accelerated the transformational changes towards extensive and rapid digitalisation of society. Organisations that ignore the transformation of marketing projects risk losing significant opportunities.

Verma et al. (2021) have described the basic approaches to implementing strategic project marketing tools and how to increase their effectiveness in terms of competitiveness. However, it is essential to note the practical implementation of marketing tools into project management strategies and their impact on economic activity in the information society. It requires further scientific exploration and detail.

### 3 Methods that have been applied

The study's methodology was based on various general scientific and specialised methods of cognition. These included abstract-logical, functional, and structural analysis, synthesis, generalisation, specification, induction, deduction, and theoretical modelling.

During the study's implementation, a comprehensive systemic approach was employed to investigate the subject as a system, including its interconnections and interdependencies.

Various analysis and synthesis methods were applied to identify factors in developing the object under study, its defining functional elements, and transformative opportunities for contemporary project marketing strategies. Induction was utilised to implement predictive analysis of the effectiveness of marketing strategies in project management. The project marketing strategy is a structurally consequential system of interconnections formed through the abstraction of conceptual foundations. The generalisation method was used to form priority directions for optimising marketing approaches in the context of the digitalisation of societal processes. project.

#### 4 Research results

Strategic marketing in project management is a modern and relevant concept aimed at supporting the implementation of vectorial improvement and stimulating the effectiveness of economic activity in the era of digitalisation. Marketing approaches in this aspect involve considering opportunities and associated risks arising from the intense digitalisation of socio-economic processes. The marketing strategy is defined as identifying and confirming the goals and tasks of project activities and supporting a range of relationships.

Project management marketing strategies aim to use marketing tools to meet the needs of investors, stakeholders (partners), beneficiaries, and the personal interests of the project manager, as well as current market demand (Rust, 2020; Özoğlu, Topal, 2020).

Modern strategic marketing projects are an integral part of the project management system. They help businesses adapt to market digitisation, support customer loyalty, and stimulate economic efficiency. One of the most significant features of

management that influence the formation of marketing strategies is adaptability to the requirements of information society development and an unconventional approach to their formulation. Additionally, it is crucial to focus on preventive protection and early risk forecasting and implement an effective monitoring and control system over the implementation of marketing approaches. These are created using specific algorithmic actions and response programs for unforeseen circumstances (Verma, Sharma, Deb, and Maitra, 2021). In practice, internal and external strategies are distinguished based on the potential ratio of different components of the project marketing strategy.

Internal project marketing strategies involve optimising the project's financial aspects, positioning it, and highlighting its competitive advantages. External marketing strategies include advancing the project's position, implementing it in projects with large investors, and promoting it aggressively. The choice of strategy priority is determined by the range of influence and the forecast of the development of exogenous and endogenous factors that affect project activity.

Developing and implementing effective marketing methods as components of project management requires the formation of unconventional solutions and the incorporation of innovative methods. In Ukraine's current crisis, it is necessary to rapidly analyse information arrays regarding the impact of negative factors, make swift decisions, and apply particular technologies to ensure the effective implementation of project activities. In addition, selecting a methodology to mitigate the effects of crisis phenomena and prevent them requires minimising potential financial and reputational losses for the enterprise.

Figure 1 displays the algorithm for step-by-step project formation up to implementation. The algorithm presented represents the marketing strategy implementation stages of the project. It visually depicts the logical foundation for the involvement of marketing tools in managing project activities.

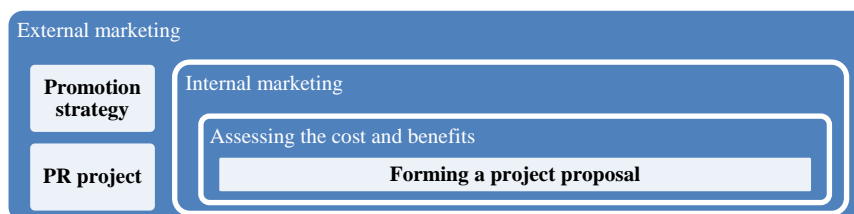


Figure 1. Project Marketing Shell

Source: author's conception.

The marketing strategies mentioned in the project management system require further explanation. Specifically, the benefit and cost optimisation strategy involves creating essential factors during project development. These factors enable future investors to achieve maximum benefit and advantage at an optimised project cost.

The project's competitive advantage strategy enhances and complements its benefit strategy. It amplifies the impact of the project's critical success factors. In other words, the project's uniqueness must be maximised and justified compared to its competitive cost. Leadership in uniqueness at an optimal price and focus on the goal provides a more decisive competitive advantage (Peñalba-Aguirrezabalaga, Sáenz, & Ritala, 2020).

The positioning strategy involves establishing clear criteria for identifying and positioning the project as the optimal solution to a given problem. This strategy includes segmenting the project to identify a market niche, focusing on maximum benefit, and ensuring uniqueness and differentiation of risks. The latter point implies enhanced project manageability and mitigation of negative consequences.

External strategies are employed to promote an already developed project. Simultaneously, the aggressive promotion strategy utilises all available project promotion tools, including

those associated with 'unethical marketing' (Sadoviak et al, 2023).

The positional promotion strategy is a method of indirect sales that involves creating hype to enhance the significance of a project. The seller deliberately maintains low activity to generate interest from potential investors, who may then take the initiative to organise the first meeting. This approach is characterised by a waiting period.

The integration strategy for large investors involves positioning additional benefits and advantages for an already active or realised project. The project can complement and multiply the existing effect. This strategy aims to sell the project to a narrow circle of investors.

In a time of increasing digitalisation, the marketing system must conduct a comprehensive risk assessment of project activities, establish an effective plan of regulatory measures, allocate responsibilities, and monitor their implementation. Additionally, the strategy should incorporate an analysis of past marketing mistakes and create a mechanism for preventing their occurrence and minimising their negative impact.

Effective marketing strategies must adapt to the digitised market's dynamic nature and socio-economic development.



Forming these strategies is a crucial stage in the management paradigm, particularly in global digitisation. The assimilation of innovative tools enables integration into the digitised social environment with minimal losses in the shortest possible time.

The project management marketing strategy includes various functional features. These include comprehensive economic activity performance and dynamics analytics, identifying factors that intensify the consequences of crisis phenomena, forecasting, monitoring, and evaluating the internal project potential for localising and mitigating the effects of crisis phenomena. Additionally, the era of digitisation imposes specific

requirements on project marketing strategies. To maintain stability in communication, it is essential to focus on current needs and deliver quality products within shorter timeframes. Moreover, the value of a project often depends on creativity, so it is vital to generate relevant ideas and implement them while considering time constraints. Clear and timely communication is crucial for any marketing strategy, regardless of the duration or strength of a crisis.

Marketing approaches to managing project activities under conditions of intensive digitisation of society have a particular specificity, as shown in Figure 2.

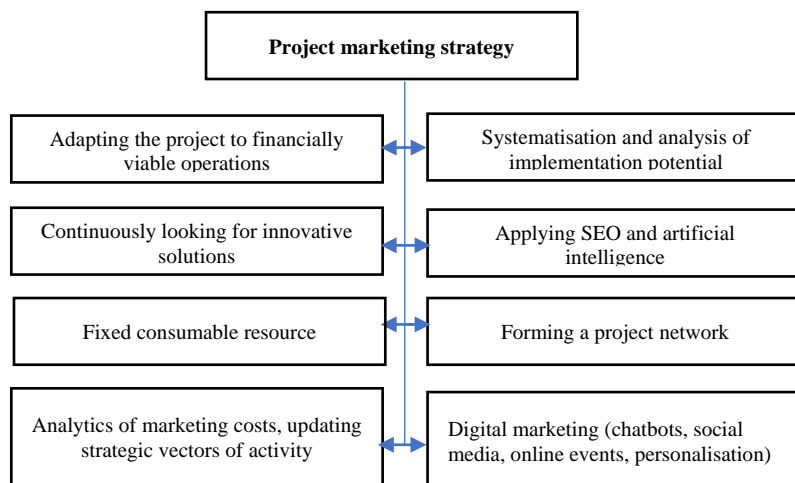


Figure 2. Project Marketing Strategy Specifics in the Digital Age  
Source: author's conception.

Upon analysing Fig. 2, it is essential to note that Search Engine Optimization (SEO) is a practical implementation of improving project resources in search engine results. It is worth noting that search engine algorithms are constantly changing, which means that the SEO optimisation process requires a permanent specificity (Wang, 2021; Grewal, Hulland, & Kopalle, 2020). Artificial Intelligence in marketing offers the advantage of analysing potential consumers' behavioural responses, leading to an increase in investment return for digital promotion. Implementing chatbots in project marketing improves query processing efficiency, providing quick and specific responses.

In recent years, online events have become a definitive trend in digital marketing. Potential consumers of the project activity product positively perceive the video review format. Social networks and other modern resources provide the functionality for the placement of video content, and the platform interface allows for live broadcasts. It forms the basis for further effective analytics.

The digital marketing trends mentioned above aim to optimise the interaction process with end users through communicative dialogue tools. In marketing approaches to project management, digitisation has impacted the dynamics of fundamental marketing trends and their respective platforms. This impact is expressed through implementing digital marketing tools into the project management paradigm. The potential for additional scientific research appears promising in the context of establishing cost indicators for utilising specific digital marketing tools in practical project management.

## 5 Discussion

According to researchers (Kalaigianam et al., 2021), adapting the management potential of modern project participants to the requirements of the information society demands a radical shift in marketing approaches. A. Georgescu, M. B. Tudose, and S. Avasilcăi (2023) argue that effective project promotion requires established communication processes with the target audience,

considering the digitisation of societal processes. The authors' view is entirely agreeable.

As convincingly demonstrated by the results of scientific research by contemporary researchers (Barbosa, Saura, & Bennett, 2024), the dynamic adaptation of traditional marketing approaches based on digital optimisation, ensuring effective communication, and leveraging artificial intelligence technologies are necessary components of the process of forming and improving project marketing strategies to create competitive advantages. R. Dušek (2021) suggests that using functional chatbots, mobile applications, and media products can enhance the effectiveness of marketing approaches to managing project activity. It is essential not to ignore this trend.

Several researchers (Rostami & Mirshahi, 2022; Miklosik & Evans, 2020) assure that visualisation is a fundamental requirement of modern marketing processes, guaranteeing effectiveness and versatility across a broad customer audience. Furthermore, according to them, there is a growing need to optimise information systems by implementing integrated software. M. R. Rostami and H. Mirshahi (2022) argue that the effectiveness of a project promotion strategy in a highly competitive environment largely depends on the implementation of the integration process of managing various forms of interaction. Moreover, as scholars assert, information modelling is an analytical and effective tool for processing large volumes of information. The scholars' conclusions align with the findings of this research, demonstrating the necessity for modern project marketing systems to incorporate coordinated data management, automated information exchange operations, timely responses to societal dynamics, and swift adaptation of marketing strategies to new conditions.

Based on the results of scientific research, contemporary researchers (Cluley, Green, & Owen, 2020) have identified the basic requirements for effective transformation of marketing approaches in project implementation management. These include rational use of material and immaterial resources,

minimisation of risks associated with the human factor in information-analytical systems, accessibility for investment, reduction of costs on targeted advertising, and coordination of information flows. Cluley et al. (2020) suggest that implementing this concept can optimally satisfy the project's objective and increase its competitiveness. The authors' findings support the results of the current research.

According to S. Romprasert and A. Trivedi (2021), developing a project marketing strategy should focus on optimising accessibility, completeness, and speed of information retrieval and proposal formation. Researchers argue that it is necessary to implement new interactive means and expand communication boundaries with different categories of end-product consumers. According to scholars, the main principle of project marketing in global digitisation is to ensure effective analytics and market monitoring, consumer trends, and the impact of the socio-economic environment. The concept outlined enables prompt responses to changes and the adaptation of key marketing strategies, forming the basis of a successful management paradigm in project activity.

It should be noted that the number of studies on marketing approaches as components of project activity management remains limited today, with few practical developments. Most works focus on the theoretical aspects of digital transformation, describing algorithms for modelling management processes and methodologies for assessing the effectiveness of the transformation. Further research prospects lie in developing a personalised approach to promoting a project in the market, minimising the risks of non-adaptation to the needs of a digitised society.

## 6 Conclusions

The effectiveness of marketing approaches to project management in conditions of intensive digitisation of project activities depends on a comprehensive strategy for promoting the project according to the requirements of the information society. The study analysed the potential for optimising marketing approaches to promote projects effectively in the context of global digitisation. It has been demonstrated that utilising innovative opportunities in digitisation within marketing systems can enhance project activities' effectiveness and significantly improve companies' competitiveness. The identified modern marketing tools include optimising communication quality, increasing competitiveness, rapidly adapting project offerings to demand dynamics, and enhancing investment attractiveness. The proposed crisis marketing strategy model reflects interconnected strategic and operational measures subordinated to shared goals and objectives.

The study supports the potential for improving the mechanism of forming and optimising marketing approaches to project management by highlighting the main strategies. It specifies local tactics and mechanisms for their implementation, which constitute a coordinated synergistic system of strategies, methodological support, and practical tools. Therefore, it is clear that improving the mechanism of strategic marketing is a priority component of an effective project management system in the context of an information society.

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**Primary Paper Section: A**

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## MODERN STRATEGIES AND DEVELOPMENTS IN FOREIGN LANGUAGE INSTRUCTION

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**Abstract:** The article emphasises the necessity of maintaining a dynamic approach to foreign language teaching, ensuring that methodologies remain aligned with the evolving demands and circumstances of the modern educational landscape. The article notes that the issue is extensively represented in scholarly research, reflecting various aspects and contexts. The objective of this research is to analyse contemporary approaches and trends in the methodology of teaching foreign languages at higher education institutions. The study focuses on the methodology of teaching foreign languages at these institutions. The research methodology combines scientific methods and approaches, including analysing scholarly research and publications, systematising current trends, and utilising theoretical modelling. The findings demonstrate the most recent developments in foreign language teaching, effective in traditional, distance, and blended learning environments. In order to implement updated methodological tools, instructors must receive appropriate training. It was demonstrated that the selection of teaching tools has a significant impact on the effectiveness of the teaching strategy. It shows the potential flexibility of contemporary trends following the direction of professional education. In light of the findings above, several illustrative exercises are presented which may be employed in the learning process. Implementing such methodologies necessitates adherence to the systematisation and structuring of educational material. The study presents a series of credible directions for enforcing modern approaches and trends in teaching foreign languages in Ukrainian higher education institutions. In conclusion, this research direction has considerable potential due to its dynamism and progressiveness.

**Keywords:** higher education institution, communicative competence, educational technology, blended learning, distance learning, CLIL technology, reading comprehension of an informational text, content area vocabulary

### 1 Introduction

Educational processes are no exception in today's world, where technology is increasingly applied across various life spheres. It is particularly relevant to foreign language education, where new technologies can positively influence the development of students' communicative competence. Simultaneously, changes in the scientific approach to language learning necessitate new methodologies and technologies for effectively developing students' active and passive vocabulary in higher education institutions.

The relevance of this article lies in the need to explore new approaches to language learning in the context of modern technological advancement. This research's findings could be helpful for educators seeking to identify and implement effective teaching methods and students looking for innovative methods for personal and professional self-development. Additionally, the issue of vocabulary development is pertinent due to the shift in perception of language education as a system for developing communicative competence, in which vocabulary is a crucial component.

This study aims to analyse current approaches and trends in teaching foreign languages in higher education institutions.

### 2 Literature review

Uyun (2020) emphasised the importance of considering the instructional strategy as a crucial aspect of the teaching process. Determining appropriate learning strategies can significantly enhance educational outcomes. Khansir et al. (2021) observed that a learning strategy should be explicitly aligned with educational objectives and encompass the selection of

appropriate instructional aids. Miranda and Wahyudin (2023) identified factors that neither contribute to success nor failure in language learning. However, these factors must be understood by educators if they wish to aid students in more successful English language acquisition.

Zapotichna and Romanyuk (2020) highlight new trends in foreign language teaching, focusing on interactive approaches and Communicative Language Teaching (CLT). Adebileje and Akinola (2020) comprehensively analysed various language teaching and learning theories, including behaviourist, cognitive, humanistic, habit formation, intellectual capacities, and student motivation. The teaching theories discussed include formal-functional, traditional grammatical, structuralist, transformational generative grammar, audio-linguistic, functional-notional, direct method, natural approach, communicative, and eclectic theories.

Ma (2021) presented findings on the effectiveness of immersive virtual contextual learning based on VR technologies from a constructivist perspective. Rinekso and Muslim (2020) considered the impact of the COVID-19 pandemic on the transformation of online learning modes. The authors emphasised the value of synchronous online discussions for teaching English in higher education despite acknowledging certain limitations in their implementation. In their 2020 study, Zhang and Zou identified five primary types of technology for learning foreign languages. Moreover, the authors demonstrated the latest technologies' four main goals and benefits: advancing practices, providing educational content, facilitating interaction, and restructuring learning approaches. Furthermore, these innovative technologies have been incorporated into various facets of language instruction and learning, with a positive outcome. Fitria (2020) observed that numerous linguistic tasks assist students in overcoming social isolation and provide opportunities for language development.

Irgasheva (2021) demonstrated the importance of enhancing students' professional speech competence using STEAM technologies in the context of English language teaching at technical higher education institutions. She presented an overview of the fundamental principles of modern approaches, suggestions, and recommendations for enhancing the informational and methodological support for developing communicative, linguistic, sociolinguistic, pragmatic, speech, and lexical competencies through STEAM technologies in teaching English to engineers. Sun et al. (2020) examined the potential applications of artificial intelligence in education. They employed a decision tree algorithm and neural network to construct a model for assessing English language teaching based on decision tree technologies.

In their study, Fenyi and Jones-Mensah (2022) presented a novel methodology for foreign language education in Ukraine, designated as HOTS, which has been demonstrated to be an efficacious pedagogical approach. In order to implement the HOTS concept in practice, educators must utilise specific teaching strategies, including posing open-ended questions, engaging students in group work and discussions, lecturing, encouraging students to create their materials, and providing constructive feedback. Singh (2020) analysed the findings to determine the extent of teachers' awareness of the practice of developing higher-order thinking skills (HOTS) in English language classes, their implementation, assessment, and the challenges they encounter. In a study published in 2022, Arini and Wahyudin presented findings on how students perceive the use of questioning techniques to enhance their higher-level language skills. It is of paramount importance that students develop their conversational skills and communication abilities, as their future professions may be largely dependent on these skills.

Prayudi et al. (2021) emphasised the need for educators to receive training on using technologies, particularly social networks. A review of previous research and publications revealed that utilising contemporary methodologies and trends can positively influence the advancement of communicative competence in higher education students. Nevertheless, it is essential to consider students' distinctive characteristics and the constraints associated with utilising cutting-edge educational technologies.

### 3 Methods

In order to gain a comprehensive understanding of the issue of implementing contemporary approaches and trends in the methodology of teaching foreign languages in higher education institutions, the following methods were employed: an analysis of scientific research and publications on the topic of the use of modern approaches and trends in foreign language teaching methodologies in higher education institutions. This method enables the identification of current trends and prospects in the use of technologies in foreign language learning and the identification of potential opportunities for improving the educational process in higher education institutions. The systematic analysis of contemporary trends has enabled the formation of a comprehensive view of the demands of educational service seekers and the possibilities of satisfying them. Theoretical modelling was employed while developing practical exercises to address current educational tasks.

### 4 Results

The contemporary teaching system is an eclectic mix of various techniques, methods, and approaches, emphasising the specific goals that need to be achieved for each student. These goals include deepening knowledge of grammar or vocabulary, improving conversational skills, advancing to the next level, or mastering a professional foreign language (Isaieva, 2024). One of the most innovative approaches to foreign language instruction involves virtual reality. The metaverse is an ambitious project that aims to create a virtual world that is simultaneously mapped and independent of the natural world in cyberspace. It will utilise the advancements of various digital technologies, including virtual reality (VR), augmented reality (AR), big data, and 5G. It is crucial for the future development of various professions, including education. It represents the latest stage in the development of immersive technology. The essence of the metaverse is a digital online space that exists in parallel to the real world. This space provides a practical field for innovation and the development of human society. One notable advantage of the metaverse for foreign language learning is that it can provide an engaging and interactive educational field for both teachers and students, simultaneously satisfying needs in both the physical and virtual worlds (Foster & Shah, 2021).

The metaverse facilitates the creation of digital identities for teachers and students, provides access to formal and informal learning environments within the virtual realm, and enables participants in the educational process to interact in virtual locations. From the perspective of educational philosophy, the most notable advantage of the metaverse is its capacity to create an immersive interaction field for teachers and students (Sun et al., 2021).

The field of the metaverse in foreign language education transcends the limitations of the physical world, creating a new world of virtual education through an online educational space. It allows teachers and students to simultaneously meet natural and virtual learning needs in the physical and virtual worlds. However, the virtual world in the metaverse of foreign language education is neither a simple copy of the physical world nor a "parallel universe." The media-supporting characteristics of the metaverse can compensate for the shortcomings of the physical world and even surpass its limitations in some dimensions, forming a particular educational field of the metaverse that can have a general effect of presence (Guo & Gao, 2022).

The Content and Language Integrated Learning (CLIL) approach facilitates the acquisition of knowledge in another discipline through a foreign language (Pasichnyk & Pasichnyk, 2023). Although these classes are conducted in a foreign language, the primary objective is to gain knowledge in another field. This method enables students to deepen their knowledge of a specific subject and practise communicative situations in a foreign language, significantly broadening their horizons and increasing the opportunities for language use.

Information and communication technologies are the only way to realise goals and strategies for implementing CLIL methodology and provide students with the most complete and profound cognitive, social, and personal development. They serve as the primary means of developing the concept of student-centred learning, implementing "flexible learning trajectories" and pedagogical methods, ensuring the quality of educational services, and forming an educational environment in higher education, which is defined as the conditions necessary for students to understand and comprehend the content of learning (Styrkina, 2020). In the task-based learning (TBL) methodology, the teacher initiates the lesson not by explaining a new topic but by assigning a task that the students must complete. Subsequently, the instructor assesses the student's work to ascertain the grammatical and lexical constructions employed. After the teacher elucidates the subject matter in question, facilitating the acquisition of new knowledge and enhancing comprehension (Sholeh et al., 2020). At the lesson's conclusion, the teacher proposes a new task, similar to the initial task, intending to consolidate the newly acquired material.

In order to achieve mastery of these skills, developers of educational online products have several options at their disposal. One of the most popular and user-friendly options is YouGlish. It is an online pronunciation dictionary based on YouTube. It offers users many authentic examples of how individuals pronounce a word or phrase in a specific context. A choice of three accents is available: The three accents available are British, American, and Australian. In addition to the videos, YouGlish includes a script with the word or phrase in question. For example, a search for "speaking skills" yielded 353 results, with 240 instances of the term pronounced in American English, 52 in British English, and 61 in Australian English. Applying the YouGlish platform facilitates the enhancement of pronunciation and the overall quality of the English language. The language base encompasses 16 languages.

Another valuable online resource is FORVO, an online platform that provides access to many audio files with accompanying pronunciation. The distinction between YouGlish and FORVO lies in the fact that users can create and upload their files, called clips, on FORVO. Moreover, they can vote for the most and least effective clips. The range of languages is more diverse than that of YouGlish. The most popular languages include German, Spanish, English, French, Portuguese, and Japanese. Furthermore, it is possible to search for pronunciations according to specific categories. In total, there are over 100 categories in English and other languages. The U.S. Department of State and its resource centre, American English, offer users a collection of situational dialogues titled "Dialogs for Everyday Use" for online speaking practice. Each dialogue is accompanied by Language Notes, where the authors briefly describe and explain the key phrases (Khatser, 2021).

To combine speaking and listening skills, teachers can integrate videos from ESL Video into the educational process. These videos are categorised according to the viewer's level: Beginner, Low Intermediate, Intermediate, High Intermediate, and Advanced. Each video has tasks, such as multiple-choice questions or fill-in-the-blanks, to be completed after viewing (Al-Khasawneh & Obeidallah, 2019). The resource authors provide a transcript of the material to assist with comprehension difficulties. For ease of searching, students can use the Categories tab. Additionally, ESL Conversation Cards can be used to simulate dialogues between people.

Interactive whiteboards and programs can help students learn languages faster and more effectively. For instance, the Rosetta Stone program utilises interactive exercises and images to enhance speaking and understanding. Interactive whiteboards also aid learning through interactive tasks and images. The Rosetta Stone program simulates real-life situations, allowing students to learn a foreign language through intuitive speech perception and repetition. It also includes interactive exercises and images that aid in developing pronunciation and grammatical skills.

Interactive whiteboards, such as the SMART Board, enable students to interact using their fingers or a particular marker. It allows the teacher to conduct lessons more interactively, creating games and exercises that let students interact with the learning material, making language learning more effective and engaging. Overall, interactive whiteboards and programs help students learn languages more interestingly, making the educational process more effective and exciting (Shamsitdinova, 2021).

## 5 Discussion

In the context of teaching a professional English course, where there is a great deal of complex vocabulary that can be considered passive, as well as a great many more straightforward vocabulary items that can be classified as active, it is of the utmost importance to develop an appropriate teaching methodology that would help students to effectively master and remember both types of words (Kintu et al., 2017).

One method for achieving this is through the utilisation of contextual vocabulary learning. It is recommended that students take notes on words encountered in different texts and situations to understand their meaning and the context of their usage. Furthermore, it is crucial to provide opportunities for the practical application of words, such as the construction of sentences or dialogues, to reinforce their retention in memory (Li & Flowerdew, 2020). It is beneficial for educators to provide supplementary information regarding the cultural and social implications of vocabulary usage, which can assist students in comprehending and recalling words more effectively. For instance, examples of passive words in films, music, literature, and other aspects of culture can be provided. It enhances the learning experience and fosters superior word retention, recalling them within a contextual framework rather than as isolated entities (Bilenka, 2021).

Consider several examples of exercises that can be employed to develop students' vocabulary:

1. Matching exercises: students need to match words with their definitions. They facilitate better assimilation of new vocabulary and understanding of word meanings. Using the platform YouGlish, students need to find videos in which the words from the exercise are used and listen to how they are used in a natural context. After this, students should determine the correspondence between the words and their definitions (Table 1).

Table 1. Example of task to correspond words with their definitions.

Concept	Definition
1. Leadership	A. The process of determining how to allocate financial resources.
2. Budgeting	B. The ability to motivate and guide a group of people towards a common goal.
3. Decision-making	C. The practice of analysing options and choosing the most effective course of action.
4. Strategic planning	D. Setting long-term goals and determining the best approach to achieve them.
5. Teamwork	E. Collaborative efforts of a group to accomplish a task or goal.

After completing the exercise, students can discuss their answers and resolve any issues that arose during the exercise.

2. Exercises on choosing the correct word: students must select

the correct word that fits the context. These exercises improve understanding of word usage in various situations and contexts.

Students need to choose the correct word that fits the context. Afterwards, they should use the FORVO platform to listen to the pronunciation of each word and ensure their choice is correct (Figure 1).

Figure 1. Example of exercise on choosing the correct word

1. The manager is responsible for \_\_\_\_\_ the team's progress and performance.
  - a) monitoring
  - b) evaluating
  - c) analysing
2. Effective \_\_\_\_\_ involves setting achievable goals and deadlines.
  - a) delegation
  - b) leadership
  - c) time management
3. Conflict \_\_\_\_\_ skills are crucial for resolving disputes in the workplace.
  - a) resolution
  - b) assessment
  - c) delegation

3. Sentence-building exercises: students must write sentences with the new words they learned. These exercises allow them to understand how to use the new vocabulary in real life and develop their written expression skills (Figure 2).

Figure 2. Example of sentence-building exercise

- strategic planning / involves / setting long-term goals / and / developing action plans;
- performance evaluation / helps / identify strengths / and / areas for improvement;
- effective communication / is essential / for building / strong relationships / with clients;
- risk assessment / involves / identifying potential threats / to / business operations;
- decision-making / requires / weighing options / and / considering potential outcomes.

4. Exercises on identifying synonyms and antonyms: students need to find synonyms and antonyms for words they have studied. These exercises help students expand their vocabulary and understand the nuances of word meanings. For example, find synonyms and antonyms for the given words: challenge, accomplishment, support, obstacle, encouragement.

Students can watch a video on the ESL Video platform that features real-life usage of these words. Afterwards, they can use these words in sentences to reinforce their usage and understanding.

5. Sentence completion exercises: students must complete sentences with missing words. These exercises help students develop skills in contextual understanding and word usage in sentences (Figure 3).

Figure 3. Example of sentence completion exercise

- Fill in the blanks in the sentences with words from the list (decision-making, leadership, conflict resolution, time management, performance evaluation):
- Effective \_\_\_\_\_ involves assessing options and choosing the best course of action.
  - \_\_\_\_\_ skills are crucial for guiding and motivating team members towards common goals.
  - \_\_\_\_\_ is important for identifying strengths and areas for improvement among employees.
  - Successful \_\_\_\_\_ requires prioritising tasks and maximising productivity.
  - Strong \_\_\_\_\_ skills are necessary for maintaining a positive work environment.

Upon completing the exercise, students may utilise the Rosetta Stone platform to verify the accuracy of their responses and further study vocabulary in context.

During this exercise, students learn to comprehend the nuances of word meanings and enrich their vocabulary (Lukas & Yunus, 2021).

The presented exercise options can be universally applied (Mohamad, 2018). Such exercises can be employed to develop both active and passive vocabulary, encompassing both general topics and professionally oriented terminology, irrespective of the language being studied. Furthermore, teachers have the option of selecting the optimal modern technologies that facilitate the process of studying a foreign language for professional purposes.

## 6 Conclusion

The requirements for the methodological support of foreign language teaching in higher education institutions necessitate constant dynamism and modernity to meet societal demands. Research findings indicate that the trends in teaching methodology are multifaceted and universal. The teacher acts as a connector between innovative developments, the content of the educational programme, and learners. Examples of the practical implementation of modern approaches and trends reflect potential opportunities in teaching professional foreign languages. Students can develop a vocabulary of professional terminology and higher-order thinking skills, which are essential in forming professional competence.

Given the chosen topic's prevalence in scholarly achievements, it is crucial to consider the dynamics and rapid changes of modern educational trends. Further research and development in this direction could contribute to renewing and optimising methodological approaches to foreign language teaching in Ukrainian higher education institutions.

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**Primary Paper Section: A**

**Secondary Paper Section: AE, AM**



## PROFESSIONAL ACTIVITY OF A CONTEMPORARY UKRAINIAN LAWYER IN A COMMUNICATIVE DIMENSION: PSYCHOLOGICAL ASPECT

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**Abstract:** The article presents an analysis of scientific works in the field of the communicative dimension of a lawyer's professional activity. The research aims to highlight various aspects of the communication component of the profession of a contemporary Ukrainian lawyer through the prism of personality psychology. The mentioned approach is to facilitate seeing professional competences of a lawyer and the tasks of professional training from a new angle. Various aspects of the communicative component of the profession of a contemporary Ukrainian lawyer are investigated through the prism of personality psychology by means of analysis and synthesis, generalisation, and systematisation of scientific data. The methods made it possible to reveal the psychological features of the professional activity of a modern Ukrainian lawyer in the communicative dimension. The peculiarities of the communicative aspect of a lawyer's activity, which consists of two major areas: business communication skills and interpersonal communication skills, are determined. The need for self-discovery by students and determination of the direction of future professional self-realization based on personal communicative qualities are determined. The article provides the overview of exiting research in the field and the emphasizes the need to develop the communicative competence of future lawyers through practical interactive methods. The communicative competence is recognized to be a pivotal aspect of a lawyer's work at the current stage of Ukrainian state development. The article concludes that there is a necessity to consider the communication skills development during lawyers' professional training, in the process of which preference should be given to interactive technologies.

**Keywords:** professional activity of a lawyer, communicative competence, communication, communicative aspect of a lawyer's activity, professional training of a lawyer.

### 1 Introduction

The legal activity of a contemporary Ukrainian lawyer can be seen as a complex and multifaceted one. According to the psychological types of professions developed by J. Holland, the legal profession can be attributed to both the social professional environment, as it involves direct interpersonal communication, and the "human-sign system", as one of its prerequisites is working with signs of the "language of law" and communication through the creation of legal texts. Thus, the work of a contemporary Ukrainian lawyer is permeated with communication in all its possible manifestations. This requires professionals to have appropriate personal qualities, professional skills, and special training, simultaneously exerting an additional strain on the professional's psyche and contributing to faster burnout.

### 2 Literature review

The communication aspect of a lawyer's activity has been considered by researchers from various aspects and has not lost its relevance, since legal professionals constantly face new challenges. The communicative aspect of a lawyer's activity from the perspective of effective organisation of professional training has been studied by Baranovska and Sarazhynska (2008), Katsavets (2007), Neliuba (2002) and others. Studies of the communicative culture of a lawyer are presented in the works of Horokhovska (2006), Kyrychuk and Yakymchuk (2021), Rukolianska (2015) and others.

The research of Ivashkevych (2016) provides the following structure of the professional activity of a lawyer, which consists of motivational and target, cognitive, social, axiological and autopsychological components. According to this concept, the communicative aspect of a lawyer's activity is presented as part of social competence, along with emotional and expressive and motor volitional qualities. Nonetheless, in our opinion, the role of communication aspect tends to be more significant. The

communication of a lawyer is not limited to interpersonal interaction, as described by the author. The communicative aspect is also a manifestation of the so-called general professional competencies of a lawyer: the ability to interpret and apply laws and other regulations; ensure compliance with the law in the activities of state bodies, individuals and legal entities; develop legal documents, give qualified legal opinions and advice; work accurately with legislation, information, and reference systems, study legislation and the practice of its application, and master specialised literature. In addition, Ivashkevych's concept includes another aspect of communication, so-called auto communication, which is interaction of a lawyer with themselves, determination of their own values and professional motives, ability to perform self-analysis and self-assessment as a professional, work with one's own self-image and professional image. Thus, considering communication in the broad sense of the term, it is a component of each element of a lawyer's professional competence. Simultaneously, communication in the professional activity of a lawyer differs in the object of its focus and, accordingly, has its own specifics, namely, interpersonal communication with individuals, protection of law through indirect communication through legal acts and legal documentation, as well as lawyer's autocommunication, which results in self-knowledge, self-analysis, self-esteem and, accordingly, professional self-development and burnout prevention.

### 3 Results and Discussion

Considering the requirements of the current Ukrainian State Standard of Higher Education for the Training of Specialists in the Field "Law" (2022), it can be concluded that the communicative aspect of the future activities is manifested in the need to develop the following skills during training:

1) to convey legal information through interpersonal communication:

- the ability to communicate fluently in the state and foreign languages, both orally and in writing, using legal terminology;
- having basic rhetorical skills;
- the ability to communicate material on a particular legal issue to the respondent in an accessible and understandable manner;
- the ability to work in a team, ensuring the fulfilment of team tasks;
- providing advice on possible ways to protect the rights and interests of clients in various legal situations.

2) to understand legal acts and effectively communicate legal information through legal documentation:

- the ability to determine the persuasiveness of arguments in the process of assessing unknown conditions and circumstances;
- the ability to collect and analyse material from a variety of sources in an integrated manner;
- giving a brief legal opinion on specific factual circumstances with sufficient reasoning;
- the ability to explain the nature and content of basic legal phenomena and processes;
- being able to identify and analyse legally significant facts and draw reasonable legal conclusions;
- the ability to prepare drafts of the necessary acts of application of law in accordance with the legal conclusion made in various legal situations.

Thus, half of the professional learning outcomes for lawyers defined by the standard are directly related to communication, which emphasises the importance of the communication aspect in the professional activity of legal professionals. To reveal the

different types of communication competences required for a lawyer, they have been divided them into 2 groups. It should be noted that this trend is observed not only in the context of legal practice, but also in the requirements for soft skills development as a basic requirement for proper performance and professional self-realisation in any field. Such “flexible skills”, as noted in the article by Bondarenko et al. (2021), include communication skills, self-organisation skills, creative skills, ability to work with information, and stress resistance. In this case, according to the authors, communication competence plays a prominent role due to its high demand for specialists in any field. In turn, in this research communication skills are also into 2 groups: business communication (the ability to correspond and negotiate with clients and managers to solve problems and achieve goals) and presentation and oratory ones (the ability to speak clearly and precisely, to convey one’s ideas to other people to be understood and remembered). This classification is in line with our understanding of the communication aspect of a lawyer’s work.

Despite the undoubted understanding that language is the main tool of a lawyer’s work, it is also worth noting that legal activity has different manifestations and, depending on the field of activity, different requirements for communication skills. The peculiarities of lawyers’ communication in different areas are thoroughly described in the article by Bobko and Mazuryk (2022). For instance, for the activities of an investigator, a criminal investigation officer, the most important skills are oral communication skills, that is the ability to establish psychological contact, receive information from different people and quickly evaluate it, be observant, and apply a wide range of behavioural styles in conflict situations. The basis of the communicative aspect in this area is search activity, which means that the purpose of communication is to obtain and process information, consider hypotheses, versions, develop an investigation plan, conduct interrogation, and a confrontation; for this purpose, the ability to ask questions, listen attentively, overcome barriers to communication, and even decrease the emotional tension in a conversation are essential. Unlike the investigator’s search activity in communication, the notary’s work is static. Here, the ability to communicate in the language of law and documentation is prioritised. Therefore, such work requires thorough knowledge of document management, exceptional literacy, and a special style of business speech. In the work of a prosecutor and especially a defence lawyer, rhetorical skills come to the fore. Representatives of these professions need to provide evidence and possess the ability to prove it in the course of a polemic, they also need to be able to find the right words when communicating with other participants in a court hearing. The most challenging profession in legal practice is that of a judge. In the field of communication, such work requires the ability to listen attentively, ask questions clearly, provide clear and unmistakable answers, correctly interpret the content of verbal messages, and speak publicly at court hearings. A judge’s oral and written speech should be clear and concise (Bobko & Mazuryk, 2022).

Therefore, different communication skills are important in each area of legal activity because the work of an investigator, despite the need for knowledge of psychology and communication skills, is impossible without legally correct documentation of the information received. In turn, a notary, working mostly with documents, is also to be able to communicate with clients and provide legal advice. Nonetheless, since different areas of legal activity involve different communication manifestations and requirements for the personality of a specialist, students who are doing a degree in this field are to decide in which direction they want to continue their professional development, based on their communication personality profile. Based on this, the issue of creating conditions for personal and professional self-knowledge of aspiring lawyers by university teachers is raised.

A study of contemporary law student’s communication skills was conducted in 2022 by Bobko and Mazuryk (2022) shows rather disappointing results. The analysis of the oral and written speech of future specialists showed a low level of communication skills: students often neglected the requirements

of the literary language, preferring Surzhyk (pidgin), colloquialisms, jargon, could switch to Russian in their communication. The observation showed the students’ inability to correctly use the meanings of certain groups of common words and professional terms, their inability to read, recite, and deliver a coherent text in public, to formulate their own thoughts, to spontaneously engage in conversation and maintain it. In the classroom, the students demonstrated uncertainty, often taking a long time to find the right words in a particular communication situation, were afraid to engage in a polemic with colleagues and did not dare to ask the teacher a question. Bobko and Mazuryk emphasise the need for a systematic approach to solving the mentioned problems, part of which is the development of students’ cognitive abilities: attention, memory, imagination, and critical thinking. Among the practical technologies for developing communication skills, the authors propose regular reading of works of fiction and non-fiction, performing tasks related to working with such texts; as well as interactive dialogue technologies aimed at subject-subject interaction (problem-search dialogues, heuristic conversations, communication trainings, discourse studies) (Bobko & Mazuryk, 2022). It should be agreed that the formation of communication skills is impossible by studying theory alone, as it is a practical skill that must be consolidated through repetition in different learning situations.

Work in the legal sphere in Ukraine is a complex, multi-component system of activities, the integral elements whereof include interaction with those involved in legal relations and direct communication with people. Therefore, the development of communication competence in future lawyers is one of the important tasks that should be set by educational institutions that act as legal training providers. It has been established that the importance of lawyers’ communication skills is underestimated. The occurring inaccurate or erroneous use of terms, logical and irrational errors, factual inaccuracies in the wording of legal provisions leading to unclear or ambiguous interpretation are unacceptable.

Lawyers have special objects of professional activity. On the one hand, it is a system of signs – they act on the basis of the law; on the other hand, specialists also need certain communication skills to establish relationships with people, develop the ability to persuade, taking into account their individual psychological characteristics (Bocheliuk et al., 2023).

The specificity of professional communication activities of lawyers is that they are constantly involved in various types of business (professional) communication. They constantly interact with various officials, heads of local governments, representatives of companies and institutions. Therefore, when speaking about professional communication of a lawyer, it is necessary to consider not only its procedural (interrogation, confrontation), but also non-procedural forms, which are based on the rules of speech behaviour accepted in society, in a particular social environment, stable formulas of speech etiquette, reflecting the external manifestations of each person’s attitude to other people, to various social values. In the context of such cases of communication, it is necessary to speak of non-procedural professional legal communication of a lawyer (Sytianin, 2009).

Orbán-Lembric (2005) defines communication competence as an integral characteristic of a personality that permeates all their professional and personal development, as a set of knowledge about interaction, behaviour, information exchange, mutual perception of people, as a formalised individual programme of behaviour in the system of social relations, as a motivational belonging to a certain social environment, orientation towards the development of communication skills, and the desire to develop communication skills.

The professional activity of a lawyer is a complex and long-term system that includes such important interrelated elements as the social aspect, which is expressed in the need to make decisions in the field of interpretation and implementation of legal norms,

the function of protection and representation of the rights and legitimate interests of citizens, as well as work with offenders, including both their prevention and re-education and legal education of the population; the search aspect, which consists in the application of the skills and abilities of a lawyer in the search for criminals; the search aspect, which consists in the search and collection of information which has legal significance for a particular case or situation, its reasoning and logical accuracy. The search side of such activity is closely related to the reconstructive aspect, which is expressed in the logical analysis, synthesis and generalisation of information received by a lawyer. At the same time, it is impossible to imagine a professionally competent lawyer lacking the communicative side of the activity, which is expressed in constant contact with clients, colleagues, and participants in the case, as well as in the proper interpretation and execution of legal actions that require special language skills from a specialist (Boiko, 2008).

#### 4 Conclusions

Thus, communicative competence is a key characteristic of a lawyer's successful activity at the current stage of development of the Ukrainian state, as it enables them to perform professional tasks successfully. In the structure of a lawyer's communication competence, there are 2 areas of equal importance: business communication skills, which include the ability to work with legal documents and legal text, and interpersonal communication skills, which involve the ability to convey legal information to other people and find an approach to the interlocutor in order to obtain the information necessary for legal activities. Depending on the occupational profile of specialists in different areas of the legal sector, the communication skills required for effective work vary. Therefore, during their studies in Ukraine, higher education students are to be aware of their personal qualities and identify the aptitudes that will contribute to their professional success in a particular area of legal work. An important conclusion of this article is the need to pay more attention to the development of communication skills in the training of future lawyers, using interactive technologies.

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**Primary Paper Section: A**

**Secondary Paper Section: AN, AM**

## REENGINEERING BUSINESS OPERATIONS WITHIN THE DIGITAL ECONOMY

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**Abstract:** In the context of the digital economy, where technological innovations and digital technologies become critical components of economic development, revising business processes becomes an integral part of strategic management for companies. The growth of social and class inequality, economic crises, and other challenges inspire the search for new strategies and management methods to ensure sustainable development. As digital transformation is already actively encompassing economies on both a global and national scale, researching business processes in this context becomes extremely important for understanding and adapting to the new conditions of the global market. This study aims to examine the transformation of business processes in the digital economy to reveal its impact on enterprises' efficiency, competitiveness and sustainability. In order to define the concept of digital transformation and its advantages and disadvantages, an analysis of literary sources, a systematisation method, statistical data analysis and generalisation method were applied during the study. The study's findings demonstrate that digital transformation is an essential process for optimising business processes. Implementing digital transformation has the potential to enhance production efficiency. However, this process is not without challenges, including the risk of dependency on technology and the necessity for financial investments. Ukrainian enterprises are proactively adopting digital technologies to ensure effective operations in the challenging conditions of the modern business environment. The research findings demonstrate that digital transformation in the modern economy is an integral process aimed at enhancing the efficiency of business processes. The advantages and disadvantages of digital transformation highlight the necessity of implementing digital innovations as a critical factor for economic success. Furthermore, statistical data analysis indicates that Ukrainian enterprises, despite facing external challenges, are actively utilising digital technologies to reduce costs and optimise business processes.

**Keywords:** digitalisation, digital economy, digital technologies, digital transformation, business processes, innovation activity

### 1 Introduction

In the context of the accelerated growth of the digital economy, digital transformation has become a pivotal factor in shaping the emerging realities and trends in the new entrepreneurial environment, where efficiency and competitiveness are paramount. Besides, it is imperative to acknowledge that in the context of global development, there has been an increase in social and class inequality, which presents challenges not only in the economic sphere but also in the social realms. In light of these challenges, it is vital to devise and implement novel socio-economic development strategies and utilise the most recent methodologies and instruments to guarantee the prerequisites for sustainable development. In this context, digital innovations introduced within the digital economy gain significance as they transform traditional management methods and interactions in business processes.

This scholarly article aims to examine the transformation of business processes in the context of the digital economy to reveal its impact on enterprises' efficiency, competitiveness, and resilience. In pursuit of this aim, the research will analyse well-established practices, cutting-edge strategies, and technological solutions enterprises employ to adapt to digital transformation. In addition, the objective is to reveal the challenges and opportunities that arise from digital transformation and to develop recommendations for enterprises to optimise their business processes and enhance their competitiveness.

### 2 Literature review

In their research, Nikitin and Kulchytskyi (2019) conducted a comprehensive analysis of the contemporary definitions of the terms "digital business," "digital enterprise," and "digital transformation." They identified a significant diversity in the

interpretations of these concepts, with each focusing on different aspects of digital development and only sometimes considering all characteristic features. Moreover, they noted the need for a precise classification of digital enterprises, which complicates understanding digital transformation in the context of entrepreneurial activity. In this context, Dvornyk (2023) emphasised that successful digital transformation necessitates technological innovation, a strategic approach, and organisational flexibility. Particular attention was devoted to defining clear success metrics and setting specific goals as an essential stage in implementing digital strategies. The significance of engaging all levels of staff and training them in new technologies for successful integration and use of digital tools was also highlighted.

In their analysis, Trushkina and Rynkevych (2020) determined that digital transformation reflects radical changes in all business processes, from product creation to consumer services. These changes entail the implementation of advanced digital technologies in enterprises. The research findings indicated that the activation of digital transformation of business processes encompasses the creation of digital platforms as a novel business model, utilising the Industry 4.0 concept and "smart factories," and implementing "cyber-physical systems." The study indicates that the advantages of digital transformation will result in accelerated GDP growth, increased competitiveness of information services and products, reduced production costs, increased labour productivity, new jobs, and improved quality of logistic services.

In her work, Strutynska (2019) identified the specific applications of advanced information technologies in various aspects of business processes and components of enterprise business models. She conducted a comprehensive analysis and verification of the efficacy of information technologies for rethinking business processes. A scientist introduced the concept of digital zones into the company's business model, thereby contributing to its successful functioning in digital transformation. Furthermore, in the work of Semenenko (2024), it is observed that in the modern technological world and dynamic business environment, the concept of digital transformation has become an essential element of the strategic management of the company. He asserts that digital transformation is not merely a mechanism for implementing cutting-edge technologies but also a strategic step that necessitates fundamental changes in the business's internal and external aspects.

### 3 Methods

The following methods were used in the research process:

- literature analysis was applied to define the concept of digital transformation as an irreversible process of integrating digital tools and technologies to optimise processes and improve their efficiency. In addition, the main advantages and disadvantages of digitalising business processes were identified.
- the systematisation method was adopted to determine the role of digital transformation in optimising enterprises' business processes in various areas. Further analysis of these categories revealed the importance of each of them for optimising the activities of enterprises.
- analysis of statistical data was used to assess the spread of digitalisation of business processes of Ukrainian enterprises and to identify trends in the functioning of business during the period of martial law.
- the method of generalisation was developed to identify relevant technological innovations and their application in Ukrainian business, particularly in the context of digital transformation.

#### 4 Results

In the current context, digital transformation defines new realities and directions for the development of modern business, emphasising the critical importance of efficiency and competitiveness. The rise in social and class inequality in many countries worldwide, including both developed and developing nations, results from delayed economic progress and is a consequence of various factors. These include economic cyclicality, crisis phenomena, market saturation of goods, declines in production activity, falling labour productivity, and reduced consumer demand. The challenges identified necessitate the creation of new socio-economic development strategies and implementing new methods, quality indicators, long-term strategies, and mechanisms that can provide the prerequisites for sustainable development (Krysovaty et al., 2024). In this context, introducing technological innovations in the digital economy transforms traditional management methods and interactions in business processes. Digital transformation is a pervasive phenomenon in both the global and Ukrainian economies. It is a principal driver of sustainable and long-term economic development and a promising source of such development.

Digital transformation represents an irreversible process occurring against the backdrop of the rapid development of the digital economy. The term “digital transformation” is defined as integrating digital tools and technologies into all spheres of societal life, aiming to optimise various processes and improve their efficiency. This process is directed towards modernising social, economic, and technological systems to enhance functioning and adapt to new challenges (Bezrukova et al., 2022). It is important to note that a lack of engagement with digitisation processes can currently act as a significant barrier to progress, potentially resulting in the loss of customers, a decline in competitiveness, and even operational instability (Kovalevska et al., 2022). In light of the crucial role of digital transformation in ensuring financial security, it is essential to recognise the potential of digital technologies to enhance the control and monitoring of financial operations. It, in turn, can enhance the transparency, reliability, and security of financial transactions, fostering increased trust in the financial system and enhancing financial stability (Desyatnyuk et al., 2024).

In the context of the digital transformation of the economy, it is crucial to consider integrating digital technologies based on the concepts of digital leadership and forming a digital culture in all business areas. This process engenders fundamental alterations that facilitate the evolution of efficacious digital ecosystems and serve as a foundation for future advancements in this domain. It is crucial to highlight that digital transformation necessitates a profound reorientation in the relationship between business entities and technological processes to enhance business efficiency and meet customer needs (Tishchenko, 2023). Consequently, the digitalisation of business processes is a complex process of implementing digital technologies and innovations to optimise and automate enterprise activities. It encompasses transforming traditional work methods into digital formats, simplifying and accelerating processes, reducing costs, and improving the quality of products or services. Consequently, the primary objective of digitalising business processes is to enhance the efficiency and competitiveness of the enterprise in a dynamic and highly competitive market environment (Kravchenko & Salabai, 2023).

The development of digital technologies offers considerable potential for enhancing business processes across a range of sectors, including manufacturing, agriculture, healthcare, energy, and transport. Technological innovations facilitate accelerated development and promote the efficient utilisation of resources. The digital transformation process encompasses introducing cutting-edge technologies and strategically rethinking business processes, necessitating allocating resources and time for implementation (Dziamulych et al., 2023). Implementing digital technologies can facilitate the optimisation of production

processes, leading to reduced production time, enhanced utilisation of resources, and improved collaboration between company departments. In particular, using digital tools permits the automation and optimisation of routine tasks, contributing to enhanced productivity and quality of work.

Nevertheless, the path of digital transformation has its challenges and risks. For instance, a substantial reliance on digital technologies can result in technical issues, such as equipment failure or cyberattacks. Moreover, implementing new technologies may necessitate significant financial investments and personnel retraining, which could present challenges for some small and medium-sized enterprises (Table 1).

Table 1. Advantages and disadvantages of digitalising business processes

Advantages	Disadvantages
Increase efficiency and productivity by automating routine tasks, reducing the time it takes to complete a job and the risk of errors. Digitalisation also facilitates faster data processing and cuts operational costs.	Investments in purchasing the necessary hardware and software, as well as staff training, can be significant.
Improved service quality reduces the waiting time for processing requests and responses, improves communication between customers and businesses, and ensures greater accuracy of data processing.	Implementing digital technologies often requires staff retraining, which can be time-consuming and costly.
Expanding business capabilities enables the creation of new products and services to meet customers' changing needs, increases the company's competitiveness and helps attract new customers.	Insufficient data protection can lead to data theft or loss, which threatens the confidentiality and integrity of information.
Using digital technologies can reduce the risk of errors and cybercrime and provide high protection for confidential information.	Not all business processes can be easily digitised, and sometimes, digitalisation is met with resistance from employees or customers, which complicates the transformation process.

Source: compiled by the author based on (Digital Adoption Team, 2024, Shmatkovska et al., 2021, Pavlovskiy et al., 2023)

Despite several significant shortcomings associated with digitalising business processes, their implementation represents an essential aspect of modern enterprise management. One of the most significant consequences of digital transformation is facilitating effective interaction between internal departments and employees. This, in turn, allows for more efficient information exchange and decision-making. Furthermore, digital transformation enables enterprises to adapt to changes in the market environment and business models, thereby achieving superior outcomes in the dynamic context of contemporary business (Peterson & Fogelberg, 2020). In this context, it is crucial to ascertain the impact of digital transformation on the optimisation of business processes within enterprises (Table 2).

In the context of Ukraine, the implementation of digital technologies becomes a critical component of successful business operations, particularly in the context of a full-scale invasion by the Russian Federation into Ukraine. This is because traditional approaches to business become ineffective in such circumstances. Digital technologies ensure effective client communication, reduce costs, and optimise business processes. Since December 2022, many enterprises in Ukraine have transitioned to working online due to restrictions related to the armed conflict. It has led to a reduction in territorial coverage and resource limitations. In such circumstances, it is of the utmost importance to implement digital technologies to make optimal use of available resources and ensure the effective functioning of enterprises (Shevchenko & Strilets, 2022).

Table 2. Digital transformation's role in optimising business processes

Ways to optimise	Features
Process automation	Digital technologies enable businesses to streamline operations, including automated order processing, logistics optimisation and data access. This results in less time and effort, faster information processing and fewer errors.
Improving communication	Digital technologies improve communication between different departments and customers, enabling more efficient collaboration and improving the quality of work.
Using analytics	Digital technologies allow for collecting and analysing large amounts of data about a company's activities, identifying problematic issues in processes, and developing effective strategies to improve them. Analytics helps make informed decisions and improves the company's predictive capabilities.
Using cloud technologies	Cloud computing allows for the storage and processing of large amounts of data, providing access to critical information from anywhere and at any time. It also makes it easier to integrate new applications and provides flexibility and scalability.
Improving product quality	Digital technologies allow businesses to track the quality and usage of their products in real-time, which helps to improve the quality of the product or service and keeps them in touch with customers on a proactive level.
Remote work	Digital technologies allow businesses to engage remote workers, reducing the cost of renting premises and enabling them to attract the best specialists from any location, increasing employee satisfaction.
Reducing costs	Digital technologies help reduce operating costs by automating processes and reducing errors. They contribute to optimising resources, improving efficiency and reducing the risk of financial loss.

Source: compiled by the author based on (Kravchenko & Salabai, 2023, Guseva & Legominova, 2018, Shevchenko & Dmytrenko, 2024, Zub & Kalach, 2021)

The Center for Innovation Development, in collaboration with the Office for Entrepreneurship and Export Development, supported by the European Union, analysed the situation and needs of Ukrainian enterprises during martial law (Figure 1) as part of the national project "Diia.Business." The study revealed that in the western region of Ukraine, approximately 37.7% of enterprises have already defined their strategy, established fundamental processes, and initiated adaptation to the prevailing circumstances. Nevertheless, approximately 50% of Ukrainian

companies remain in the initial stages of contemplation and intuitive management, with the highest rate observed in the eastern part of the country (58.9%). Only 10% of enterprises intend to restore production using the most advanced technologies and management methods. At the regional level, the corresponding figures are 14.1% in the east, 10.1% in the centre, 9.6% in the west, 8.5% in the north, and 8.3% in the country's south.

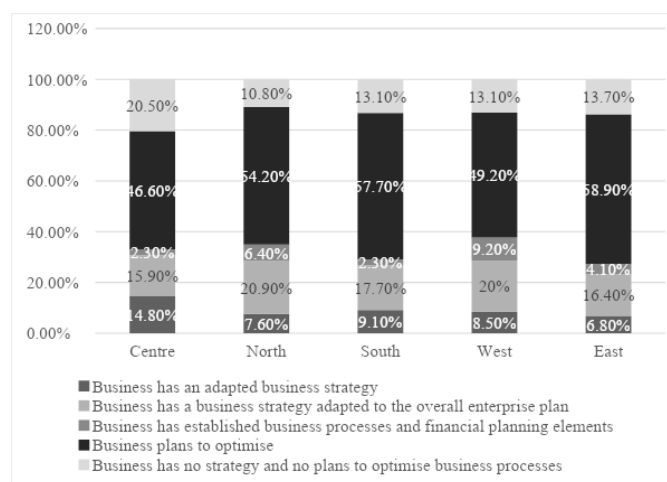


Figure 1. Spread of Ukrainian business processes digitalisation during the war in 2022

Source: compiled by the author based on (CID, 2022)

Despite the challenges posed by political and economic crises in the country, the digitalisation of business processes continues to demonstrate stable growth. Nevertheless, there is a negative trend in reducing the number of enterprises, with 39.9% of enterprises in Ukraine being in a state of complete or near-complete cessation of activity (Figure 2).

It is important to note that the circumstances characterising the entrepreneurial sector vary significantly across different regions of the country. For example, in the eastern regions of Ukraine, the percentage of enterprises that have ceased operations exceeds the national average of 63.9%. In contrast, in the western and northern regions, most enterprises have reduced the scale of their activities or are operating only partially, with respective figures of 57.3% and 56.6%. In the central and southern regions of Ukraine, the proportions of such enterprises are lower, at 44.9% and 46.9%, respectively, and the most diminutive figure is in the east, at 29.1%. On a national level, only 11.5% of enterprises have managed to maintain or even increase their activity levels

compared to 2022. The highest number of such enterprises is found in the western regions of Ukraine, at 16.9%. However, most enterprises reporting significant revenue growth (more than 140%) are located in the southern region, at 2.3%.

It should be noted that the Ukrainian business sector currently exhibits specific vulnerabilities concerning the level of digital development. It is particularly relevant in the context of martial law. Nevertheless, digital transformation can become a pivotal catalyst for advancing enterprises and society in such circumstances. The current trends in digitalising business processes indicate a wide range of technologies with potential for implementation in Ukrainian business for data processing and analysis. Among the technological capabilities that reflect contemporary aspects of digital business transformation are cloud computing, industrial networks, data storage systems, automated technological control systems (ATCS), manufacturing management systems (MES/APC), as well as integrated enterprise resource planning systems (ERP) and others.

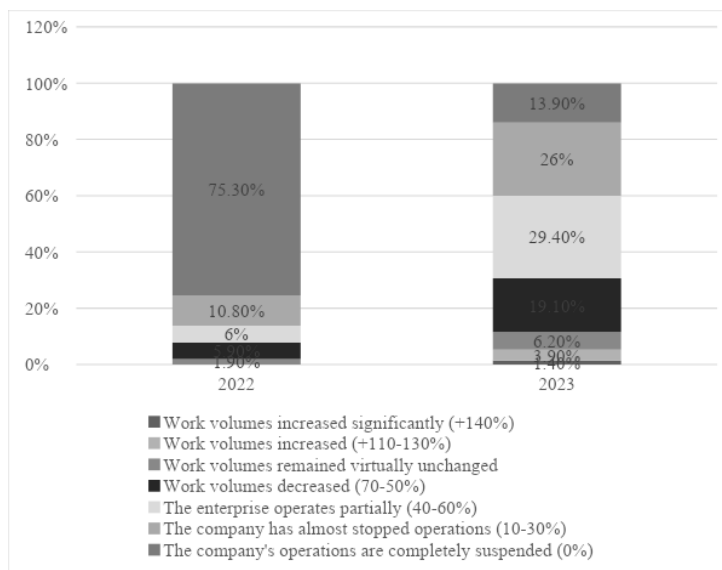


Figure 2. Business Performance in Ukraine during 2022-2023  
Source: compiled by the author based on (CID, 2022)

Among the innovative products and services are platforms for the Internet of Things (IIoT), digital models (Digital Twins), collaborative robots (cobots), artificial intelligence systems, cybersecurity, uncrewed aerial vehicles (drones), wearable devices, blockchain technology, virtual and augmented reality (VR/AR), as well as 3D printing technology. These are being used to a great extent. In digital marketing, innovative strategies are being implemented, including voice search, the development of mobile-oriented websites, omnichannel marketing, gamification, innovative marketing, zero-click search, online events, and personalised content (Fishchuk et al., 2020).

In the current circumstances, implementing an ERP system represents a promising step towards optimising business processes, yet it also presents a challenge for the management of any enterprise (Innoware, 2024). Nevertheless, it is essential to acknowledge that Ukrainian enterprises have already demonstrated success in implementing various digital tools, including ERP systems, electronic mailing channels, Google's analytical tools, web platforms, and social media, to optimise business processes and attract new customers (Rudachenko & Sazonov, 2022).

Consequently, in the contemporary digital economy, the transition to digital technologies represents a pivotal factor in supporting and reinforcing the competitiveness of enterprises. Digitalisation plays a pivotal role in this process, facilitating the enhancement of business process efficiency. In particular, the objective of digitalisation is to enhance the level of communication between economic entities, optimise resource use, and reduce time and financial costs. The transition to a digital environment necessitates implementing various procedures to enhance production quality, ensure effective communication with all stakeholders, including the team and clients, and optimise logistics and supply processes (Derhachova et al., 2021).

## 5 Discussion

We partially agree with the findings of Nikitin and Kulchytskyi (2019) insofar as their research indicates that the existing definitions of "digital enterprise" and "digital transformation" are somewhat ambiguous and in need of clarification. They highlight that the essence of these concepts is still evolving and that a precise classification of digital enterprises needs to be present. Nevertheless, this research is a foundation for further developing theoretical and practical principles for managing enterprises' digital transformation. It represents an important

direction for further scientific research in this field. Furthermore, we concur with Dvornyk (2023), who posits that successful digital transformation necessitates implementing cutting-edge technologies, strategic thinking, and flexibility in organisational processes. Establishing clear definitions of success metrics, the involvement of all staff levels, and their training in new technologies represent critical components of the successful integration of digital strategies. Additionally, it is essential to note that addressing challenges such as cybersecurity and changes in corporate culture is crucial for a successful transition to a digital business environment.

We partially agree with Trushkina and Rynkevych (2020) that digital transformation should be regarded as a radical change across a comprehensive suite of business processes, encompassing product development and customer service, as well as implementing modern digital technologies in business processes. It has been observed that methods to activate the digital transformation of business processes include creating digital platforms, utilising the Industry 4.0 concept, and implementing the "cyber-physical system" concept. Nevertheless, it is crucial to recognise that these approaches may necessitate further research and adaptation for practical implementation across various enterprises.

We partially agree with Strutynska (2019) in our assessment of the potential for the digital economy to facilitate the evolution of business structures. She has demonstrated how digital business models permeate various sectors, opening up new avenues for large and small companies. Nevertheless, it is essential to acknowledge that technological, regulatory, and institutional conditions are necessary for the full development of the digital economy. Furthermore, we partially agree with Semenenko (2024) on the significance of digital transformation as a pivotal element of strategic company management. The advent of digital transformation has far-reaching implications for companies' strategic management. It affects individual management aspects and transforms the paradigm of strategic management, creating new opportunities for development, innovation, and success in the digital era. Nevertheless, implementing digital strategies may necessitate meticulous analysis and careful planning, given that this process can be complex and may present potential challenges, such as cultural change within the organisation and high costs for implementing cutting-edge technologies.

## 6 Conclusion

Following an analysis of the principal aspects of digital transformation in the context of the modern economy, particularly its impact on business processes, digital transformation is considered irreversible. Its objective is to integrate digital tools and technologies in order to enhance the efficiency of various processes in the economic spheres. The analysis of the advantages and disadvantages of digital transformation and the role of this process in optimising enterprise operations demonstrates the importance of implementing digital innovations as a critical factor for success in the current economic climate.

The Ukrainian economy, which has been affected by external factors, including war, political instability, and economic crisis, must rapidly implement digital technologies to ensure effective enterprise operations. Implementing digital tools allows for cost reduction, business process optimisation, and enhanced productivity. It has been demonstrated that there is a pressing necessity for the active implementation of digital technologies in business practices to ensure the resilience and competitiveness of Ukrainian enterprises in the global economic environment.

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**Primary Paper Section: A**

**Secondary Paper Section: AE, AH**



## RESEARCH ON LEADERSHIP AS A KEY FACTOR IN ACHIEVING ENTERPRISE GOALS THROUGH SUCCESSFUL MANAGEMENT

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**Abstract:** This scientific paper is dedicated to the study of the concept of leadership and its distinction from the notion of management in the context of enterprise management. The authors argue that, unlike management, leadership focuses more on the emotional aspect of group interaction and the deep connection between the leader and their followers. The paper presents a number of key characteristics that need to be considered for the formation of effective leadership. By exploring the role of leadership in the enterprise management system, the authors conclude that in the dynamic conditions of the modern business environment, a manager has more opportunities to achieve the organization's goals and develop leadership qualities both in themselves and in their team members. Special emphasis is placed on the importance of forming team interaction in enterprise management, which is based not only on joint efforts aimed at achieving a common goal but also on a clear division of responsibilities, coordination of actions, and alignment of efforts among team members. It is noted that team productivity largely depends on the leader (their methods of influence, work planning, coordination, and allocation of resources) and the team members (their dedication, level of education, professional skills, and culture of business communication).

**Keywords:** leadership, manager, team activity, business management, theoretical foundations of leadership, leadership concepts, leadership theories.

### 1 Introduction

In the turbulent business environment characterized by rapid changes and unpredictability, the successful functioning of entrepreneurial structures requires managers to be flexible, decisive, and capable of making quick and well-considered decisions. Leaders who possess these qualities demonstrate an extraordinary ability to effectively maneuver in such dynamic business conditions. For managers in the corporate sector, a deep understanding of the fundamental principles of leadership and its impact on achieving organizational goals is critically important.

The phenomenon of leadership attracts significant attention from scholars and practitioners to identify the most effective leadership characteristics necessary for the successful management of enterprises. Experts in this field maintain that a modern manager must combine both managerial and leadership competencies.

The purpose of this article is to deeply study the nature of leadership and analyze its role in ensuring the effectiveness of management processes in an enterprise.

### 2 Analysis of recent researches and publications

The topic of leadership and its role in enterprise management is actively explored by many contemporary scholars worldwide. Among them are well-known scientists and researchers such as Jim Collins, Daniel Goleman, Amy Griffin, Andrew Pettigrew, John Kotter, Linda Hill, Stephen Covey, and others. In the scientific space of Ukraine, this topic has also not been overlooked. In Ukraine, the issue of leadership in the context of enterprise management is actively investigated by domestic scholars. Significant contributions to the development of theoretical foundations and practical recommendations for effective leadership in organizations have been made by scientists such as Zavadsky J. S., Skibitska L. I., Kuzmin O. E., Shehda A. V., Moshke G. E., Pushkar R. M., Fedulova L. I., Daft R. L., Nestulya O. O., Nestulya S. I., Kalashnyk O. V., Ripa T. V., Brych V. Y., Sergeeva L. M., Kondratyeva V. P. and Khromey M. Y., among others. Their scientific works and monographs cover various aspects of leadership, adapting global theories and practices to the specifics of the Ukrainian business environment. These studies form the theoretical basis for developing leadership competencies of managers in domestic enterprises and contribute to improving the effectiveness of organizational management in the changing market environment.

### 3 Results

In contemporary scientific discourse, the concepts of "leadership" and "management" are often considered interconnected but not identical categories. Despite both terms referring to the sphere of guidance and influence on people's activities, they have a number of essential differences that should be taken into account when studying the effectiveness of organizational functioning.

Leadership is the process of social influence through which a leader mobilizes and directs the efforts of followers to achieve a common goal (Northouse, 2021, p. 2-5). A leader is a person who, due to their personal qualities, charisma, and authority, is able to inspire, motivate, and lead other people. Leadership is based on trust, respect, and voluntary recognition of the leader by followers, not on formal authority or administrative coercion (Yukl, 2013, p. 367-380).

In contrast, management is the process of planning, organizing, controlling, and coordinating the activities of subordinates to achieve organizational goals (Kotter, 2001, p. 85-96). Management is based on formal authority and the hierarchical structure of an organization, where the manager has legitimate power to give orders and directives. Effective management involves the rational use of resources, optimization of business processes, and ensuring the stable functioning of the organization (Drucker, 2007, p. 23-27). Despite the differences, leadership and management are complementary processes necessary for the successful functioning of any organization. Effective leaders often act as skilled managers, capable of combining emotional influence on followers with rational management of resources and processes. At the same time, successful managers frequently demonstrate leadership qualities, inspiring and motivating subordinates by their own example and charisma (Bass & Riggio, 2006, p. 12-15).

Thus, leadership and management are two different but interrelated concepts that reflect different aspects of guidance and influence in organizations. While leadership emphasizes interpersonal relationships, emotional intelligence, and the ability to lead, management focuses on rational planning, organization, and control of subordinates' activities. A harmonious combination of leadership and management is the key to the effective functioning and sustainable development of modern organizations in a dynamic business environment (Likert, 1967, pp. 45-60).

There are several concepts and theories of leadership that are applied in companies to understand and develop leadership qualities. Here are some of the most well-known:

Trait Theory asserts that leaders are born, not made. It focuses on personal characteristics such as charisma, confidence, intelligence, and initiative that distinguish leaders from followers (Stogdill, 1948, p. 35-71). For example, Apple founder Steve Jobs was considered a charismatic leader with distinctive personal traits that helped him build a successful company.

Behavioral Theories focus on the behavior of leaders rather than their personal traits. They argue that leadership effectiveness is determined by the leader's style of behavior, such as task orientation or people orientation (Blake & Mouton, 1964, p. 45-60). An example could be a sales department manager who applies a people-oriented leadership style to increase the motivation and productivity of their team (Kirkpatrick & Locke, 1991, p. 48-60).

Contingency Theories emphasize that leadership effectiveness depends on situational factors such as follower characteristics, the nature of the task, and the organizational context. Examples include the Hersey-Blanchard Situational Leadership model

(Hersey & Blanchard, 1977, p. 120-135). For instance, a project manager may adapt their leadership style depending on the complexity of the task and the experience of team members.

Transactional Leadership views leadership as a process of exchange between the leader and followers. The leader sets goals, assigns tasks, and rewards or punishes subordinates based on their performance (Bass, 1985, p. 30-45). For example, a department head may use a system of bonuses and penalties to motivate employees to achieve set targets.

Transformational Leadership focuses on the leader's ability to inspire and motivate followers to achieve exceptional results. Transformational leaders appeal to followers' higher needs and values, stimulating their personal and professional development (Burns, 1978, p. 20-35). An example could be a company's CEO who implements an innovative corporate culture and inspires employees to reach ambitious goals.

Servant Leadership, proposed by Robert Greenleaf (Greenleaf, 1970, p. 15-30), emphasizes leadership as service to others. A servant-leader puts the needs and development of followers first, acting as a mentor and facilitator. For instance, a department manager may focus on developing the skills and career growth of their subordinates, creating an atmosphere of trust and collaboration.

Authentic Leadership highlights the importance of self-awareness, transparency, and ethical behavior of leaders. Authentic leaders act in accordance with their values and beliefs, gaining the trust and respect of followers (Avolio & Gardner, 2005, p. 315-338). For example, a company leader may demonstrate high ethical standards and transparency in decision-making, serving as a role model for their subordinates. These leadership concepts and theories are not mutually exclusive and are often used in combination to understand and develop leadership potential in organizations. The choice of an appropriate theory or approach depends on the specifics of the company, its culture, and strategic goals, which are actually the primary task for any company (House, 1971, p. 325). It is effective leadership that plays a key role in this process. Leadership is the ability to influence, inspire, and direct the activities of others to achieve common goals (Northouse, 2021, p. 5).

One of the key aspects of the role of leadership in achieving company goals is establishing a clear vision and mission for the organization. Effective leaders are able to formulate an attractive and inspiring vision of the company's future that unites and motivates employees (Kotter, 2001, p. 87). They ensure that each team member understands their role and contribution to achieving the overall goals. Leaders are also able to translate the company's vision and goals at all levels of the organization, ensuring consistency and purposefulness of actions (Zaccaro & Banks, 2004, p. 368).

Leaders play a crucial role in creating and maintaining a corporate culture that contributes to achieving the company's goals. They establish values, norms, and rules of behavior that shape the work environment and define interpersonal interactions (Schein, 2004, p. 11). Effective leaders create a culture based on trust, collaboration, innovation, and results orientation. They encourage open communication, idea sharing, and learning, allowing the organization to adapt to changing conditions and achieve its goals (Bass & Riggio, 2006, p. 103).

Leaders are also responsible for developing and motivating their followers. They recognize the unique abilities and potential of each employee and create opportunities for their personal and professional growth (Avolio & Gardner, 2005, p. 328). Leaders provide support, coaching, and feedback, enabling employees to develop their skills and competencies. They also use various methods of motivation, such as recognizing achievements, delegating authority, and creating conditions for self-realization to stimulate high productivity and employee engagement (Bass & Riggio, 2006, p. 122).

Effective leaders also demonstrate emotional intelligence and adaptability in their behavior. They understand the emotions and needs of their followers, show empathy, and build strong relationships (Goleman et al., 2002, p. 39). Leaders are able to adapt their leadership style depending on the situation, taking into account the characteristics of followers and the requirements of the task (Hersey & Blanchard, 1977, p. 129). Such flexibility allows leaders to effectively respond to challenges and opportunities that arise on the path to achieving the company's goals.

Moreover, leaders play a key role in making strategic decisions and managing change in the organization. They analyze the company's internal and external environment, identify opportunities and threats, and make decisions that enable the achievement of set goals (Yukl, 2013, p. 367-380). Leaders also initiate and manage change processes to adapt the company to new realities and ensure its competitiveness (Kotter, 2012, p. 28). They overcome resistance to change, inspire and engage employees in the transformation process.

Since in today's dynamic business environment, successful leadership is critically important for ensuring the effectiveness and competitiveness of organizations, identifying and understanding the key factors that determine leadership success allows organizations to develop and support highly effective leaders capable of achieving exceptional results.

Emotional intelligence and self-awareness are key factors in successful leadership. Leaders with high levels of emotional intelligence are able to understand and manage their own emotions, as well as recognize and consider the emotions of others. They demonstrate empathy, are able to build trusting relationships, and communicate effectively with their followers. Self-awareness helps leaders understand their strengths and weaknesses, values, and motives, enabling them to make informed decisions and improve their leadership skills (Gardner et al., 2005, p. 347-349).

Successful leaders pay significant attention to the development and growth of their followers. They act as mentors, providing support, feedback, and opportunities for learning. Leader-mentors help their subordinates develop necessary competencies, realize their potential, and achieve professional goals. They create an environment that encourages continuous learning, experimentation, and innovation (Edmondson, 2018, p. 61-63).

Ethical leadership and social responsibility are important factors in successful leadership in modern organizations. Leaders who demonstrate high ethical standards, honesty, and transparency gain the trust and respect of their followers (Brown & Treviño, 2006, p. 600-602). They make decisions that consider not only the economic interests of the organization but also the social and environmental consequences. Socially responsible leaders contribute to sustainable development, actively participate in solving societal problems, and shape a positive image of their organizations (Waldman & Siegel, 2008, p. 120-122).

In the face of constant change and uncertainty, successful leaders demonstrate a high level of adaptability and resilience. They are able to quickly respond to challenges, make decisions under conditions of limited information, and effectively manage risks. Adaptive leaders encourage experimentation, learning from mistakes, and continuous improvement. They also develop resilience in their teams, helping them overcome difficulties, maintain optimism, and find opportunities in adverse situations.

Successful leadership is the result of a combination of various factors, including the leader's emotional intelligence and self-awareness, mentoring and people development skills, ethical leadership and social responsibility, as well as adaptability and resilience. Organizations that seek to develop effective leaders should focus on creating conditions and opportunities for the development of these key factors of successful leadership.

#### 4 Conclusions

The conducted research allows us to conclude that leadership plays a fundamental role in the effective management of modern enterprises. Leadership is a key factor that determines the ability of organizations to adapt to changing business conditions, achieve strategic goals, and ensure sustainable development in the long term.

The analysis of the theoretical foundations of leadership and practical implications for enterprises suggests that investing in the development of leadership potential at all levels of the organization is imperative for achieving competitive advantages. Forming a corporate culture that encourages leadership, innovation, and continuous learning creates the foundation for unleashing the potential of employees and increasing their engagement in the implementation of the company's strategic initiatives.

The research results indicate that effective leadership is based on a combination of various competencies, such as emotional intelligence, strategic thinking, communication skills, and the ability to inspire and motivate followers. Developing these competencies through training programs, coaching, and mentoring allows enterprises to form a pool of talented leaders capable of leading transformational processes and ensuring the company's adaptability to the challenges of the modern business environment.

Furthermore, implementing leadership performance management systems and creating opportunities for the manifestation of leadership qualities at all levels of the organizational hierarchy are important prerequisites for unlocking the leadership potential of employees. Regular feedback, performance evaluation, and recognition of leaders' achievements stimulate them to continuously improve and achieve high results.

At the same time, the research shows that successful leadership in modern conditions requires flexibility and adaptability. Leaders must be able to quickly respond to changes in the external environment, make decisions under uncertainty, and lead teams through complex transformational processes. Developing adaptive leadership competencies, such as resilience, creativity, and the ability to learn continuously, is a key factor in the success of organizations in a turbulent business environment.

Further scientific research can be directed toward an in-depth study of the synergistic effect of combining different leadership competencies and management styles in the context of ensuring the effectiveness of enterprise activities. The development and empirical validation of integrative leadership models that consider the specifics of the industry, size, and life cycle of the organization will allow for the formation of scientifically grounded recommendations for the development of leadership potential in conditions of turbulence and uncertainty of the business environment.

The obtained research results have practical value for enterprise leaders, human resource management specialists, and organizational development professionals who seek to improve leadership effectiveness and ensure the sustainable growth of their companies. The implementation of the conclusions and recommendations presented in this article will allow enterprises to create a solid foundation for forming competitive advantages and achieving leadership positions in their industries.

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## RESEARCH ON LEGAL ASPECTS OF DIGITAL RIGHTS, PRIVACY, AND ETHICAL ISSUES IN THE ONLINE ENVIRONMENT

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**Abstract:** As scientific advancements continue, the emergence of new computer programs and smartphones has led to the establishment of digital states on a global scale. A crucial imperative, necessitating meticulous consideration and legal codification, is the preservation of digital rights and privacy. Individual private rights must remain inviolate, necessitating the refinement of legislative activities in each state. This condition holds significant relevance and urgency, demanding careful consideration by legislators and effective implementation at the state level. The primary aim of this article is to undertake a comprehensive analysis and theoretical-legal exploration of the legal facets concerning digital rights privacy and ethical dilemmas within the online environment. A theoretical examination of the legal dimensions surrounding digital rights privacy, coupled with an in-depth investigation into ethical considerations within the online environment, enables the identification of lacunae in rulemaking processes and facilitates the proposition of remedial measures. Through an exhaustive analysis of the national and international legal and theoretical foundations, the author advocates for continued exploration and knowledge exchange among legislators regarding the regulation of digital rights privacy and the formulation of strategies to address ethical challenges. Within the course of this study, the author discerned and endorsed the proposal to implement a digital code. This realm of investigation necessitates ongoing scrutiny, modernization, and the practical implementation of favorable aspects, thereby offering resolutions to problematic issues. A proposition is set forth to enhance legal consciousness and awareness through the incorporation of ethics courses within the online environment, targeting the workforce, young individuals, and students by integrating such courses into the curriculum. The rationale behind this proposal lies in the belief that such an initiative would contribute to resolving issues related to integrity and ethical conduct in online communication. In recognition of the dynamic nature of science and technological advancements, lawmakers must evolve legal norms that account for all associated risks and gaps in the regulatory landscape.

**Keywords:** computerization, digitalization, digital rights, ethical issues, online environment, privacy, scientific progress, theoretical and legal research, digital thing.

### 1 Introduction

Contemporary developments in Internet technologies, computerization, and digitalization are in a phase of active expansion, emphasizing the significance of the emerging concept of digitalization. Concurrently, governmental agencies must extend effective legal influence and control over the Internet environment, ensuring compliance with human rights as delineated in international and national documents.

To gain insight into and devise solutions for problematic facets, it is crucial to undertake a comprehensive analysis of theoretical and legal materials concerning the protection of rights in the digital realm, with particular attention to ethical considerations. In practical terms, instances of transgressions against legal and moral norms within the online environment are observed. The state bears the responsibility of implementing all requisite measures to redress problematic aspects and prevent infringements upon human rights.

### 2 Literature review

The study and analysis draw upon the theoretical and legal source base of both Ukraine and foreign countries, specifically exploring the legal dimensions of digital rights privacy and ethical issues within the online environment. The international legal framework is considered, encompassing key documents such as the Universal Declaration of Human Rights (UDHR, 1948), the European Convention (1950), and the Constitution of Ukraine (1996), which collectively regulate fundamental human rights.

M. V. Kostytskiy (2022), V. M. Beschastnyi (2022), and N. V. Kushakova-Kostytska (2022) have conducted research in the field of digital constitutionalism. Additionally, N.V. Bocharova has actively engaged with and expressed interest in this subject matter (2022). Among notable foreign scholars, it is pertinent to highlight E. Celeste (2022) and G. De. Gregorio (2022), who have contributed to the discourse on digital constitutionalism through their monographs.

Furthermore, J. Rosen (2013) and F. Vibert (2018) have delved into the examination of the Internet environment and associated legal norms. T. I. Aldoseman addresses the ethical compliance of the online educational process (2020), while M. Chikarkova analyzes the ethical norms within distance learning (2021). Silkova O. V. advocates for the integration of informatics within the medical domain and undertakes an exploration of telemedicine (2021). The field of online medicine has been subject to scrutiny in the works of several scientists, including S. Buletsa (2020), H. A. Oksak (2019), N. V. Korobtsova (2023), and T. Kyrychenko (2022). The contributions of M.S. Mishchenko (2023) and N. A. Bondar (2023) is also considered. O. Dufeniuk (2021) and V. V. Gutnik (2021) have delineated human rights in wartime. In his research, S. Tuchkov advocates for the development of an electronic medicines program (2020).

In the examination of the legal dimensions surrounding digital rights privacy and ethical issues within the online environment, the author employs a combination of general scientific and specialized scientific methods, with a particular emphasis on legal methodologies. The historical method features prominently in the analysis of scientific achievements, specifically in the exploration of the evolution of the information environment and the establishment of digital states.

Scientific research incorporates the systematic method, alongside methods such as analysis, description, evaluation, generalization, and the statistical method. The heuristic method is applied to a partial extent. Comparison is extensively utilized to juxtapose provisions within the Constitutions of foreign countries concerning digital rights. Furthermore, forecasting is employed to identify potential solutions for current challenges within the realm of ethical rights.

### 3 Results

Theoretical scrutiny of the legal dimensions surrounding digital rights privacy, coupled with an in-depth exploration of ethical issues within the online environment, offers the opportunity to discern gaps in the regulatory landscape and formulate strategies to address them.

Following an examination of the international and national legal source base, the author advocates for additional research and the exchange of experiences among lawmakers. This collaborative process is crucial for enhancing the security and oversight of digital rights privacy and identifying resolutions to contemporary ethical challenges.

Throughout the analysis of scientific materials, we have identified and endorsed the concept, proposed by our predecessors, to implement a code of ethics. We posit that this initiative holds the potential to address a myriad of problematic aspects and effectively regulate rulemaking activities within the online environment. The articulation of clearly defined norms is imperative, with adherence to international law and constitutional principles, ensuring the protection of individuals' rights and freedoms. This issue necessitates ongoing scrutiny and analysis by legal professionals, lawmakers, and scholars, with a commitment to implementing positive solutions in practical contexts. It would be apt to develop a draft comprising fundamental provisions, taking into consideration all associated

risks and drawing insights from foreign experiences. Collaborative analysis with both domestic and international experts would further contribute to the refinement of the proposed framework.

A judicious suggestion has been advanced to enhance the legal awareness and consciousness of individuals through the introduction of ethics courses within the online environment. This initiative envisions approved and meticulously analyzed curricula and programs. Such an intervention is anticipated to contribute to the elevation of moral standards, fostering integrity and ethical communication within the online sphere. However, the practical implementation of this proposal necessitates further research, particularly for schoolchildren, youth, and employees of state-owned enterprises, institutions, and organizations. It is deemed worthwhile to extend the coverage to the private sphere, ensuring a broad dissemination of knowledge regarding advancements in science, technology, and online communication. The introduction of online voting is posited as a realization of democratic principles.

The article furnishes information regarding electronic voting and election practices within specific electronic applications in certain foreign countries. It is emphasized that in the future, it is advisable to refine these practices, considering associated gaps and risks, and legislate on this matter at both international and national levels.

The proposal posits the need to accentuate fundamental principles governing privacy within the ethics of communication on the Internet and digital rights. It is judicious to categorize overarching principles such as democracy, user and state responsibility, legality, equality, judicial protection of rights and freedoms, and security guarantees into a distinct category.

The observation is made that in Ukraine, owing to Russia's armed aggression, a considerable enhancement in the safety and efficiency of state-level services can be achieved through online implementation. However, lawmakers are urged to consider the exigencies of martial law while formulating regulations and addressing problematic issues in alignment with the Constitution of Ukraine.

It is asserted that medical consultations, when deemed necessary, should be conducted online, yet with a caveat that digital rights and privacy must not be compromised. This consideration is of paramount importance, particularly as access to medical services is impeded for certain individuals due to hostilities, and online services have the potential to be lifesaving in such circumstances.

The trajectory of scientific progress will persist in its evolution and improvement, necessitating a concomitant evolution in legal frameworks that must be attuned to contemporary realities. Such adjustments should be made with a comprehensive consideration of all potential risks and prospects.

#### 4 Discussion

The examination of legal dimensions of digital rights privacy and ethical considerations within the online environment constitutes a pivotal stage in the evolution of rulemaking, aligning with the ongoing advancements in science and technology.

M. V. Kostytskyi aptly observes the swift development of the information field, highlighting the concurrent evolution of legislation. This rapid progress manifests in the emergence of codes of ethics, charters delineating freedom in the electronic domain, constitutions presented in digital formats, and the adherence to legal norms with judicial resolutions of pertinent cases (Kostytskyi, 2022). The introduction of a code of ethics in Ukraine would be a fitting proposition, holding the potential to address numerous ethical issues prevalent in contemporary society. This matter warrants future exploration and analysis by legal professionals, lawmakers, and scientists, with a

commitment to implementing practical solutions. Developing a draft outlining the key provisions of the code of ethics, incorporating considerations of potential risks and drawing insights from foreign experiences, is advisable. Collaborative analysis with both domestic and international experts would further enhance the robustness of the proposed framework.

V. M. Beschastnyi asserts that regulations governing the digital sphere and ethical norms on the Internet should align with foundational laws. The scientist underscores the significance of examining digital rights with due attention to psychological, organizational, technical, and legal components, which are intricately intertwined with constitutional norms (Beschastnyi, 2022). This proposal holds substantial importance and warrants special consideration.

Scientific and technological progress continues its dynamic global evolution. Therefore, it is judicious to assert that rulemaking should undergo continuous refinement, considering all circumstances, ethical standards, risks, and prevailing conditions.

N. V. Kushakova-Kostytska delves into the examination of Europe's experience concerning constitutional provisions within the realm of digital technologies. The scientist contends that, from a legal standpoint, constitutional norms regulate the digital sphere, encompassing information rights, electronic litigation, and the protection of private information for each individual (Kushakova-Kostytska, 2022).

In the contemporary landscape, information rights are gradually giving way to digital rights. Initiatives such as the "state in a smartphone" and "digital person" projects have materialized, ushering in new avenues for research, refinement, and the codification of norms within the constitutional frameworks of states to address pivotal and contemporary concerns (Kushakova-Kostytska, 2022). Undoubtedly, technological progress allows for numerous online transactions to be conducted conveniently, even via smartphones, from the comfort of one's home. However, it is imperative for the state to legislatively regulate and ensure the protection of private digital rights and confidential information.

Beschastnyi V. M. underscores that with the transition from information technologies to digital technologies, there is a potential for violations of moral and ethical norms. Furthermore, the introduction of artificial intellectual activity cannot be equated with human values in a general sense. The advent of robots poses challenges to discussions about humanity and morality; however, it is noteworthy that scientists are the creators of these entities and imbue them with specific characteristics and capabilities (Beschastnyi, 2022).

N. V. Kushakova-Kostytska asserts that there is a need for continuous improvement and development of constitutional norms within the digital domain. The analysis of problematic aspects stemming from digitalization is deemed crucial in the present context. Additionally, the law may potentially advance in a promising direction by aligning with the utilization of digital technologies (Kushakova-Kostytska, 2022).

In their scholarly monographs, E. Celeste and G. De. Gregorio aptly highlight the evolution of digital technological progress and the emergence of digital rights (Gregorio, 2022). These rights, as asserted by Celeste (Celeste, 2022), demand active enhancement and development to align with the technological landscape of our time. Indeed, the transformative changes in science exert a positive influence on state development, necessitating oversight by state authorities, who are tasked with establishing an appropriate legal framework.

Bocharova N. V. (2022) contends that alongside the evolution of modern technologies, digital constitutionalism is advancing, leading to the establishment of a digital society and a digital state. The foundational principles serve as the bedrock for the evolution of rulemaking, with the potential for new principles to

emerge in tandem with digital technology development. Bocharova emphasizes that internet users possess the right to freedom of expression in online resources (Bocharova, 2022).

We assert that, in the progression of digital states, the regulation of digital processes within the legal framework is imperative. However, any new regulations should align with the Universal Declaration of Human Rights (UDHR, 1948), particularly for countries that have ratified this document, as well as other norms within the realms of international and national law.

The proposal entails a theoretical synthesis of fundamental principles concerning digital rights privacy and the ethics of communication within an orphanage. This perspective has been formulated by the author through an analysis of scientific materials, representing a novel viewpoint necessitating subsequent exploration, analysis, and generalization.

It is deemed appropriate to underscore the overarching authorial principles, specifically emphasizing legality, equality, democracy, user and state responsibility, and judicial protection of individual rights. Additionally, freedoms and security guarantees are identified as distinctive elements warranting attention within this conceptual framework.

In her analysis, V. Bocharova (Bocharova, 2022) scrutinizes the experiences of foreign countries concerning Internet rights as articulated in the Constitutions of Greece (Greece's Constitution, 1975) and Portugal (Portugal's Constitution, 1976). Bocharova underscores that the right to access the Internet is explicitly recognized as a constitutional right (Bocharova, 2022). This examination of the primary legal frameworks of foreign nations serves as an enriching exercise, expanding our understanding of people's rights within the online environment. Within the online environment, ethical issues arise, exemplified by violations of moral values. In practical terms, breaches of integrity conditions are prevalent, largely due to the challenge of consistent verification in many instances.

Presently in Ukraine, due to Russia's military invasion, numerous institutions and enterprises have transitioned to online operations. While instances of employees inadequately fulfilling their duties are encountered in practice, it is justifiable to underscore that the onus is on the state and employers to establish conducive conditions and formulate methodological guidelines to enhance the efficiency and proficiency of modern employee capabilities and technologies. In navigating the contemporary reality shaped by the ongoing military actions in Ukraine, lawmakers are urged to consider all pertinent conditions and adverse circumstances. Furthermore, proactive measures should be taken to advance scientific research technologies in conjunction with effective rulemaking. It is noteworthy that legal norms find quicker implementation in practice and are subject to rigorous oversight by government agencies.

M. Chikarkova asserts that the implementation of distance learning encounters challenges related to integrity. The scientist contends that the primary resolution for these challenges lies in the adoption of a code of ethics. Additionally, Chikarkova suggests the introduction of a distinct course focusing on fundamental educational principles (Chikarkova, 2021). The remote completion of assignments and course studies renders it impossible to adequately monitor the integrity of students and learners. We contend that institutions' primary responsibility is to impart moral values to all individuals, aiming to proactively prevent ethical issues.

The proposition advocates for the implementation of such courses, extending beyond the youth demographic, to encompass government officials and employees of institutions and private organizations. This strategic approach aims to broaden the legal awareness of the population, fostering improved professional efficiency. The anticipated outcome includes a positive impact on the modernization of the economy, advancements in science, and, in a broader sense, the development of the state.

In his research, J. Rosen underscores the pressing need to modernize and amend constitutional provisions to align with contemporary technologies (Rosen, 2013). We contend that these changes and regulatory measures should be initiated at the international level, subsequently being implemented universally across all countries in adherence to shared standards.

F. Vibert examines the perspectives of foreign lawyers regarding the evolution of Internet technologies and brain scanning. The scientist contends that private control has the potential to infringe upon the provisions outlined in legal documents about human security, transgressing the "boundaries of personal" life, and impinging upon freedom of thought and speech. The forecast suggests that by 2030, Internet technologies and information rights will experience significant development (Vibert, 2018). In the realm of rulemaking for the Internet environment, it is imperative to ensure that such regulations do not encroach upon private rights and freedoms.

The implementation of online voting signifies the realization of the democratic principle. In contemporary times, online voting has become a commonplace practice, particularly evident in supporting petitions within the realm of legal activities. This grants everyone the right to vote for specific legal proposals. Upon scrutinizing foreign literature and legislation, it is justifiable to assert that certain countries are initiating elections through dedicated electronic applications. This not only saves citizens' time but also eliminates queues and streamlines the process of vote counting.

In Ukraine, discussions regarding the issue of elections have been initiated, with an analysis revealing that such innovations may potentially compromise the accessibility principle. For instance, elderly individuals may not always possess smartphones or specific applications, presenting a vulnerability to potential election fraud. It is conceivable that in the future, this matter will be subject to legislative measures at both international and national levels. O. V. Silkova explores the domain of telemedicine, underscoring the significance of introducing the subject of "Medical Informatics" for students (Silkova, 2021).

In the realm of modern technologies, consultations can be conducted online; however, it is imperative to safeguard the privacy of digital rights. Specialized medical programs, examination results, and tests ought to be treated with utmost confidentiality. Presently, due to ongoing military operations, accessing medical care in Ukraine poses challenges for individuals, given certain restrictions and dangers. Under such circumstances, private online consultations have the potential to enhance health outcomes and save lives. The conviction is that every individual possesses the right to medical care, education, and other fundamental rights. Therefore, the country, represented by state authorities, bears the responsibility for ensuring the safety of its citizens and must create all necessary conditions to actualize human rights.

It is pertinent to consider that, in Ukraine, as a consequence of Russia's armed aggression, the provision of most public services online would be apt. However, lawmakers must conscientiously factor in the conditions imposed by martial law and address problematic issues in a manner that upholds human rights.

By prevailing international and national legislation, individuals maintain the right to seek judicial recourse for the protection of their private rights in the event of violations. Crimes such as piracy attacks, infiltration into banking systems, and online fraud necessitate thorough investigation and subsequent punishment. The state bears the responsibility to ensure comprehensive security for all individuals concerning the privacy of their digital data.

In the pursuit of national lawmaking endeavors, we posit that it would be judicious and crucial for the advancement of lawmakers to foster the exchange of experiences among experts from foreign countries. Such collaboration would enable the

incorporation of a comprehensive understanding of contemporary risks and issues, facilitating the promotion of positive and efficacious practical changes. Acknowledging and implementing constructive foreign experiences becomes imperative to address a multitude of domestic challenges. This approach ensures due consideration and foresight into the circumstances of the country's development, encompassing all factors influencing current events and mitigating negative risks.

## 5 Conclusions

The scientific analysis and synthesis of the legal dimensions of digital rights privacy, coupled with a meticulous examination of ethical issues within the online environment, facilitate the identification of challenges in the regulatory landscape governing digital relations. This comprehensive approach allows for the exploration of potential solutions to these challenges.

Upon delving into international and national legal literature, the author advocates for ongoing engagement, urging scholars and lawmakers to further acquaint themselves with and exchange experiences. This collaborative process is vital for securing and overseeing the privacy of digital rights, as well as identifying effective strategies for addressing ethical concerns.

The author advocates for the formulation and adoption of a code of ethics, positing that such a framework would aid in the identification and resolution of a multitude of problematic issues while also regulating rulemaking activities in the online environment. The author underscores the importance of well-defined rules that align with international law and the Constitution, ensuring they do not infringe upon the rights and freedoms of society.

Furthermore, the author substantiates and explores the theory of enhancing societal legal awareness and consciousness by proposing the introduction of ethics courses in the online environment. This entails the development of clearly approved and analyzed curricula and programs. Such an initiative is anticipated to contribute to the refinement of moral standards, fostering integrity and ethical communication in the online sphere. This proposition necessitates further research and practical implementation, targeting schoolchildren, youth, as well as employees of state-owned enterprises, institutions, and organizations.

The contention is posited that the adoption of Internet voting practices can be perceived as an embodiment of the democratic principle. The document furnishes insights into electronic voting and the election procedures conducted through specific electronic applications in certain foreign countries. Emphasis is placed on the need to refine these practices, considering gaps and risks, and subsequently codify these processes at both the international and national levels in the future. A proposal is presented to accentuate the author's original contributions to the foundational principles governing privacy within the ethics of online communication and digital rights. This proposition aims to facilitate a comprehensive analysis of the fundamental tenets underpinning rulemaking activities within the online environment.

Consideration should be given to the categorization of overarching principles, encompassing elements such as democracy, the responsibilities of both the user and the state, legality, equality, and judicial protection of rights, with a distinct separation of freedoms and security guarantees. In light of Russia's armed aggression leading to a shift towards online services at the state level in Ukraine, lawmakers must factor in the constraints imposed by martial law when formulating regulations. This requires the regulation of problematic issues in alignment with the Constitution of Ukraine to ensure the safety and efficiency of such online services.

While scientific progress continues its global evolution and improvement, it becomes crucial to synchronize the legal development of the state with contemporary realities,

considering all inherent risks. This ensures that legal frameworks remain adaptable and relevant in addressing the challenges posed by advancing technologies and evolving societal needs.

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## SOCIAL ISSUES OF MODERNITY AND THEIR IMPACT ON SOCIO-PSYCHOLOGICAL HEALTH IN THE COMMUNITY

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**Abstract:** In today's dynamic world, the issue of psychological well-being becomes highly relevant, as it directly affects the life quality of individuals and the effectiveness of their interaction with the social environment. Rapid social changes, economic instability, and globalization processes create additional challenges for mental health. They emphasize the importance of an adequate societal response to these challenges. The article presents a comprehensive analysis of the factors affecting mental health, including the role of socio-economic inequality, educational level, social support, and spirituality. It has been found that higher income inequality correlates with a higher proportion of mental illnesses. At the same time, an increase in education contributes to psychological resilience. The importance of social ties and spiritual practices proved to be essential, especially in the context of their ability to reduce stress and increase emotional well-being. The research findings emphasize the need for a comprehensive approach to mental health support, including consideration of socio-economic, educational, and cultural factors. The authors recommend expanding the social support network and taking into account individual spiritual needs in psychotherapy and health care. Further research directions include studying the impact of globalization on psychological well-being and developing culturally sensitive methods of psychological support. This article contributes to a deeper understanding of the complex interrelationships that shape psychological well-being and provides practical recommendations for supporting mental health in a broader societal context. Based on the limitations this study identified, further research should focus on a detailed analysis of individual adaptation and resilience strategies in the context of social and economic changes.

**Keywords:** emotional well-being, social well-being, mental health, psychological socio-economic inequality, psychotherapy, social connections, social support, stress, social problems, psyche, social services, community.

### 1 Introduction

In today's changing world, where social changes occur at an extraordinary rate, the importance of understanding their impact on the psychosocial health of communities is becoming increasingly important. Societies all over the world are facing a variety of challenges, starting from economic inequality and political conflicts to environmental changes and pandemics. Each of them has its own unique psychosocial consequences for individuals and communities. In this context, looking at the study through the prism of the capability approach, we see an urgent need to focus our research on expanding the understanding of how social problems affect the ability of individuals and communities to achieve well-being and development.

In this paper, we will focus not only on analyzing existing social challenges but also on identifying ways to transform them into opportunities for improving social health and harmony in communities. In this regard, our research aims to contribute to the formation of a more fair and healthy society where everyone can fulfill their potential and contribute to the common welfare.

### 2 Literature review

The study by A. M. Lohr (Lohr, 2021) examines the impact of a community-clinic linkage model led by public health specialists on improving emotional well-being among Latino communities on the US-Mexico border. S. Agha (Agha, 2021) analyzes the psychological well-being of individuals during the COVID-19 lockdown, focusing on a four-factor coping structure. The results emphasize the importance of coping as a key mechanism in mental health during the crisis, which complements the understanding of the impact of external conditions on emotional well-being. In their brief review, J. H. De Kock, H. A. Latham, S. J. Leslie, et al. (De Kock et al., 2021) explore the impact of COVID-19 on the mental health of healthcare workers. The authors emphasize the need to develop targeted approaches to

reduce the psychological burden among healthcare workers. This resonates with the emphasis on cross-sectoral collaboration noted in previous studies. S. Arakelyan and A. Ager (Arakelyan & Ager, 2021) extended this discussion by proposing a multilevel bioecological analysis of factors affecting the mental health and psychosocial well-being of refugee children. Their approach highlights the importance of a comprehensive analysis of the social context for understanding psychological well-being in the context of global migration and conflict.

The study by H. A. Alfawaz, K. Wani, and co-authors (Alfawaz et al., 2021) further expands this topic and focuses on the psychological well-being of the academic community of a Saudi Arabian university during the COVID-19 lockdown. The authors found that providing access to mental health support and resources can significantly improve the psychological well-being of individuals facing isolation and stress related to the pandemic. This study complements the previously mentioned analyses by emphasizing the importance of access to psychological support and resources as a key element of mental health in crisis.

D. L. Crouse, L. Pinault, T. Christidis, and co-authors (Crouse et al., 2021) confirm that the natural environment can be an important resource for improving psychological health. The authors point out the need to integrate environmental and social initiatives into public health strategies. Additionally, the study by M. Saud, A. Ashfaq, A. Abbas, S. Ariadi, and Q. Mahmood (Saud et al., 2021) focuses on the role of religious support in psychological well-being during COVID-19 in Indonesia. The authors have found that religious support and the use of religious coping strategies significantly contributed to the improvement of psychological well-being during the pandemic.

It is worth noting that the importance of psychological well-being in the context of the COVID-19 pandemic and other stressful situations becomes even more apparent when it comes to vulnerable groups, including older people with chronic diseases (Chan et al., 2021). In the context of stigma and its impact on psychological well-being, O. T. Sims, J. Gupta, S. A. Missmer, and I. O. Aninye (Sims et al., 2021) offer recommendations for improving psychosocial well-being and reducing diagnostic delays. This is an essential contribution to understanding the complex nature of chronic illness's impact on mental health.

Considering the experiences of healthcare specialists, R. J. Jarden, A. Jarden, T. J. Weiland, and co-authors (Jarden et al., 2021) conduct a qualitative meta-synthesis that highlights the impact of working in the first year of practice on nurses' psychological well-being and illness. This study emphasizes the importance of supporting the psychological health of healthcare specialists, especially in the early stages of their careers. Similar studies have been conducted with students and other populations (Tan et al., 2021), exploring the role of resilience and environmental stress on the psychological well-being of Chinese students during the pandemic.

O. Grabowska-Chenczke, S. Wajchman-Świtalska, and M. Woźniak (Grabowska-Chenczke, Wajchman-Świtalska, & Woźniak, 2022) expand the understanding of the correlation between psychological well-being and being close to nature. Their findings emphasize the importance of natural areas as an essential factor in maintaining psychological well-being, adding another dimension to a comprehensive approach to mental health. A. Tabur, S. Elkefi, A. Emhan, C. Mengenci, Y. Bez, and O. Asan (Tabur, Elkefi, Emhan, Mengenci, Bez, & Asan, 2022) point to the critical need to develop strategies to support mental health among healthcare professionals, especially during crises.

The study by N. Fields, L. Xu, J. Greer, and E. Murphy (Fields, Xu, Greer, & Murphy, 2021) emphasizes the potential of innovative approaches to mental health support by expanding the

boundaries of traditional intervention methods. V. Ceri and I. Cicek (Ceri & Cicek, 2021) highlight an increased risk of psychological problems among healthcare workers. R. Calderon Jr, S. Pupanead, W. Prachakul, and G. Kim (Calderon Jr, Pupanead, Prachakul, & Kim, 2021) investigate happiness, perceived stress, proving the need to develop strategies to support mental health in academic communities. M. Matsushima and H. Horiguchi (Matsushima & Horiguchi, 2022) emphasize the need for economic and social policy interventions.

G. L. Marshall, E. Kahana, W. T. Gallo, K. L. Stansbury, and S. Thielke (Marshall, Kahana, Gallo, Stansbury, & Thielke, 2021) emphasize the importance of economic stability for maintaining mental well-being among older adults. Altogether, these studies provide a multidimensional portrait of the current state of psychological well-being across populations and countries. They emphasize the importance of a comprehensive approach to addressing mental health issues that includes economic support, social interventions, as well as the development of personal resources and mutual support.

This paper aims to identify and analyze the mechanisms that facilitate or impede the realization of well-being potential in different social contexts through socio-economic conditions, as well as cultural and personal factors.

### 3 Methods

In the context of this research, we approach the study of psychological well-being from the perspective of an integrated methodology that combines dialectical, socio-psychological, and systemic approaches, as well as methods of analysis and synthesis.

The dialectical method allows us to consider psychological well-being that results from the interaction of opposites and conflicts in social and personal life. The socio-psychological approach focuses on the study of how the social environment influences the psychological condition of an individual. We study how social ties, cultural norms, and values, as well as social support and interaction, affect people's emotional well-being. A systems approach allows us to evaluate psychological well-being as part of a broader social, economic, environmental, and political system. Both analysis and synthesis are the key methods for processing the information collected through the above approaches.

We believe that the proposed interdisciplinary approach not only contributes to a deeper understanding of the psychological well-being phenomenon but also opens up ways to develop more effective intervention and support strategies that can adapt to the diverse living conditions of individuals and communities.

### 4 Results

By seeking to uncover the deep interconnectedness between a person's socio-economic conditions and psychological well-being, we approach the analysis of this dynamic with detailed attention to the complexity and multidimensionality of its components. In this section of our study, we use a dialectical approach to examine how socio-economic factors (income, employment status, education, and access to social services) interact with the psychological state of an individual to promote or hinder mental well-being.

Based on a wide range of studies, it can be argued that financial instability and economic insecurity often lead to increased levels of stress, anxiety, and depression. Such dynamics are particularly evident in contexts where a wide gap between rich and poor further deepens social exclusion and marginalization of vulnerable groups. Let us analyze the following Figure 1 proposed by D. Ballas:



Figure 1. Correlation between income inequality and mental illnesses

Source: (Ballas, 2013).

The Figure 1 presents data from various countries, including Japan, Italy, Spain, Germany, Belgium, the Netherlands, France, Canada, New Zealand, the United Kingdom, Australia, and the United States. The abscissa axis (horizontal axis) shows the level of income inequality in these countries, which increases from left to right. The ordinate axis (vertical axis) shows the percentage of the population with mental illness, rising from the bottom to the top. The Figure 1 shows that there is a positive correlation between income inequality and mental illness. In other words, countries with higher levels of income inequality, such as the United States, have a higher percentage of the population with mental illness. In contrast, countries with lower levels of income inequality, such as Japan and the Scandinavian countries, have a lower percentage of their population suffering from mental illness.

These findings open up a discussion about the potential impact of economic stability and social justice on mental health. In particular, it may indicate that societies with a more egalitarian income distribution system and greater social support may be more conducive to better mental health. This trend may be related to various factors, including lower levels of social isolation, less stress from economic anxiety, and greater access to social resources for all population segments.

Further, when analyzing the role of education, it turns out that higher levels of education not only contribute to better economic prospects but also correlate with higher levels of psychological well-being. Education serves as an essential tool for connecting with the world. It allows people to better cope with life's challenges, provides access to information and health resources, and opens up greater opportunities for social interaction and participation. This correlation is reflected in the following Figure 2.

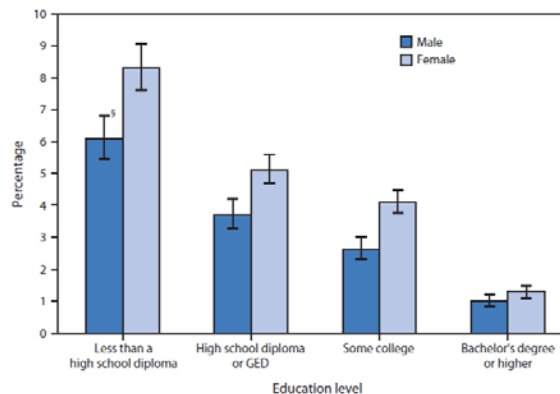


Figure 2. Correlation between education level and mental illnesses

Source: (National Health Interview Survey, 2014)

In this figure, we see the percentage of people with mental illnesses by education level, separated by gender. The data is presented for four categories of education: those with less than a high school diploma, those with a high school diploma or GED (General Educational Development), those with incomplete higher education (some college), and those with a bachelor's degree or higher.

We can draw several observations based on the figure:

- there is a tendency towards a decrease in the percentage of people with mental illness with increasing levels of education for both genders;
- the highest percentage of people with mental diseases is observed in the category with less than a high school diploma;
- the lowest percentage is observed in the category of people with a bachelor's degree or higher;
- in all categories of education, women have a slightly higher percentage of mental illnesses compared to men. However, this difference becomes less pronounced at the level of higher education.

Next, we turn to the second content area, which pays special attention to the impact of social interactions and cultural factors on the emotional well-being of individuals. In this context, we seek to explore how the social environment and cultural milieu of a person's life shape their psychological well-being. At the same time, we keep in mind that cultural norms, traditions, and values play a crucial role in determining well-being parameters.

Social interactions play a crucial role in shaping an individual's psychological well-being. They act as a fundamental factor influencing emotional well-being. Family ties, friendships, and active participation in community life not only provide critical social contacts but also contribute to a deep sense of connection, support, and understanding that are critical to our mental health. Family ties, characterized by mutual support and love, create the basis for developing a sense of security and affiliation. In a family, a person receives not only emotional support but also learns to interact with the social world. This forms the basis for developing resilience and the ability to adapt to changes in the broader social context.

For its part, friendship plays an equally important role, providing an individual with an opportunity to share thoughts, experiences, and emotions. It helps to relieve emotional stress and reduce stress levels. Friends often become a source of new ideas, motivation for personal growth, and, in a certain way, a mirror that allows people to better understand themselves. Participation in public life, including volunteering, involvement in social movements, or simply active communication with neighbors, expands social networks and strengthens the sense of self-worth and effectiveness. Active participation in community life allows individuals to feel part of something bigger and contributes to self-esteem and life satisfaction.

Cultural values, beliefs, and practices play a crucial role in shaping the psychological well-being of individuals. They form the basis on which people build their understanding of life, determine the meaning of their actions, and develop coping

strategies. The cultural context not only influences an individual's perception of their place in the world but also shapes the boundaries of normal and acceptable behavior. This, in turn, affects their sense of belonging and identity.

In cultures that value collectivistic values, such as family cohesion and community support, people often turn to social media as a primary source of emotional support and problem-solving. Such approaches to mutual aid and solidarity can significantly contribute to reducing feelings of isolation and loneliness, increasing overall psychological well-being.

In contrast, in cultures with strong individualistic orientations, with an emphasis on autonomy, personal freedom, and achievement, individuals may rely more on their own resources and intrinsic motivation to overcome difficulties. At the same time, a lack of external support or an overemphasis on self-sufficiency can lead to increased levels of stress and anxiety.

Cultural aspects play a fundamental role in shaping psychological well-being. They determine how people perceive themselves and the world around them, their strategies to cope with life's challenges, and how they build their relationships with others. Attention to cultural specificity is key in developing effective approaches to mental health support at the individual and collective levels. As an essential aspect of social relationships, social support plays a crucial role in maintaining the psychological well-being of an individual. Its influence is manifested in a wide range of forms, from emotional cohesion to practical assistance, which can be crucial in different life situations. Emotional support, including expressions of empathy, care, and understanding, is the basis for building a sense of security and trust. In situations where a person is facing stress or personal crises, such support can be a decisive factor in preventing the development of mental disorders or promoting mental health recovery.

Informational support provides valuable information and advice and can help people solve their problems. It can also give them the knowledge and resources to manage stressful situations more effectively and overcome life's challenges. Material support, including financial assistance or practical help in everyday life, is vital during crises when personal resources may be limited. Such support can provide the necessary "bridge" to overcome temporary difficulties. Ultimately, it contributes to a sense of stability and control over the situation. Access to a broad social support network can significantly reduce stress, increase adaptive capacity, and facilitate recovery from mental trauma. This, in turn, strengthens the sense of social belonging and promotes healthy relationships between individuals. Social support also fosters a sense of belonging, which is critical for social and emotional well-being, as humans are social beings who seek contact with others.

In the following table (Table 1), we compare different interventions aimed at improving the psychosocial health of communities. It demonstrates how various forms of interventions can affect mental health. This emphasizes the importance of a comprehensive approach to organizing community support.

Table 1. Interventions to improve the social and psychological health of communities

Intervention type	Intervention description	Target group	Expected impact on psychological health
Social support	Organizing self-help groups, social services to support vulnerable groups and mentoring programs.	People experiencing stress and social isolation, unemployed people, and the elderly.	Decrease in the feeling of loneliness, increase in resources for coping with stress, and improvement of the overall well-being.
Educational programs	Educational seminars and training on psychological health and stress management courses.	Students, youth, corporate employees, educators.	Increase in awareness of mental health issues, learning the skills of self-help and stress management.
Medical services	Access to qualitative medical services, psychotherapy, consultations, and treatment of mental disorders.	People with symptoms of mental illness and people requiring professional mental health assistance.	Improved access to treatment, early diagnosis and intervention, and improved quality of life for patients.

Based on these points, the analysis of social support emphasizes the need to develop and maintain an infrastructure of social

services and networks that can provide effective assistance to individuals in need. This may include investing in community

centers, psychological support programs, mental health initiatives in the workplace, and social services that provide support for financial, housing, or other everyday problems. Overall, social support serves as a fundamental resource for achieving and maintaining psychological well-being and resilience, which is particularly important when facing stress and uncertainty.

## 5 Discussion

When looking at the spiritual aspects of psychological well-being, we encounter a variety of perspectives that emphasize the depth and complexity of spirituality's impact on mental health. The first perspective is based on the thesis that spiritual practices and religious beliefs provide a strong foundation for psychological resilience. They offer people mechanisms for coping with life's challenges. According to this perspective, spirituality contributes to a meaningful life. It gives a sense of purpose and support from a higher power, which is critical when facing crises and uncertainty. The opposite view argues that a strong attachment to spirituality and religion can lead to excessive passivity, where individuals rely solely on religious solutions to their problems, ignoring the need for active action or the use of external resources. There is also a risk that a dogmatic perception of religious beliefs can lead to intolerance, internal conflicts, and psychological trauma.

We believe that spirituality should be integrated into the broader context of psychological well-being, taking into account its potentially positive impact and recognizing its limitations. Spirituality should be used as one of many tools for maintaining mental health rather than as the only answer to all of life's challenges.

The next challenge we encounter when considering psychological aspects. It concerns the provision of an individualized approach within religious communities and health care. On the one hand, there is a need to recognize and support individual spiritual needs within psychotherapy and health care. On the other hand, it is essential to avoid imposing religious beliefs or practices that may not be in line with the patient's or client's personal beliefs.

Our assessment of this dilemma is based on the belief that effective psychological well-being provision requires a flexible approach that embraces spirituality as a potential source of strength for some and recognizes the possibility of other ways of self-actualization for others. In this context, the integration of religious support into psychotherapeutic and medical programs should not limit the personal freedom and autonomy of the client or patient. It should rather respect their choices and their own path to mental health.

## 6 Conclusion

During our research, we found that psychological well-being is a multifaceted phenomenon that encompasses socio-economic, spiritual, educational, and cultural aspects of human life. It was found that economic inequality can significantly affect the mental health of the population, increasing the risk of mental disorders. These findings also confirm the importance of educational attainment for psychological resilience and adaptability. They emphasize the role of education as a factor that can facilitate coping with life challenges.

A positive correlation is evident between the level of income inequality in different countries and the incidence of mental illness in the population. The countries with greater income inequality, such as the United States of America, show a higher percentage of mental illness. Meanwhile, countries with less severe inequality, such as Japan or the Scandinavian countries, have significantly lower rates. These observations shed light on the possible impact of economic stability and social justice on mental health. They indicate the potential of more egalitarian income systems and expanded social support to improve mental

well-being. It can be assumed that such a trend is related to the following factors:

- Lower levels of social isolation.
- Less stress from economic worries.
- More accessible social resources.

Nevertheless, it should be borne in mind that correlation does not always indicate direct causation. Therefore, additional variables such as cultural influences, health care system, mental health policies, and access to psychological support should be considered to better understand these correlations.

Our findings suggest that social ties and cultural values play a key role in shaping and maintaining mental health. It has been found that having strong social ties that provide emotional and informational support can be a significant resource for coping with mental disorders. In addition, the studies confirmed the importance of social support, especially during crises, as a factor that reduces stress and promotes rapid recovery from mental trauma. Based on these findings, we recommend further research into the impact of cultural and educational factors on mental health, as well as the development of social support programs that take into account cultural and individual characteristics. An important area for future research is also the development of methods for evaluating the effectiveness of spiritual practices in the context of psychotherapy and health care. This will require a special emphasis on an individualized approach to each patient.

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**Primary Paper Section: A**

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## STUDYING THE IMPACT OF TECHNOLOGICAL CHANGES ON LEGAL RELATIONS IN THE SPHERE OF LABOR, FLEXIBLE FORMS OF EMPLOYMENT AND EMPLOYEES' RIGHTS

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**Abstract:** Nowadays, the world is experiencing an era of technological transformations that are continuously changing our environment and how we work. They have a direct impact on legal relations, flexible forms of employment, and employees' rights. Addressing such challenges will not only identify some issues but also suggest possible ways to adapt labor legislation to modern realities. The results of our study indicate the need for constant updating of Ukrainian labor legislation to keep pace with technological and socio-cultural changes. Flexible forms of employment, such as remote work and part-time employment, are becoming increasingly essential elements in the contemporary labor market. The definition of their legal status and protection of employees' rights in these circumstances is an urgent task for legislators. The author studied the impact of technological changes on legal relations in labor, in particular, flexible forms of employment and employees' rights. It has been found that the development of distance work and other flexible forms requires adaptation of legislation to protect employees and ensure fair working conditions in the face of technological innovations. New forms of employment, such as the gig economy and self-employment, require careful regulation to ensure fair working conditions and social guarantees.

**Keywords:** flexible forms of employment, flexible working hours, labor relations, remote work, technological changes, the rights of employees.

### 1 Introduction

In today's world, rapid technological changes are affecting labor relations, defining new forms of employment, and rewriting the rules of the game in the labor sphere. This article focuses on the impact of technological innovations on legal relations in the labor sphere, examining flexible forms of employment and employees' rights. The article analyzes aspects such as remote work, part-time employment, temporary employment, flexible working hours, etc. It also highlights the issue of informal labor relations and their impact on modern employment.

### 2 Literature review

Shevchenko O. O., and Bochko N. Ye. (2022) analyzed the process of modernizing the development of e-government, focusing on digital transformations. The study by Lopushynskyy I. P. (2018) is focused on the role of digitalization in reforming and transforming society in Ukraine. Rudakova, S. G., Shchetinina, L. V., and Danylevich, N. S. (2013) analyzed the introduction of flexible forms of employment in Ukrainian enterprises. Ivanova, L. V., and Nikiforenko, V. H. (2013) studied the use of non-standard forms of employment in the modern labor market. Huk L. P. (2021) examines the diversity of employment forms in the context of digitalization and globalization. The paper by Huk L. P. and Bilichenko S. P. (2022) addressed the impact of flexible forms of employment and labor mobility on economic stability. Gutsu S. F. (2021) focused on the interaction between artificial intelligence and labor relations. Novikova O. F., Amosha O. I., Zaloznova Yu. S., Khandii O. O., Azmuk N. A., and Shastun A. D. (2022) devoted their research to the transformation of the social and labor sphere in the digital economy. Tao Jianhua and Tan Tieniu (2005) reviewed affective computing technologies and their role in

intelligent interaction, which is vital for developing intelligent systems.

### 3 Research methods

This study employed several methods, such as:

- literature review (to provide theoretical context);
- historical analysis (to reveal the development of issues over time);
- synthesis and comparative analysis (to combine and evaluate different approaches and studies).

The combination of such methods helps to provide a comprehensive look at the studied topic, covering its different aspects and perspectives.

### 4 Results

The intersection of global technological change, the challenges posed by the COVID-19 pandemic, and the Russian Federation's invasion of Ukraine has resulted in significant shake-ups in labor relations and legislation. The pandemic turned out to be a catalyst for the rapid introduction of technologies into workflows. It forced society to reconsider the usual labor standards and the relationships between employers and employees.

Remote work has become a new reality since the pandemic. Now, it is defining a new norm of labor. This transition is taking place at the technical implementation level and the revision level of traditional legal concepts regulating labor relations. Following such a changing reality, where technology dictates the terms, and the pandemic defines new safety standards, this article is dedicated to examining the impact of these factors on labor legislation and employees' rights.

Alongside technological change, the war in Ukraine that began in February 2022 has been a catastrophic event for millions of employees. They have been forced to adapt to the new labor market and living conditions. The challenges arising from this situation add complexity to the existing tensions in the field of labor relations. It also requires attention to the adaptation of legislation to unforeseen circumstances. In this context, the study of the impact of technological changes on legal relations in the labor sphere becomes highly relevant.

The role of technology in shaping the labor environment is becoming dominant in the modern world. This brings significant changes to the legal regulation of employment and employees' rights. In order to adequately respond to modern challenges, it is necessary to consider the impact of technological transformations on labor relations and the legal structure of labor. The widespread impact of digital technologies, automation, and remote work challenges the traditional framework of labor legislation. This requires a deep understanding of the legal implications of these changes.

In the context of studying the impact of technological changes on legal relations in the labor sphere, let us consider the role of digital technologies and their application in the labor environment. In a narrow (technical) sense, digital technologies are a set of processes, methods, and systems utilizing digital data and signals to process and transmit information. When it comes to labor, such technologies are defined by the use of binary codes (zeros and ones). These codes allow computers and other electronic devices to process information faster and more efficiently (Marcel Van de Voorde, 2017).

Nowadays, digital technologies, in a broader sense, represent integrated circuits and devices (Ross Knox Bassett, 2007), which include:

- Digital devices: computers, smartphones, tablets, digital cameras, and other electronic devices that can store, process, and transmit digital data.
- Programs and operating systems run on digital devices and provide their functionality to perform various tasks, including data processing, communication, and device management.
- Digital technologies expand communication capabilities via the Internet and other networks, enabling the exchange of data and information over long distances.
- The development and use of algorithms and software make it possible to automate data processing and task execution (Makoto Motoyoshi, 2009).

Today, digital technologies are defining new working conditions and promoting flexible forms of employment, but their use also raises new challenges for workers' rights and the regulation of labor relations.

As a result, digital technologies have a wide range of applications in the labor sphere, affecting various aspects of labor relations and flexible forms of employment. Here are some specific ways how they can be used:

1. Remote work and telecommunications. Today, digital technologies have become a necessary component of the modern labor process. The introduction of digital tools allows people to work remotely, providing new opportunities and challenges for companies and employees. Digital technologies allow people to work from anywhere, connecting them to their teams through virtual platforms and tools. Employees can perform their duties from home or other locations through remote working tools. Telecommunication technologies allow for online meetings, conferences, and briefings. They reduce the need for physical presence, save time and resources for travel, and provide convenience in team interaction. Digital collaboration platforms allow teams to work on projects in real-time. They can edit documents together, share ideas, and interact remotely, regardless of location. Colleagues in different locations can share information and communicate quickly via email, chats, and other specialized communication platforms. The development of digital technologies also requires the improvement of data protection systems. Ensuring the confidentiality of information is becoming a priority in connection with working with remote devices and exchanging sensitive information electronically (Josh and Dr. Joe, 2014). Overall, remote work requires employees to organize themselves and develop skills to work online effectively, such as time management and the ability to work in the absence of direct supervision. These aspects emphasize the importance of digital technologies in shaping new models of work and opening up opportunities for more flexible and efficient forms of employment. However, along with these benefits come challenges related to the need to address privacy, ethics, and regulation of the digital work environment.

2. Paperless management of documents in the labor sphere. The latter includes a range of effective practices aimed at optimizing the processing and storage of information. Let us take a closer look at it, focusing on the "Vchasno" and "Diia signature" aspects (Shevchenko and Bochko, 2022). Digital document management systems allow the creation of digital archives where all documents can be easily found and sorted. They facilitate quick access to information and reduce the time previously spent searching for paper documents. They also allow the automation of many routine operations, such as indexing, sorting, and storing documents. As a result, they reduce the risk of errors and increase employees' productivity (Jianhua and Tieniu, 2005). The use of electronic signatures simplifies the process of signing documents. It can be used to validate contracts, agreements, financial documents, etc. Electronic signatures are legally binding and provide a high level of security (Ripsman, 2010). Paperless management systems of documents can be integrated with other electronic platforms, such as electronic payment systems or electronic time and attendance systems. Such integration allows for the automation and coordination of various aspects of document management. For example, when entering

into a new contract, an electronic document management system can automatically notify all necessary parties, allowing them to efficiently review, sign, and approve the document online without physically exchanging hard copies.

3. Automation of business processes through paperless management of documents in the labor sector is becoming increasingly crucial for optimizing efficiency and providing more flexible working conditions (Lopushynskiy, 2018). It allows for the automation of routine tasks such as indexing, classification, and distribution of documents. This enables business processes to run without significant employee intervention, reducing the time and cost of tasks. Electronic signatures and automatic document approval systems speed up the decision-making process and ensure standardization. This is especially useful in large companies where different departments can work on the same document at the same time.

Automated systems can include the creation of electronic forms for data entry. They simplify the process of collecting information and avoiding manual errors. For example, employees can fill out electronic forms for orders, applications, or registration. Automated electronic document management systems can easily integrate with other tools and platforms, such as electronic time tracking systems, CRM systems, or other management tools for business processes. They also provide opportunities for monitoring and analyzing activities. Such tools can track the flow of documents and processing time and reveal opportunities for optimizing business processes (Brenner, 2006).

In addition, they can include notification systems to report events or remind about important deadlines. In addition, users can set up precise access rights, ensuring the security and confidentiality of information. It's also worth noting that electronic document management systems allow several employees to work on documents at the same time, making it easier to collaborate and save all changes. All of these aspects of automating business processes through e-document management contribute to increased productivity, reduced risks of errors, and improved collaboration in the modern workflow.

4. Online learning and skill development through e-document management systems are becoming an essential part of the modern approach to employee training. Electronic platforms allow companies to implement various forms of training, such as online courses, webinars, and virtual training. Various learning resources, such as e-books, videos, and articles, can be conveniently stored and accessed, facilitating the process of acquiring new knowledge and skills. Integrating assessment tools into electronic systems makes assessment and progress tracking possible. The flexibility and accessibility of online learning allow employees to learn at any time and place, which is especially important in a remote working environment. Adapting the training material to individual needs facilitates the creation of personalized development plans. Online learning also facilitates interaction and the exchange of experience among employees through forums and online discussions. The implementation of certification and achievement recognition systems helps to stimulate the active participation of employees in the learning process. With the help of electronic systems, companies can constantly update and adapt their training content to meet the requirements of the business environment and labor market. This approach to training promotes the development of employees' competencies and supports their adaptation to modern labor challenges.

5. Analytics and productivity measurement via e-document management systems are becoming a key element of effective labor management. These aspects allow companies to obtain information about workflows and determine the employees' performance. Electronic systems allow the collection and processing of data on the completed tasks, time of completion, and other crucial productivity indicators. This includes analyzing the effectiveness of certain employees, departments, and projects. Analytical tools allow companies to conduct in-depth analyses of workflows and identify opportunities for

optimization. When analytics tools are integrated into electronic systems, they simplify the process of collecting and displaying data, giving managers clear and complete information. By assessing performance through these systems, companies can determine employees' achievements, as well as identify trends and weaknesses in workflows. This becomes the basis for making decisions to improve efficiency and optimize workflows.

The application of analytical management tools also allows to forecast and plan the company's resources, determine staffing needs, and develop strategies to increase productivity in the future. In general, analytics and productivity measurement through electronic document management systems are becoming an integral part of modern workforce management. These tools help companies make sound decisions and achieve high levels of efficiency.

6. In a modern business environment, digital human resource management (HRM) systems are essential in improving HR management and optimizing operational processes. These systems, or workforce management systems, create an effective mechanism for integrating and automating various HR functions (Brunner, 2019). Electronic HRM systems allow companies to centrally manage key aspects of HR management, such as hiring, firing, performance appraisal, and career development. They simplify decision-making processes and allow for more efficient interaction with staff. HRM systems allow the digital collection and storage of a full range of information about each employee. This includes personal data, qualifications, employment history, and other relevant parameters. The system gives management a complete overview of the team structure and its potential. Moreover, HRM systems allow automation of many routine business processes, such as maintaining an employee list, handling vacations, tracking time, and other aspects of administrative work. It simplifies the work of the HR department and frees up time for strategic planning. HRM systems allow companies to implement effective training and staff development programs. As a result, companies can track employees' skills and knowledge and identify opportunities for further career progress.

At the same time, the most common labor issues caused by technological changes include the following:

1. Displacement of jobs is one of the main problems caused by technological changes in the labor sphere. As automation and the introduction of artificial intelligence become available, many types of work are becoming available for automation. This may lead to a reduction in the need for human labor resources. This process is particularly relevant in the manufacturing industry, where automated systems can now perform work that used to be done manually. Robots on assembly lines, artificial intelligence, installation, and packaging operations are often automated, which can affect thousands of workplaces (Gutsu, 2021). Service and administrative activities are also undergoing automation through software and bots, which may lead to a reduction in the number of workplaces in these sectors. However, it is essential to note that technological displacement of jobs can also create new opportunities in other areas, such as the development, maintenance, and management of new technologies. Nevertheless, retraining and training programs need to be actively implemented to ensure that employees can adapt to new conditions and remain competitive in the labor market.

2. The absence of clarity in legislation regarding remote work is a severe issue arising within the context of technological changes in the labor sphere. With the development of information technologies and the ability to perform tasks remotely, remote work has become highly relevant, especially during the COVID-19 pandemic and events related to the Russian Federation's invasion of Ukraine. The legislation often fails to keep pace with the rapid development of technologies, creating gaps in the legal regulation of remote work. In many countries, clear norms and standards regulating remote work are absent, including definitions of working hours, occupational safety issues, payment for work, and other aspects of labor relations. This

uncertainty affects both employees and employers, making it difficult to determine their rights and obligations. Undefined norms can lead to inequality, conflicts, and violations of labor legislation. Legislative bodies must actively work to establish clear norms and rules for remote work to ensure a balance between workers' needs and employers' capabilities in new labor relations conditions.

Additionally, there is a significant lack of regulation regarding the social package, medical insurance, and protection of remote workers. In many countries, such as the United States, the social benefits and medical insurance system still need to be improved for remote workers, and it results in social inequalities.

Such unequal conditions of employment contracts for remote workers, which can vary by region (as in Canada) or state, create additional complexity in the practical application and interpretation of labor legislation.

The problem of protecting the privacy of remote workers who work in virtual environments is particularly acute. The lack of a clear regulatory framework in Spain, for example, allows employers to monitor the activity of employees without due consideration for their privacy (McDonald, 2008).

Overall, the absence of clear norms and standards in legislation regarding remote work necessitates modern, flexible, and balanced approaches to regulation that consider the real challenges and interests of both workers and employers.

The organization of remote and home-based work in Ukraine is regulated by legislative acts, including:

- The Decree of the President of Ukraine dated March 13, 2020, No. 87.
- The Resolution of the Cabinet of Ministers of Ukraine dated March 11, 2020, No. 211.
- The Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Aimed at Preventing the Occurrence and Spread of Coronavirus Disease (COVID-19)," dated March 17, 2020, No. 530-IX.
- The Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Aimed at Ensuring Additional Social and Economic Guarantees in Connection with the Spread of Coronavirus Disease (COVID-19)," dated March 30, 2020, No. 540-IX.

The Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Regarding the Improvement of Legal Regulation of Remote, Home-Based Work, and Work with Flexible Working Hours," dated February 4, 2021, No. 1213-IX, which came into force on February 7, 2021, took a significant step in regulating these issues legally. This law regulated the specifics of remote and home-based work and introduced flexible working hours. Thus, remote employees can work from any location of their choice but are obliged to keep in touch with the employer via information and communication technologies. They have certain working hours and a period of disconnection when they can have a break from work and do not respond to employer messages.

Home-based employees work at designated locations outside the employer's premises, following the company's business hours. They also have defined working hours and a designated workspace or technical facilities. Both forms of remote work allow employees to maintain a work-life balance. As for the possibilities of performing distant work, they are determined by the employer, and the law also allows certain categories of employees to be transferred to remote work. The formalization of remote work requires the conclusion of a written labor contract. It is also possible to temporarily introduce remote work for existing employees by issuing an order (decree) in cases prescribed by law, such as an epidemic, threat of aggression, or an emergency.



After analyzing the above-mentioned Ukrainian legislation, we can outline the following comparison:

Table 1. Comparison of the terms "home-based work" and "remote work" in the context of Ukrainian legislation

Criteria	Home-based work	Remote work
Definition	Any work performed by employees at their place of residence or in other premises designated by them, as long as there is appropriate technical equipment and an area that is not related to the employer's workplace.	Any work performed outside the employer's premises or territory, in any place of the employee's choice, and involving the use of information and communication technologies.
Legal regulation	Reflected in Article 60-1 of the Labor Code of Ukraine and International Labour Organization's Home Work Convention (1996) No. 177.	Determined in Article 60-2 of the Labor Code of Ukraine and regulated by the Law of Ukraine "On Amending Certain Legislative Acts to Improve Legal Regulation of Remote Work," dated February 4, 2021.
Main conditions of performance	Work is performed if there is a private area and technical facilities in the premises chosen by the employee, which is not related to the employer's work premises.	Work is performed outside the workplace and the employer's territory while using information and communication technologies.
Labor contract	It requires a written employment contract for home-based work.	A standard form of an employment agreement on remote work is approved by the central executive body and defines the working and safety conditions.
Working hours planning	It is regulated in Article 60-2 of the Labor Code of Ukraine, where an employee is responsible for setting up working hours and working conditions within distance workplaces.	Working hours are scheduled according to the employee's own decision and are not subject to internal labor regulations unless they are specified in the employment contract.
Vacation and break time	A period of free time to rest (disconnection period) is guaranteed. During this time, an employee may interrupt communication with the employer.	It is determined in the labor contract for distance work, including the employee's right to disconnect.
Employee rights	Employees have the right to demand transfer to remote work if they have been subjected to discriminatory actions.	The right to demand that employers provide the necessary funds is ensured, and the terms and conditions for reporting and payments are defined.

3. Employee confidentiality and privacy are essential aspects in the context of technological changes in the labor sphere. As new technologies are used to monitor and manage employees, there are issues related to the preservation of personal data and privacy protection (Paleri, 2008). One issue is the increase in the scope of workflow monitoring, which may include tracking emails, internet usage, and activity on work devices. Hence, there is a question of how this information is collected and used and whether a sufficient level of privacy is ensured. Another critical issue is how Big Data is used for performance analysis. Big data can be used to assess employees' performance. However, it can be accompanied by risks of confidentiality and privacy violations. In the context of remote work and telecommunications, the growing use of virtual platforms and communication tools raises the issue of employees' data security and the possibility of stealing confidential information. Careful regulation and definition of standards for maintaining employees' confidentiality and privacy in response to technological changes are needed to ensure mutually beneficial employer-employee relationships and the security of personal data.

4. The use of artificial intelligence in the labor sphere raises numerous ethical issues that require careful attention and regulation. One of the main issues involves the question of fairness and discrimination when using artificial intelligence algorithms to recruit and evaluate employees. These algorithms may be based on historical data that reflects existing social inequalities and stereotypes. It can lead to automatic discrimination based on race, gender, or other factors, which creates a negative social impact and undermines the principles of justice. Another issue involves the use of artificial intelligence to monitor and control employees. Tracking productivity and behavior in the workplace can violate employees' privacy, creating unnecessary levels of control that can determine not only performance but also the psychological climate at the workplace. Furthermore, there is an issue of accountability and transparency behind artificial intelligence decision-making. AI algorithms can be unpredictable and difficult to understand, which creates difficulties in explaining and determining responsibility in case of mistaken or unfair decisions. Ethical standards and legal frameworks need to be actively developed to

ensure the fair and ethical employment of artificial intelligence in the labor sector.

5. Cybersecurity and cyber offenses in the labor sphere (Andini et al., 2023). For example, cyberattacks and leaks of corporate information can lead to loss of customer confidence and financial losses. The spread of malware can block computer networks and leak confidential information (Brenner & Clarke, 2004). Inadequate security, such as weak passwords, remote shared servers, un-updated software, etc., can become a severe problem (Blinderman & Din, 2017). Insider threats, such as misuse of privileges, can lead to information leakage. The seizure of Internet of Things (IoT) equipment creates new attack vectors (Williams, 1998; Williams, 2008). Cybersecurity requires a comprehensive approach, including regular audits, staff training, application of modern security tools, and continuous improvement of strategies to counter such attacks (Broadhurst et al., 2013).

6. Violation of the work-life balance is becoming an increasing problem in the context of technological changes in the labor sphere. New technologies that expand the possibilities of remote work can simultaneously lead to constant accessibility and overloaded work responsibilities. Working hours are becoming less fixed, and communication tools provide continuous means of communication with colleagues and bosses, even during off-hours. This can make employees feel like they need to be always on call and in charge, which negatively impacts their private lives. One of the challenges here is a lack of time to rest and recover energy. Thanks to technology, employees can carry out work tasks outside the office, but this can also lead to the fact that they postpone their rest and personal life responsibilities (Bondar, 2023). Additionally, it is vital to remember that work-life imbalance can lead to stress, burnout, and other health issues. Technological opportunities allow employees to do more tasks, but the lack of clear boundaries can affect their overall well-being. The solution to this issue requires establishing set working hours, encouraging the use of vacation and breaks, and developing policies to regulate the use of technology during off-hours. Fostering a work-life balance is becoming an important part of ensuring employees' well-being and efficiency.

7. Under the martial law in Ukraine, technological changes are becoming a key component of the labor sphere. However, they are accompanied by numerous challenges. Ukrainian society is facing problems that affect labor relations and employees' rights. Obviously, the war leads to a lot of destruction and economic instability, as well as massive job losses and economic decline. The shelling and destruction of infrastructure disrupt the stability of the power grid, creating difficulties in providing energy to businesses and the population.

Unstable communications and limited access to the Internet make it difficult to introduce remote work, limiting the capabilities of employees. Conflict-induced social instability leads to fears among the population, and employees may be forced to choose between safety and keeping their jobs.

Another factor worth mentioning is the healthcare system, which is overloaded under martial law. All these factors work together to create serious challenges for labor relations and workers' rights in the context of conflict and technological changes. In today's context of technological change, labor relations are determined by various forms of employment that provide more flexibility to both employees and employers. The main flexible forms of employment include remote work, part-time work, temporary employment, flexible working hours, etc.

The study of the impact of technological changes on legal relations in the labor sphere, flexible forms of employment, and employees' rights reveals significant transformations in work organization, in particular, with respect to remote work. As a flexible form of employment, remote work involves work performed outside the traditional office environment, using high technologies as well as information and communication platforms (Rudakova et al., 2013).

One of the key features of remote work is the fact that employees have the opportunity to choose their own workplace. This opens up new opportunities for working in a convenient environment. The use of information technology for remote work allows employees to effectively interact with colleagues and complete tasks while maintaining a high level of communication.

Employees' rights are gaining a new scope in the context of remote work. In particular, employees have the right to flexible working hours, setting their own work schedule and breaks. They can also demand that the employer provide them with the required equipment and reimbursement of expenses related to the work process at home.

It is also vital to ensure that employees have rest and switch-off times to maintain a balance between their professional and personal lives. Additionally, remote work should take into account the possibility of combining it with work at the employer's location by mutual agreement of the parties, which is determined by the employment contract. Due to technological changes, remote work is becoming an essential element of modernizing labor relations, introducing flexibility and adaptability into modern labor legislation.

In addition, we should pay attention to the analysis of part-time work as one of the flexible forms of labor organization. Part-time work is a strategic element that takes into account the personal needs of employees and increases their employability in the context of growing technological dynamics. This form of employment allows to adjust working hours to individual needs and to place high demands on working comfort (Ivanova & Nikiforenko, 2013).

Among the key benefits of part-time work is the ability to work for limited hours, which helps to maintain a balance between an employee's professional and personal life. It is especially relevant in the context of the active utilization of technologies that enable efficient completion of tasks within a limited time.

The rights of part-time employees are subject to special protection. The principles of fair payment for the completed work, provision of additional benefits, and social guarantees are essential elements of the legal regulation of such employment. It is essential to take into account the needs of employees for flexibility and adaptability of the working hours when providing them with part-time jobs. Technological progress allows for the creation of efficient work systems that promote mutual agreement between the employee and the employer (Huk, 2021).

In general, part-time work in the context of technological transformations is becoming an essential element of adaptive labor legislation. It contributes towards creating comfortable and effective conditions for employees under the new realities of the work environment.

It is worth noting that the Labor Code of Ukraine does not contain separate provisions for part-time work. However, Article 56, "Part-time work," provides for the possibility of an agreement between the employee and the employer to fix part-time hours or part-time weeks, both when hiring and later. In particular, the employer, if there is a relevant medical certificate, is obliged to establish a part-time working day or week at the request of a pregnant woman, a woman with children (including a child with a disability or a child in her care), or a person who takes care of a sick family member.

Temporary employment, which is also included in the category of flexible forms of employment, is defined as an agreement between an employee and an employer that involves a limited work period. This may be related to the seasonality of certain types of work, temporary projects, or covering missing employees.

One of the main features of temporary employment is the lack of permanence in employment relations, which distinguishes it from a standard full-fledged employment contract. However, such a form of employment can benefit employers who need a temporary workforce for particular periods and employees who seek flexibility and the ability to adjust their schedules to specific circumstances (Huk & Bilichenko, 2022).

From the perspective of workers' rights, involvement in temporary employment should be accompanied by clear terms of the labor contract, definition of duties, compensation, and other rights and obligations of the parties. It is also vital to ensure the absence of discrimination against employees engaged in temporary employment and to ensure their rights to equal conditions as compared to other categories of employees.

Flexible working hours represent an essential aspect of flexible employment forms that regulate the organization of employees' working time. The main idea is to allow adaptation of the working hours to employees' personal needs and specific business conditions (Bondar, 2022). A key feature of flexible working hours is the ability to work outside the standard eight-hour working day or five-day week. Employees can choose the start and end hours of their working day and may also have the option to work from home or choose another convenient location to perform their duties.

This approach to working time management contributes to higher productivity, increased employee satisfaction, and a better work-life balance. Flexible work hours can also be an effective tool for attracting and retaining qualified personnel by creating a comfortable working environment and supporting the diverse needs of the workforce. Employees' rights in the context of flexible working hours include ensuring transparent terms of the agreement regarding the schedule, as well as guarantees of no discrimination or illegal restrictions. It is essential to take into account the interests of both parties by facilitating flexible working hours and creating conditions for effective cooperation between employees and employers.

These were the main forms of workers' employment. Additional flexible forms of employment include the following models:

- Project work involves signing an employment contract to work on a specific project or task. An employee is hired to work on a particular task with stipulated terms and conditions of payment. Upon completion of the project, the employment relationship is terminated.
- Freelance. It is a form of self-employment where an employee, a freelancer, works independently, receiving orders from various clients. Freelancers set their own working hours or schedules and make their own agreements with clients.
- Seasonal work is one of the flexible forms of employment where labor relations are limited to a specific season or time of year when a certain type of work or service is most popular or needed. This form of employment is traditionally observed in those sectors that depend on natural cycles, such as agriculture (harvest time), tourism (summer and winter seasons), and retail (seasonal sales).

An essential feature of seasonal employment is that employees work only for a certain time of the year, after which they may take a break. This approach allows employers to respond effectively to fluctuations in workload and demand for their goods or services.

Seasonal workers may use this approach to obtain temporary work and additional income, especially if they have other responsibilities or interests that allow them to pause their work during the off-season. On the other hand, this form of employment can also put workers in a favorable situation by increasing their competitiveness in the labor market, as they can learn and grow in different fields during work breaks.

- Employment through civil law contracts. This form of employment involves signing civil law agreements between the employee and the employer. The employment process is based on agreements that define responsibilities, payment terms, and other aspects of cooperation.
- Self-employed persons may run their own businesses and do various types of work. Depending on which group they belong to, different taxation conditions and legal liabilities may apply.
- Gig contracts or gig economy is a form of employment where workers perform short-term, often small tasks or projects (gigs) based on contracts or payment rewards. This model allows employees to work on their own terms and set their working hours.

Gig contracts can be fulfilled through specialized online platforms where employers post tasks, and freelancers choose

the ones that match their skills and interests. This approach is common in several industries, including content writing, programming, graphic design, and other technical and creative fields.

The main advantages of gig contracts for workers include flexibility, the ability to choose tasks and control over their careers. On the other hand, this form of employment can result in income instability and lack of social guarantees, which can be a vital aspect for workers, particularly in terms of health insurance and vacations.

Gig contracts represent an essential aspect of the modern labor market, where digital technologies facilitate the growth of such employment and the development of flexible working forms. This is a widespread type and form of employment in the IT sector and other sectors that have already felt the impact of technological changes on legal relations in the labor sphere.

## 5 Discussion

It is necessary to emphasize the frequent cases of informal labor relations, especially in the realities of war and remote work. For instance, there is a growing trend of informal labor relations, which includes work performed without a formal employment contract and registration. This practice is often carried out using cryptocurrency technologies and crypto exchanges (Davis, 2010). Cryptocurrencies, such as Bitcoin, Ethereum, and others, are becoming an essential tool for making payments for work done in offshore or other segments where operations are not always formally regulated by law. In this context, employees can receive payment in cryptocurrencies, bypassing traditional banking and financial structures (Hawre, 2017). However, this approach is accompanied by certain risks and uncertainties, as it deprives workers of traditional social guarantees and protections that are usually linked to formal employment. The lack of legal status can lead to problems in case of misunderstandings or conflicts between the parties, as there is no clear legal framework. In addition, the use of cryptocurrencies may be subject to tax control and require special attention to financial and tax liability issues. Informal labor relations involving cryptocurrency payments for services require additional legal regulation and coordination between the parties to prevent any possible negative consequences (Novikova et al., 2022). Nevertheless, as an example, we should note a large part of foreign remittances: relationships.

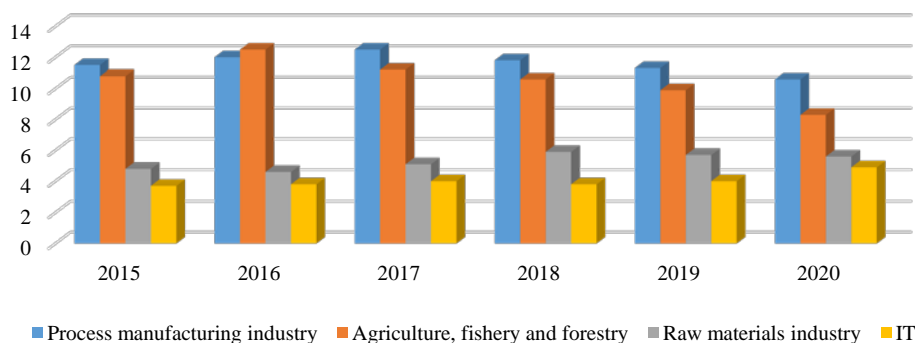


Figure 1. The share of the IT sector in the GDP of Ukraine as the main representative of remote workers. Source: (Changes in the share of the IT industry in the total GDP of Ukraine, 2021).

In 2022, the IT industry brought \$7.34 billion in foreign exchange revenues to the Ukrainian economy. According to a press release from the IT Ukraine Association, this indicates a \$400 million increase in exports compared to 2021. As of January 1, 2023, the IT business contributed to the Ukrainian Consolidated Budget by paying taxes and fees worth UAH 32.2

billion. It reflects an increase of UAH 4.4 billion and exceeds the previous year's indicator by 16%.

## 6 Conclusions

The study on the impact of technological changes on legal relations in the labor sphere, flexible forms of employment, and

employees' rights reveals important trends and challenges arising in the modern labor environment. The development of information technologies affects the work organization, forms of employment, and legal status of employees, introducing new opportunities and risks.

Remote work, part-time work, temporary employment, and other flexible forms of employment are becoming not only a response to technological transformations but also an essential tool for providing greater flexibility for both employees and employers. However, these new models also face challenges in terms of ensuring workers' rights and regulating labor relations.

Based on the conducted research, it can be concluded that the current Ukrainian labor legislation does not meet the modern realities and challenges caused by technological changes in the labor sphere and the development of new employment forms. Based on the flexibility and diversity of modern labor relations, there is a need to reform labor legislation to adapt to modern conditions, ensuring rights and guarantees for employees within new forms of employment and supporting dynamic economic development.

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#### Primary Paper Section: A

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## THE ROLE OF TECHNOLOGIES IN THE FORMATION OF STUDENTS' DIGITAL COMPETENCE: ADAPTING TO THE REQUIREMENTS OF MODERN SOCIETY

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**Abstract:** The formation of digital competence among higher education seekers requires a systematic and in-depth approach. The conceptual approach to this process involves not only teaching specific technical skills but also developing the knowledge and skills necessary for effective adaptation to the digital environment and successful use of digital technologies. Digital transformation influences various aspects of education, including information, library and archival affairs. It is important to understand that this transformation is taking place in the context of the students' general competencies, in particular in the "Information, Library and Archival Science" sector, which is being implemented in Ukraine. This means that the development of digital competence should be integrated into the overall educational process in the specified specialty. The prospects of digitalization of higher education open up new opportunities for the professional development of young professionals. However, in order to achieve these benefits, it is necessary to focus the educational process on developing the ability to critically evaluate the reliability of information from the Internet. This will ensure the lifelong learning experience in today's environment, where access to information is unlimited, but its quality does not always meet the standards of reliability and objectivity.

**Keywords:** adaptation, development, digitalization, digital competence, education, innovation.

### 1 Introduction

A review of the contemporary digital landscape and its impact on education reflects significant transformations occurring in the learning process due to the implementation and development of digital technologies. Modern digital technologies such as computers, tablets, smartphones, and software have become essential tools in the educational process. They assist teachers in organizing classes more effectively while enabling students to acquire knowledge and develop skills. Learning has become more accessible and flexible thanks to digital technologies. The availability of instructional resources to students at all times and a location is crucial, especially for those who have restricted access to conventional educational establishments. The introduction of online courses and electronic learning platforms allows students to receive quality education directly over the Internet. This opens up new opportunities for distance learning and self-development. Interactive technologies, video lessons, gamification, and other innovative approaches help engage students in the learning process and increase their motivation to learn. The use of digital technologies in education helps students develop skills that are essential for successful functioning in the digital age, such as information literacy, critical thinking, problem-solving, and communication skills. However, along with the benefits, the use of digital technologies in education also faces challenges such as ensuring accessibility, the digital divide, data privacy, and cyber security. However, the proper use of digital tools can bring significant benefits to education and contribute to the development of modern society. The importance of digital literacy for students' successful adaptation to the demands of contemporary society cannot be overstated. In today's digital world, many jobs require employees to have digital skills. Students possessing digital literacy have an advantage in the job market and can more easily find and retain employment. Digital literacy helps students be more effective in the learning and research process. They can quickly find and analyze information, communicate with peers and instructors as well as create and present their work using digital tools. Digital

literacy helps students better understand and perceive societal changes related to rapid technological development. They can critically evaluate new technologies and their impact on society and make informed decisions. Digital literacy opens doors to a wide range of career opportunities in modern society, from software engineering to digital marketing. Students possessing digital skills can choose career paths according to their interests and abilities. Modern society is rapidly changing under the influence of technology. Students with excellent digital literacy skills have better chances of successfully adapting to these changes and remaining competitive in the face of rapid technological development and societal changes.

The purpose of the present academic paper is to study the role of technology in shaping students' digital literacy and their adaptation to the demands of modern society. The research aims to explore the impact of various aspects of technology use on the development of digital literacy, computer skills, internet proficiency, and other digital tools, as well as students' ability to effectively interact in a digital environment.

### 2 Literature review

The concept of digital competence has gained considerable popularity among academic researchers and policy makers, especially in the context of higher education (Gisbert Cervera et al., 2022). With the widespread use of information and communication technologies (ICTs) in the educational process, digital competence has become a crucial factor for both teachers and students, influencing their academic performance (Godaert et al., 2022). Digital literacy encompasses a broad spectrum of knowledge, skills, and attitudes necessary for effectively utilizing digital technologies in various aspects of life. It plays a vital role in addressing contemporary challenges and issues in an educated society, providing a dynamic and cross-cutting set of skills (Núñez-Canal et al., 2022). In fact, understanding digital technology on a social and emotional level is just as vital as technical skills. According to the OECD project, digital competence involves more than the mere accumulation of knowledge and skills; it implies the ability to respond to complex demands by mobilizing psychosocial resources in a specific context (Gisbert Cervera, & Caena, 2022). Digital literacy encompasses both concrete and essential skills, emphasizing the multifaceted nature of this concept. The integration of technical, cognitive, and ethical aspects highlights the dynamic nature of evolving digital literacy and its wide range of applications in various spheres and areas of life.

#### 2.1 Technologies in Education

Technologies play a crucial role in improving the quality of education and enriching the educational experience in the modern learning process. Technologies make education more accessible to a wide range of people, including those with limited access to traditional learning resources (Santos et al., 2022). Open online courses, webinars, and video lessons make education accessible from anywhere with an internet connection. Technologies enable the creation of interactive learning materials that engage students in their studies. The use of video, audio, animation, and other multimedia elements makes the learning process more interesting and effective. It is possible to create individualized training programs that take into account the needs of each student thanks to technologies. Adaptive learning platforms can analyse students' responses and offer them tasks based on their level of knowledge and needs (Siddiq et al., 2023). The use of modern technologies in education helps students develop key skills for the future, such as digital literacy, critical thinking, collaboration, and problem-solving. The Internet and social networks provide students with the opportunity to communicate and exchange knowledge with colleagues and experts from around the world.

## 2.2 Interactivity and students' engagement through the use of technologies

Interactivity and students' engagement through using technologies are important aspects of modern education. Online learning platforms often feature interactive elements such as video lessons, quizzes, graphics, and other tools that facilitate active students' participation in learning (Sabdash, & Lysko, 2023). The use of forums, chats, and social networks can stimulate active discussion and exchange of ideas among students. This makes learning more interactive and engaging as well as promotes interaction among students from different cultures and experts from various fields. The application of simulation programs and virtual reality allows students to interact with educational material in a simulated environment. For instance, they can conduct virtual experiments, solve tasks, or even reproduce practical situations. The use of technologies to work collaboratively on projects allows students to interact in real time, sharing ideas, making joint contributions, and solving problems together. This contributes to the development of communicative and collaborative skills. The use of technologies makes it possible to create individualized learning materials catering to each student's needs. Adaptive programs can adjust the material to the knowledge level and interests of each learner, creating individual learning trajectories.

## 2.3 The use of online resources and electronic platforms for learning and self-development

The use of online resources and electronic platforms for learning and self-development is becoming increasingly widespread in the modern world (Ostanina et al., 2023). Online learning provides access to a variety of materials, courses, and resources anytime and anywhere, making learning more flexible and accessible to a wide range of people. Students can learn at any time and place convenient for them, regardless of geographical location or schedule constraints. This is especially beneficial for those with busy schedules or working full-time. Online resources offer a wide selection of courses, video lectures, interactive assignments, and educational materials from various subjects and fields. Students can select and tailor educational material according to their needs and interests. Online resources foster self-directed learning, allowing students to develop their own

pace and style of learning. They can study material at their own pace, review complex topics, and select tasks that meet their needs (Cabero-Almenara et al., 2023). Many online platforms facilitate interaction and knowledge exchange among students through forums, chats, and collaborative projects. This stimulates active participation and interaction among participants in the learning process.

## 2.4 The formation of digital competence

Having reviewed the literature on the publication's topic, it is possible to identify the following key components of digital competence (Martzoukou et al., 2022). Technical Skills: these are the knowledge and abilities to work with office equipment, programs, and platforms. These include understanding how to operate computers, mobile devices, operating systems, software for word processing, spread sheets, graphics, and so on.

Information Literacy: this is the ability to effectively search for, evaluate, and use information from the internet and other sources. It involves the capability to analyze the reliability and authority of sources, as well as understanding concepts such as digital security and privacy. Media Literacy: this is the ability to critically evaluate and understand information presented through various media channels, such as websites, social networks, videos, audios, and others.

Communication Skills: these are the abilities to communicate effectively and collaborate through digital means. It includes written and oral communication, collaborative work on projects in online environments, and the ability to engage in dialogue and resolve conflicts in digital communities.

Creativity and Innovation: this is the ability to use digital tools to generate new ideas, products, and solutions. It may involve website development, multimedia presentations, video and audio materials, etc. Digital Ethics and Security: this involves knowledge of the rules for using digital technologies, including principles of digital security, confidentiality, and respect for other users. It also includes understanding the legal aspects of using digital resources and information.

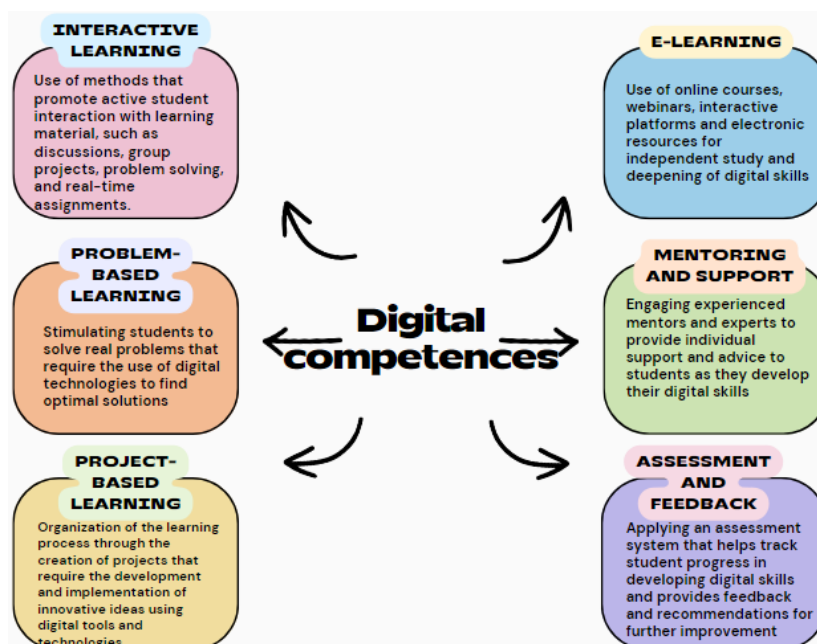


Figure 1. Methods and strategies for developing students' digital skills. Source: Author

The formation of students' digital skills (Figure 1) requires the application of various methods and strategies aimed at developing their digital competence (Budai et al., 2023). These

include: Interactive Learning: using methods that promote active interaction between students and educational materials, such as discussions, group projects, real-time task solving, and

assignments; Problem-Based Learning: stimulating students to solve real-world problems that require the application of digital technologies to find optimal solutions; Project-Based Learning: organizing the learning process through the creation of projects that involve the development and implementation of innovative ideas using digital tools and technologies; E-Learning: utilizing online courses, webinars, interactive platforms, and electronic resources for self-study and deepening of digital skills; Mentoring and Support: involving experienced mentors and experts to provide individual support and guidance to students in developing their digital skills. Assessment and Feedback: implementing an assessment system that facilitates tracking students' progress in developing digital skills, as well as providing feedback and recommendations for further improvement.

### 2.5 Adaptation to the requirements of modern society

Adapting to the demands of modern society involves various aspects related to the development of digital competence and its application in different life domains (Zhao et al., 2021). The contemporary job market requires workers to possess a certain level of digital competence for a successful career. Understanding and being able to use digital technologies have become necessary skills for most workplaces (de Obesso et al., 2023). In many fields of activity, digital skills are essential for effective work. They are used for various tasks, from organizing workflow to data analysis and managerial decision-making (Gutiérrez-Castillo et al., 2023). The rapid technological changes demand ongoing updating of knowledge and skills from individuals. Learning and self-education become crucial factors for successfully adapting to the digital environment, where new technologies and approaches emerge and evolve rapidly (Markauskaite et al., 2023). These aspects underscore the importance of developing digital competence for successful adaptation to modern demands and challenges in the fields of work and education.

### 3 Materials and methods

In order to implement the present research, we used a quantitative approach based on the survey methodology. We chose a non-experimental design, which involves selection, observation and collection of information without intervention or modification of variables, in order to address the research questions. We also conducted a descriptive analysis of the data obtained to achieve this goal (Grynova et al., 2023).

The research involved students from several Ukrainian higher educational institutions who were in their third and fourth year of study during the 2019/2020 academic year. A random sampling method was used for the sample, which resulted in 5164 people being included in the research (the margin of error  $E = 1,36$ ,  $\alpha = (100 - 95)/100 = 0,05$ ).

It should be noted that 223 (41%) students were in their first year, and 320 (59%) were in their fourth year. The average age was 20,5 years, and the age distribution ranged from 18 to 22 years. The sample included 44% ( $n = 240$ ) females and 56% (303) males, most of whom lived in rural areas (61%,  $n = 333$ ). It is also worth noting that 74% of respondents have already had experience of formal training using ICT and digital technologies, and 100% have participated in online classes.

The sections of the questionnaire included the following paragraphs:

1. Identification data: these include age, gender, year (first or fourth-year student), place of residence, and information about the specialty and the reason for choosing it.
2. Availability of information and communication technology resources: it assesses the availability of Internet connection

and the availability of own equipment and devices to access it.

3. Potential for developing digital competence: it includes frequency of internet connection and purpose of using information and communication technologies.
4. Training related to information and communication technologies and digital technologies: it measures prior training on using such technologies, approaches to improving them, as well as participation in online classes and the level of computer use.
5. Self-perception of digital competence: it includes an assessment of one's own information literacy, communication and collaboration in a digital environment, ability to create digital content, and knowledge of safety and problem-solving.
6. Attitude to information and communication technologies: it evaluates one's own attitude to the use of information and communication technologies.

Statistics data for assessing the level of students' digital competencies included the following parameters:

- Observed Value: these are the actual observed values of the dependent variable Var4 for each student;
- Predicted Value: this is the value of Var4 that the model predicted for each student based on the input data and model parameters;
- Deviation: this is the difference between the actual and predicted Var4 values. It displays how far the actual data differs from the predicted data;
- Standardized Deviation: this is a standardized deviation value that expresses how much the observed value influences the model compared to the expected value;
- Std. Err. Mahalanobis: this is a standard error that takes into account multimodality and correlation between variables.

Cook's Distance: this is a measure of the impact of each observation on the final model. We also performed multivariate cluster analysis in Statistica.

### 4 Results

The obtained results were focused on the analysis of communication and collaboration of students using digital technologies. Table 1 shows that university students demonstrated a high level of skills in using digital devices and programs to communicate with others ( $M = 3,00$ ,  $SD = 0,66$ ). Practically 60% of the students rated their digital engagement as good. Additionally, all students feel confident in collaborating with others online and in developing their digital skills. Regarding the opportunities provided by digital technologies, the majority of students (55,5%) consider them good, while 45% rate them as excellent. Concerning collaboration using digital technologies, most students have noted that they effectively use digital technologies and media for teamwork (100%), processing their activities and projects (82%), as well as for participating in online learning through collaborative environments (100%). Most students also possess in-depth knowledge of the norms of behavior and interaction in the digital environment ( $M = 3,05$ ,  $SD = 0,69$ ;  $M = 3,06$ ,  $SD = 0,66$ ;  $M = 3,03$ ,  $SD = 0,66$ ). Similar results were observed for digital identity management: 96% of students were confident in creating and managing their social media profiles, 83% were able to manage multiple identities in different contexts, and 59% showed good cyber security skills, 12% – good and 23% – excellent. Most students also possess in-depth knowledge of the norms of behavior and interaction in the digital environment ( $M = 3,05$ ,  $SD = 0,69$ ;  $M = 3,06$ ,  $SD = 0,66$ ;  $M = 3,03$ ,  $SD = 0,66$ ). Similar results were observed for digital identity management: 96% of students were confident in creating and managing their social media profiles, 83% were able to manage multiple identities in different contexts, and 59% showed good cyber security skills, 12% – good and 23% – excellent.

Table 1. Results of a survey of students of higher educational institutions on the level of digital competencies

Position	Unsatisfactory	Satisfactory	Good	Excellent	Mean	SD
The ability to connect the device to the Internet	7%	10%	42%	41%	3	0,67
Availability of the Internet in the campus network and personal equipment and devices	0%	0%	55%	45%	2,8	0,72
Quality of the Internet connection	0%	12%	37%	51%	2,71	0,74
Use of ICT tools and connection to the Internet	1%	17%	74%	8%	2,79	0,7
Skills in using information and communication technologies	1%	74%	18%	7%	2,8	0,7
Acquiring digital competencies	0%	1%	83%	17%	2,71	0,73
Approaches to improving digital competence	18%	37%	23%	22%	2,72	0,73
Participation in online classes and level of computer use	0%	0%	0%	100%	3,05	0,69
Information literacy and knowledge	0%	1%	3%	96%	3,06	0,66
Communication and collaboration in the digital environment	0%	0%	0%	100%	3,03	0,66
Digital content creation	1%	1%	82%	16%	2,87	0,72
Possessing knowledge of security and problem-solving skills	6%	59%	12%	23%	2,81	0,73
Assessment of one's own attitude to the use of information and communication technologies	3%	28%	55%	14%	3,09	0,66

Most students also possess in-depth knowledge of the norms of behavior and interaction in the digital environment ( $M = 3.05$ ,  $SD = 0.69$ ;  $M = 3.06$ ,  $SD = 0.66$ ;  $M = 3.03$ ,  $SD = 0.66$ ). Similar results were observed for digital identity management: 96% of students were confident in creating and managing their social media profiles, 83% were able to manage multiple identities in different contexts, and 59% showed good cyber security skills, 12% – good and 23% – excellent.

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It has been revealed that only 18.4% of students believe that they possess sufficient digital competencies to create multimedia

content in various formats, while 73.6% rated their skills as satisfactory. When it comes to using different media and methods to creatively express their ideas, 83% chose the “good” mark, while 1% of students believe they are poor at it. When it comes to creating new creative and relevant content by editing, modifying, improving and combining existing resources, 82% rated themselves as having good proficiency in these skills. The results have also shown that more than half of the students have a good understanding of the basics of intellectual property, legislation and licensing of information and digital content (55%). However, in the programming section, less than half of the students believe they possess a high level of knowledge (18%), and only 7% believe they can modify computer programs, settings, and equipment well if necessary. Figure 2 shows the results of the cluster analysis of university students' level of digital competencies. We can distinguish the following clusters from Figure 2.

Table 2. Results of statistical assessment of the level of university students' digital competencies

	Observed	Predicted	Deviation	Standard	Mahala Nobis	Cook &mapos
1	0,405	0,405	0,000	-0,028	1,303	0,000
2	0,448	0,448	0,000	0,092	0,820	0,000
3	0,508	0,508	0,000	0,265	0,328	0,000
4	0,083	0,083	0,000	-0,942	1,517	0,000
5	0,068	0,068	0,000	-0,984	6,827	0,000
6	0,166	0,166	0,000	-0,707	2,396	0,000
7	0,225	0,225	0,000	-0,540	8,893	0,000
8	1,000	1,000	0,000	1,660	2,801	0,000
9	0,958	0,958	0,000	1,540	2,410	0,000
10	1,000	1,000	0,000	1,660	2,801	0,000
11	0,164	0,164	0,000	-0,712	2,270	0,000
12	0,227	0,227	0,000	-0,535	2,978	0,000
13	0,144	0,144	0,000	-0,770	0,656	0,000
Minimum	0,068	0,068	0,000	-0,984	0,328	0,000
Maximum	1,000	1,000	0,000	1,660	8,893	0,000
Mean	0,415	0,415	0,000	0,000	2,769	0,000
Median	0,227	0,227	0,000	-0,535	2,396	0,000



Summarizing this information, we can draw the following conclusions about the level of digital skills in each cluster:

**I cluster:** Students in this cluster possess a high level of proficiency in basic digital skills, such as participation in online classes and computer skills, and also possess information literacy and knowledge.

**Cluster II:** This cluster reflects students who possess an average level of technical skills, such as Internet connection and quality, as well as the availability of Internet on campus networks and personal equipment and devices.

**Cluster III:** Participants in this cluster demonstrate a high level of proficiency in various aspects of digital skills, such as using

information and communication technologies, acquiring digital competencies, creating digital content, and assessing their own attitudes towards the use of information and communication technologies.

**Cluster IV:** Students in this cluster possess a variety of digital skills, including the ability to use information and communication technologies, knowledge of cyber security and problem-solving skills, and the ability to increase their level of digital competence.

Thus, a low cluster number reflects a higher level of digital skills, while a high cluster number indicates less developed skills in this area.

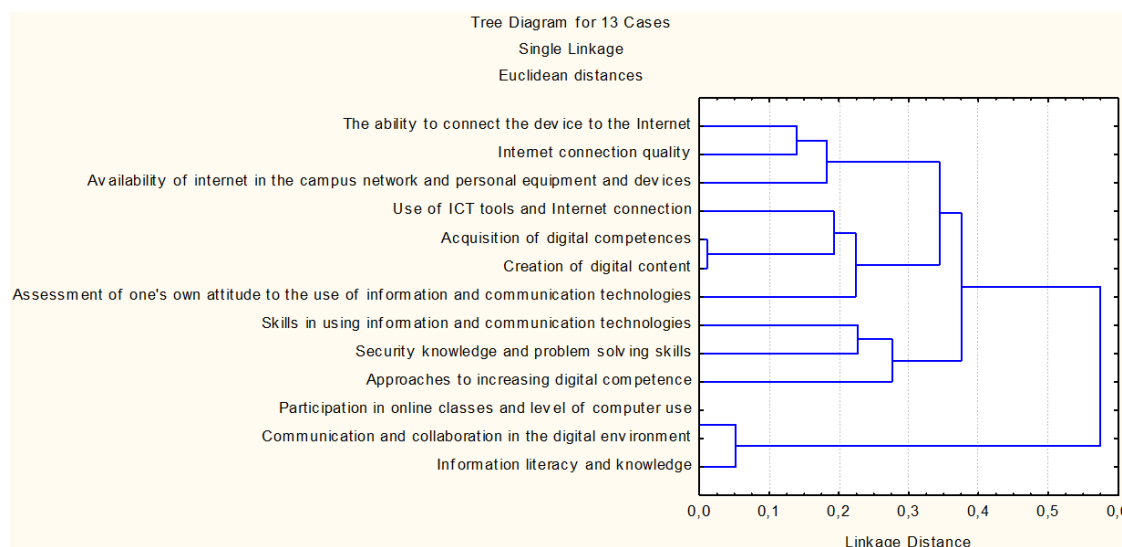


Figure 2. Dendrogram of students' digital skills assessment based on the results of multifactorial cluster analysis

## 5 Discussion

The role of technologies in the formation of students' digital competence and their adaptation to the requirements of modern society reflects the importance of integrating digital skills into the learning process and their impact on further academic and professional success (Ikramovich, 2023). Technologies are becoming an essential part of the modern educational environment. They allow students not only to consume information but also to actively create, communicate, and develop new ideas. The integration of technologies into the educational process creates unique opportunities for developing digital literacy, adapting students to the requirements of modern society. The role of the teacher in developing digital competence is crucial (Martzoukou et al., 2024). They should teach students how to use technology, as well as stimulate their critical thinking, effective communication, and problem-solving. Teachers are also responsible for creating a learning environment that promotes the use of technology and the development of digital skills. Rapid technological changes require students to be flexible and ready for lifelong learning. The formation of digital competence should be aimed at acquiring specific skills as well as at developing the skills to adapt to new technologies and situations. These include, for instance, opportunities to develop individualized learning and access to knowledge and challenge to ensure equal access to technology for all students (McGarr, 2023). An important part of the process of developing digital competence is collaboration and exchange of experience between students. The use of collaborative learning and joint problem-solving helps to create a student community that supports and promotes mutual learning. Various studies have examined the acquisition of digital competencies, teachers' perceptions of digital competencies, and the interconnection between different dimensions (Castaño Muñoz et al., 2023). This scientific article examines the level of

digital competence of university students based on a case study. Overall, most students perceived their level of digital competence as positive. It was also observed that students demonstrated digital competence in several areas such as information and data literacy, communication and collaboration. Therefore, many students need to improve their level of competence in digital content creation and programming, as well as some of their problem-solving skills when faced with technical challenges and understanding technological trends. The obtained findings were similar to the studies conducted by other authors (Ahmed, 2023). In addition, students demonstrated their positive perceptions in the security section of digital competence, which showed results opposite to those obtained by the scholar (McGarr, 2023). In general, the level of digital competence of university students still has potential for further development. There are several studies that have examined the impact of methodological approaches on digital competence, indicating significant differences (McGarr, 2023). Therefore, due to the small age range of the university students who were the subject of the present academic paper, we examined the differences in perceptions of digital competence between third and fourth-year students. Given that the results are similar to those reported regarding age differences, it remains to be determined whether the cause of this variation is their age or the strategy of school education.

## 6 Conclusion

In the present research, we have explored the role of technologies in shaping students' digital competence and their adaptation to the requirements of modern society. Based on the processing of statistical data, it was revealed that the use of technologies, such as computers, the Internet, software and other digital tools, has a significant impact on the development of students' digital literacy. Participation in online classes,

information technology skills, digital content creation, and other aspects showed a positive impact on the level of digital competence. The research also showed that students with advanced digital skills are more successful in adapting to the demands of modern society. They have more opportunities for effective communication, learning, and work. The obtained results emphasize the importance of introducing digital technologies into the educational process and supporting students in developing their digital skills. In general, our research shows that technologies play a crucial role in forming students' digital competence and their successful adaptation to the modern digital environment.

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#### Primary Paper Section: A

#### Secondary Paper Section: AM, IN

## THE ROLE OF THE COMMUNICATIVE APPROACH IN THE MODERN METHODOLOGY OF TEACHING FOREIGN LANGUAGES

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**Abstract:** In today's multilingual world, understanding the role of the communicative approach in the methodology of teaching foreign languages is key to ensuring the effectiveness of educational processes. The purpose of the article is an in-depth analysis of the influence of the communicative approach on the process of teaching foreign languages, the identification of the main advantages of this method and the development of recommendations for its optimization. The methodology involves a comprehensive approach, which includes the analysis of the experience of international educational programs, market assessment and the practice of applying the communicative approach. The results revealed that the communicative approach significantly increases student motivation and the level of involvement in the educational process. The study indicates the need to adapt the communicative approach to the specifics of the cultural and linguistic environment of students, which turned out to be a significant challenge in multinational classes. The practical significance lies in the integration of modern technologies into the communicative process, as it requires a high level of technological training from teachers. The article outlines the role of intercultural aspects and the development of inclusive educational practices, which require a flexible approach and openness to continuous professional development from educational institutions. A number of recommended measures to improve the teaching of foreign languages using a communicative approach are provided. Prospects for further research are the development of modular educational programs that would enable individualization of the educational process and consideration of cultural characteristics of students.

**Keywords:** communicative approach, teaching foreign languages, interactive methods, speech competence, group interaction, authentic materials, educational technologies.

### 1 Introduction

The communicative approach in education is one of the most influential methods in the modern teaching of foreign languages, focusing on the use of language as a means of communication. According to (Achieng, 2023), he emphasizes the need to develop speaking skills in real communicative contexts where students have the opportunity to use active speech to achieve specific communicative goals. This approach encourages students to participate in learning as they use the language to solve practical problems, during assignments and projects that mimic real-life communication. The importance of the communicative approach lies in the formation of students' ability to think and speak independently, the ability to adapt to new cultural conditions in a globalized world.

The possibilities of using the communicative approach in teaching foreign languages have several key aspects. First of all, this approach allows for the integration of language into wider social environments, including culture, history and social interaction. Its implementation provides students with an accessible understanding of the material. An article (Elyza & Susiani, 2023) emphasizes that this contributes to the growth of students' motivation, as they feel a direct connection between the classes and their personal and professional goals. The communicative approach stimulates the development of critical thinking and analytical skills, as students learn to analyze linguistic structures in the context of their use and evaluate the effectiveness of communication. In addition, this approach allows teachers to be more flexible in their methods, adapting classes to the individual needs of students, which ensures a high level of individualization of education.

The introduction of digital technologies opens new horizons for the communicative approach in teaching foreign languages. According to (Hernández Alvarado & Bórquez Morales, 2023), digital tools such as multimedia programs, online interactive exercises, language applications and virtual language environments provide students with the opportunity to immerse themselves in the learning process without physical presence. This is important to ensure access to resources for those who

may not be able to study due to financial, socio-economic challenges. Digital technologies can facilitate individualized learning, allowing students to work at their own pace and language interests, and providing teachers with the means to more accurately track student progress. The integration of the latest technologies with communicative methods significantly increases the effectiveness of the educational process, making it dynamic, accessible and appropriate to the needs of the modern educational process.

### 2 Literature review

The communicative approach is a key element in the modern methodology of teaching foreign languages, playing an important role in the formation of language skills. Research (Mora & Mora-Plaza, 2023) emphasizes that the active use of language in communicative situations contributes to better learning of phonetic structures and vocabulary. Communicative teaching methods allow students to develop grammatical skills and the ability to conduct dialogue, which is indispensable in today's multicultural world. According to research (Chaika et al., 2023), the use of real communication tasks increases students' motivation because they feel more involved in the learning process. The researcher (Koliada & Kalynovska, 2023) emphasizes the importance of interactive exercises and group projects in the development of students' communication skills.

The work (Mohammed Ismail & Prasantha Kumar, 2023) shows how the integration of the latest technologies can enhance the effectiveness of the communicative approach. According to (Pratiwi et al., 2023), the latest digital technologies provide students with access to language resources in real time. At the same time, as observed by (Kholis Amrullah et al., 2023), it is important to balance structured grammar presentation and free communication to ensure deep language acquisition. The author (Liao & Yang, 2023) points out the need for careful planning of lessons so that each communicative activity is productive and purposeful.

Research (Khazaleh & Hawamdeh, 2023) emphasizes that the importance of cultural context cannot be ignored in communicative language teaching, as understanding cultural aspects contributes to better language comprehension and use. The work (Alam et al., 2023) demonstrates how the inclusion of critical thinking in communicative exercises can enrich the learning process and promote the development of independent thinking in students. A study (Dörnyei, 2023) indicates that teachers who effectively apply a communicative approach have significant advantages due to their ability to stimulate active student participation and minimize passivity during learning. The author (Ratnasari, 2023) focuses on the analysis of the impact of the communicative approach on the development of language competence. The article (Bankole et al., 2023) emphasizes the importance of real language practice compared to traditional teaching methods that focus on grammar exercises. According to the results of the study (Sukmawati et al., 2023), exercises that stimulate language communication through role-playing and discussions, especially when this is supported by modern audiovisual means, have an important impact on success in learning foreign languages.

The author (Kazeem Oluwatoyin Ajape et al., 2023) explores the ethical issues facing teachers across cultural and language barriers. According to (Hui & Yunus, 2023), cultural understanding is necessary for effective communicative learning because students often use language that reflects their cultural experiences. Analysis (Bun, 2023) emphasizes the need to integrate intercultural education into language teaching methods, including the use of materials and resources that reflect the diversity of language resources. In the article (Sari & Kastuti, 2023) emphasizes the importance of raising teachers' awareness of students' linguistic peculiarities and cultural norms. According

to (Tiawati et al., 2023), interactive technologies help create an effective learning process. The author (Samiullah et al., 2023) points to the importance of strategic planning and the development of curricula that allow teachers to adapt to the diverse language needs of students and minimize possible barriers to learning. Therefore, taking into account the constant dynamics and diversity of language learning, the problems of language teaching require continuous monitoring and the search for new approaches for effective integration into educational processes.

### 3 Research goals

The purpose of the article is to analyze the impact of the communicative approach on the processes of teaching foreign languages, to identify the main challenges and to determine strategies for their effective implementation. The problem is to reveal the short-term and long-term consequences of the use of communicative methods for intercultural interaction and language development. To achieve this goal, a comprehensive approach is used, which includes the analysis of scientific publications, pedagogical research, feedback from students and teachers, and real educational practices. One of the promising areas of research is the study of the impact of intercultural integration and the use of modern technologies aimed at improving communication skills in various sociocultural conditions. The main tasks are the definition and identification of key features of the communicative approach, the analysis of the effectiveness of various teaching methods, and the development of recommendations to increase their effectiveness and adaptability.

### 4 Materials and methods

The research methodology focuses on the peculiarities of the application of the communicative approach in the context of the development of online technologies for language teaching. It involves three stages, each of which was intended to collect data for the analysis of the current state and trends in the field of conditional teaching. The first stage consisted in revealing the theoretical concepts of the communicative approach and its application to teaching a foreign language. For the technology research, a sample was drawn that covered a range of interactive platforms, mobile applications, virtual classrooms and web-based tools used for language teaching. In the second stage, an analysis of reports on the development of foreign languages, including statistics on the use and level of satisfaction with digital platforms, was carried out. With the help of the available statistical data, an assessment of the possibility of applying the communicative approach in the educational process was provided using the deductive method. Focusing on market trends, changing market sizes, and future projections, the study provided insight into key growth drivers and potential challenges faced by market participants.

According to the collected data, the main criteria for using the communicative approach in teaching foreign languages have been revealed. This approach made it possible to identify the main ways of developing the language teaching market through online platforms and the potential of the communicative approach. The third, final stage was the analysis of the impact of the communicative approach on the development of the foreign language teaching industry and the outline of prospects for further development. It was determined that the communicative approach to language teaching plays a decisive role in the formation of effective language skills. Pedagogical experience focuses on the real use of language in a social environment and communicative situations. In the conditions of constant digitalization and globalization, the prospects for the further development of the communicative approach are closely related to the integration of the latest technologies. Technological innovations contribute to the integration of students in the learning process, ensuring continuous interactivity and compliance of educational methods with the real communicative needs of the modern world. The practical experience of applying the communicative approach in the practice of European

countries has been revealed. Based on the conducted research, the article provides recommendations regarding the possibility of using a communicative approach in teaching foreign languages and prospects for further development.

### 5 Results

The communicative approach in teaching foreign languages is determined by its centralization of language communication and interaction. The essence of this approach is to prepare students for real life situations where language is used as a tool to achieve specific communicative goals. The difference of the communicative approach from more traditional methods lies in its focus on the correctness of speech from a grammatical point of view, functionality and contextual adequacy. In a communicative classroom, a lot of attention is paid to role-playing, discussions and project work, which allows students to actively use language in a controlled, yet life-like environment. This method emphasizes the importance of involving students in the language process by creating situations where they can independently maneuver language resources, which contributes to the development of communication skills.

The possibilities of using the communicative approach in the modern methodology of teaching foreign languages are limitless, as it meets the needs of a globalized world, where the ability to communicate effectively is becoming more and more important. Communicative competence includes the ability to formulate thoughts and understand the cultural nuances of communication, which is extremely important in international contacts. Applying the appropriate approach promotes the development of teamwork, problem-solving, and critical thinking skills that are integral to today's educational and professional environment. By integrating a communicative approach, teachers have the opportunity to teach languages and prepare students for real communication, ensuring high motivation and interest in learning. The use of digital technologies significantly increases the effectiveness of education. The main ones are shown in Figure 1.

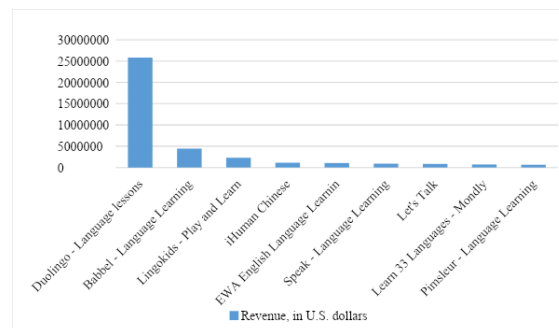


Figure 1. Leading Language-Learning Providers  
Source: Compiled from TechReport data (TechReport, 2024).

Attention to the use of digital technologies within the communicative approach opens up new opportunities for innovation in foreign language teaching. Digital tools in the form of an online platform for communication, multimedia resources for simulating real situations, and interactive exercises allow students to learn the language in conditions of its direct application. This gives teachers the opportunity to create flexible and differentiated lessons that can be adapted to the individual needs of each student. The integration of digital technologies with a communicative approach enhances the interactivity of the educational process, provides teachers with tools to more accurately track student progress, allowing rapid adjustments and optimization of instructional strategies in real time.

The market of foreign languages is showing rapid growth due to globalization, the growth of international trade and the need for multicultural communication. Education is becoming more accessible, and learning foreign languages is turning from a luxury into a necessity for many professions. Technological

progress introduces innovative solutions for language learning, such as online platforms, mobile applications and virtual reality, making the learning process more efficient and exciting. Investments in educational technology are growing as educational institutions and corporations recognize the importance of cross-cultural environments in today's world. Such trends encourage foreign language teachers to adapt to new teaching methods and develop more dynamic and interactive lessons. The total volume of the foreign language learning market is shown in Figure 2.

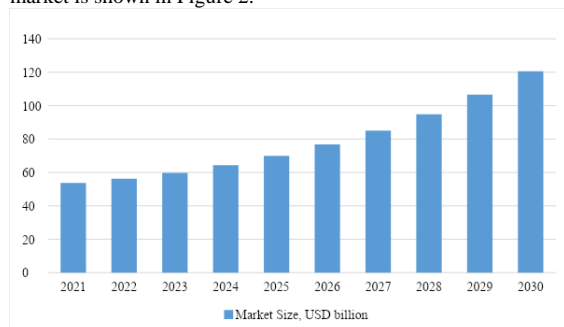


Figure 2. Language Learning Market  
Source: Compiled based on data from Meticulous Research (Meticulous Research, 2024).

The growth of the foreign language market can be assessed using economic indicators. According to reports, the foreign language market in 2021 was estimated at US\$ 53.68 billion. Over the following years, its gradual growth was observed, reaching \$56.3 billion in 2022 and rising to \$59.82 billion in 2023. This trend is projected to continue, with the market reaching \$64.31 billion in 2024, \$69.91 billion in 2025, and \$120.54 billion by 2030. Such rapid growth indicates high market dynamics and great interest in learning foreign languages on the part of both private individuals and organizations. The market potential contributes to the development of new pedagogical approaches and methods that take into account the individual characteristics of students and use advanced technologies.

Among the innovations is personalized learning, which allows students to work according to their rhythms and preferences. The growth of multimedia resources and gamified elements makes the process of learning foreign languages more engaging and fun. In the light of these trends, the future study of foreign languages promises to be even more integrated and innovative, and the role of language education in the formation of global citizens is indispensable. Active use of language involves a variety of activities such as group discussions, role plays and project work. Appropriate types of activities allow students to use the language in contextual situations, which contributes to a deeper understanding of the language and its practical application.

The use of the latest methods ensures a high level of interaction and cooperation between students, which increases motivation and interest in language learning. Assessment in the framework of the communicative approach focuses on the ability of students to use the language in real communication, while paying less attention to grammatical correctness. The main focus is on the students' ability to realize their communicative intentions and the ability to adequately respond to linguistic stimuli. Modern assessment approaches help students to focus on practical language use, which is important for their further language development. The main criteria for the effectiveness of the communicative approach are listed in Table 1.

The communicative approach in teaching foreign languages aims to teach students to use the language in real life situations to achieve specific communicative goals. By focusing on the practical application of language, teachers strive to develop students' ability to communicate effectively and confidently. Integrating real-world scenarios and active language use in the classroom helps students adapt to the language environment

faster and better understand the cultural context of the language they are learning. Within the framework of the communicative approach, the teacher acts as a central figure and consultant who helps students navigate the learning process. This approach encourages students to actively participate in the learning process and independent language practice. Teachers provide the necessary resources and support, but the main responsibility for language learning rests with the students, who acquire language skills through interaction with each other and through practical tasks.

Table 1. Criteria for the influence of the communicative approach in the methodology of teaching foreign languages

Criterion	Characteristic	Impact on learning
The purpose of learning	Teach students to use language to achieve specific goals in communication.	Focus on practical use of language.
The role of the teacher	Performs the role of a facilitator and consultant, not a central figure.	Stimulates students to independent language practice.
The role of the student	An active participant interacting with other students.	Development of real communication skills.
Activities	Group discussions, role-playing games, project work.	Providing context for speech.
Assessment	More focus on communication and interaction, less on grammar.	Assessment of communication skills, not only knowledge.
Materials	Authentic materials and situations.	Use of real language resources.
Technologies	Use of Internet resources, social media for communication.	Integration with modern technological means.

Source: compiled by the author

Thanks to its adaptability and student-centered focus, the communicative approach effectively responds to the challenges of modern language education and provides a powerful tool for preparing students for effective language communication in an international environment. This approach allows you to teach students grammatically correct and lexically rich language, develop their ability to communicate, understand and interaction in various situations. It contributes to the formation of global civic consciousness and preparation for living and working in a multicultural environment, the key elements of which are respect, understanding and openness to cultural diversity.

The use of digital technologies in the communicative approach to teaching foreign languages opens up endless possibilities for improving the quality of education. Using online language exchange platforms Tandem or Speaky allows students to communicate with native speakers from around the world, providing practice in a real context. For example, students in Spain can practice their English by interacting with native speakers from the United States or Great Britain, which provides a better understanding of cultural nuances and linguistic features (Bushu, 2023). In addition, the use of interactive exercises and games on platforms like Duolingo or Babbel encourages students to be more actively involved and helps consolidate new words and grammatical structures in an engaging way, making the learning process not only effective but also exciting.

Teachers can integrate into their courses specialized software for simulating various communication situations. For example, programs like Second Life or VR Chat allow you to create

virtual environments where students can practice language skills in contexts that simulate real-life scenarios, such as job interviews, restaurant service, or even business negotiations. This is particularly effective in countries where access to native speakers is limited, such as Japan or Korea, where the use of virtual platforms can significantly increase the level of language competence without having to leave the country.

Technology has changed approaches to assessing language skills. Digital tools and analytics software allow educators to collect real-time data on student progress, analyze student performance, and tailor curriculum to meet their needs. These include learning management systems like Moodle or Blackboard, which provide tools for creating interactive tests, self-assessments and portfolios where students can track their progress and receive feedback. In Germany and France, where there is a strong emphasis on student autonomy, platforms help students self-manage their learning, which is a key aspect of the communicative approach.

Therefore, digital technologies allow expanding the boundaries of classical foreign language learning, including opportunities for international cooperation and cultural exchange. Students have the opportunity to participate in international projects and joint tasks with students from other countries, using online collaboration tools such as Google Docs or Microsoft Teams. They allow you to work on joint projects in real time, regardless of the geographical location of the participants. Technologies increase the level of language proficiency through its practical use in communication and performance of tasks and contribute to the development of intercultural competence. Therefore, the integration of students into the international educational community leads to cultural understanding and the formation of strong communication skills.

## 6 Discussion

The views of scientists regarding the communicative approach in teaching foreign languages show commonalities with the obtained conclusions, which opens up prospects for further research. The use of real communicative situations according to the results (Slobodiak, 2023), significantly improves the level of student engagement and their language skills. The corresponding results correlate with data (Wiyono et al., 2023), which emphasizes the importance of practical use of language in learning. However, our findings differ in the evaluation of the effectiveness of group discussions with the article (Gjikolli & Gashi-Berisha, 2023), where the high productivity of such methods is noted. The obtained results confirm the results of the study (Bautista & Del Valle, 2023), which indicates the need to take cultural features into account in the educational process. According to (Nggawu & Thao, 2023) the integration of cross-cultural content can be more difficult due to different cultural barriers between students. According to (Jamshid, 2023), the integration of digital tools promotes integration in an intercultural environment, but it does not always have a decisive effect on student motivation. Our own results support the hypothesis (Ghafar et al., 2023) about the need to adapt curricula to the individual needs of students. According to (Qasserras, 2023), the need to optimize the use of a communicative approach, taking into account the specific characteristics of different language groups, was identified. Considering the constant change in educational and language trends, our study supports the findings of (Liu & Diana Deris, 2023) and recommends integrating flexible pedagogical strategies to improve the effectiveness of foreign language teaching. The author (Mabrurrosi et al., 2023) believes that the future market for learning and teaching foreign languages will grow rapidly, which is confirmed by the research results. Thus, the communicative approach has advantages when applied with digital technologies, but their application requires further research.

## 7 Conclusion

Thus, the communicative approach in teaching foreign languages plays a decisive role in the development of students' language skills. Through the active use of language in real communicative situations, students effectively learn grammatical structures and vocabulary, develop the ability for intercultural communication, which is extremely important in today's globalized world. The use of group discussions and interactive forms of learning promotes language development, critical thinking and team interaction. This approach allows students to learn in an international environment that corresponds to the real use of the language, and at the same time forms a solid foundation for future professional and personal integration in a globalized environment.

The application of the communicative approach is not without problems and global challenges. One of the main difficulties is the need to adapt methods to the cultural and individual characteristics of students, which can be difficult in multinational classes. Another significant challenge is that not all educators have sufficient resources or training to implement this approach effectively, especially in regions with limited educational resources. Technology integration can be both a benefit and a hindrance, as it requires additional investment in educational infrastructure and professional development for teachers. The corresponding challenges require global attention and a strategic approach, especially in the conditions of rapid socio-cultural changes and technological progress.

Based on the analysis and identified challenges, several measures can be recommended to improve the teaching of foreign languages using a communicative approach. First, it is necessary to ensure systematic training of teachers so that they can effectively use communicative techniques. The inclusion of intercultural communication modules and pedagogical courses that focus on the development of teachers' communication skills will be a significant step forward. Secondly, the integration of modern technologies should take into account the educational context and accessibility for all students. Initiatives such as the introduction of online platforms for language practice and interaction between students from different countries can significantly improve students' communication skills. It is important to create a robust assessment system that measures students' language knowledge and ability to use language in real communicative contexts, which will facilitate practical learning.

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#### Primary Paper Section: A

#### Secondary Paper Section: AI, AM

## UKRAINIAN FOLKLORE AS A SOURCE OF STUDYING THE NATIONAL CHARACTER

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**Abstract:** The present research is significant because it provides a scientific examination of how particular elements of Ukrainian folklore shape the national identity. It should be emphasized that the depths of folklore hold centuries-old accumulation of historical and cultural experiences that illustrate the details of a particular people's existence in various historical eras, as well as the influence of other ethnic and foreign cultural conceptions; interpenetration of cultures, acculturation, assimilation; it demonstrates technological development; it provides information on the attitude of different social groups within the ethnic group to each other, gender behavior; it reveals stereotypes, moral and ethical foundations of life; attitudes towards the government, political institutions, religious and ideological principles and guidelines. In addition, folklore heritage is a powerful source of influence on people's consolidation and cooperation in difficult life circumstances. This can be clearly demonstrated by the examples of rethinking and adapting folklore traditions to the current conditions caused by the Russian-Ukrainian war, especially after the full-scale invasion on February 24, 2022.

**Keywords:** folklore, fairy tale, folk saying, national character, post-folklore.

### 1 Introduction

It takes an entire lifetime to fully comprehend the nuances and quirks of a country via studying its diverse folklore sources. It should be emphasized that folklore is a dynamic, flexible phenomenon that reflects the slightest social-cultural changes in society. For more than 150 years of the existence of folklore studies as a science, a considerable body of scientific, popular science and journalistic literature on this issue has been accumulated. However, considering the processes related to the decolonization of the Ukrainian cultural space, the study of the influence of folklore on the Ukrainian character, its regional differences, and the search for unifying components in the depths of folklore heritage requires a careful and scrupulous approach to the search, systematization, scientific reflection, and comparative analysis in studying Ukrainian folklore, especially its influence on the formation of the national character. And vice versa – understanding which features and peculiarities of the national character have influenced the genre diversity, semantic and culture-oriented vectors of folklore, and the specifics of the reflection of folklore genres in different regions and time spaces.

When studying national character through the prism of folklore, it is crucial to identify specific folklore genres that will help solve this research goal. Taking into account the fact that folklore diversity does not allow us to cover all aspects of influences on the features of the Ukrainian character, it is advisable to focus on:

- fairy tales, which are perhaps the oldest genre of folk art, which reflect moral guidance, worldview, folk pedagogy, values and ideals;
- dumas (Ukrainian heroic epic) – folk explanation and interpretation of historical events, glorification and mourning of heroes, symbolism;
- proverbs and folk sayings – folk aphoristic expressions that capture the life experience of generations, a concentrated presentation of unwritten laws and rules.

Post-folklore should also be in the field of research attention. It is commonly believed that folklore is exclusively a reflection of peasant, traditional culture, or mythological, fairy tale or heroic stories of the historical past. At the same time, folklore practices of modern or postmodern urbanization in human history have usually remained outside the scope of scientific research and in-depth studies. Post-folklore studies are of a sporadic nature in Ukraine. This is connected, firstly, with a rather stereotypical perception of modern folklore practices; secondly, with the transience of information flows, especially in the virtual environment. The reasons mentioned above greatly complicate

the “field” work, its systematization and the formation of a methodological basis for studying.

The study of Ukrainian folklore's influence on various aspects of Ukrainian society in chronological and spatial terms is also based on a huge amount of collecting and research work done by the classics of Ukrainian science and culture: Bilyk, Voropai, Hrynchenko, Hrushevskyi, Drahomanov, Kobylanska, Kostomarov, Kotsiubynskyi, Lesia Ukrainka, Lukashevych, Maksymovych, Metlynskyi, Ohienko, Olena Pchilka, Potebnia, Rylskyi, Sreznhevskyi, Sumtsov, Franko, Khodakovskiy, Shashkevych, Yavornytskyi and a number of other colleagues who make up the golden fund of Ukrainian folklore studies.

The purpose of the research is to analyze the effectiveness and challenges related to using information and communication technologies (ICTs) in the pedagogical process.

In order to achieve the purpose outlined, the following objectives should be accomplished:

1. Studying the existing explorations and theoretical works on the application of ICTs in education in order to determine the current state of knowledge in this field.
2. Collecting and analyzing quantitative data, using statistical methods to assess changes in students' performance and engagement after the implementation of ICTs.
3. Organizing interviews and focus groups with teachers and learners to gain a deeper understanding of their perceptions and experiences regarding the use of ICTs.
4. Identifying and analyzing barriers to the effective use of ICTs in the educational process.

### 2 Literature review

The formation of folklore studies as a science, the identification of its components and horizontal and vertical connections with related scientific disciplines, has a long and rich history.

Reviewing scientific achievements, studies, and methodological advancements requires taking into account the collective experience of scholars from various academic schools across many countries worldwide.

In particular, Dantes, a professor of anthropology and folklore, is rightfully considered “the father of American folklore studies”. The spectrum of his research interests is impressive. In addition to traditional folklore genres, he actively studied and insisted on the necessity of involving modern forms of folklore creativity in scientific circulation as reflecting the current social-cultural context and providing an understanding of the specifics of community formation in the context of urbanization and ever-growing migration flows. In addition to myths, legends, fairy tales, folk beliefs, holidays, riddles, and proverbs, he studied graffiti, velerisms, and aphorisms. The basic theses of his scientific concepts are as follows:

- folklore is flexible and plastic; it does not disappear in the whirlpool of time, but, having survived transformations, perturbations, periods of conservation, acquires a new sound and power;
- folklore is all-encompassing; its sphere of existence ranges from peoples who are at the stage of the primitive communal system to the political and financial elites of the modern world;
- it is traditionally believed that folklore is recorded and transmitted only in the oral tradition; however, this statement is not true: it can also be transmitted through writing (Dundes, 2005).

The works of Dorson R.M., Dan B.-A., Barker K.B., Povinelli D.J. are devoted to the theoretical and practical studies of mythology and folklore in historical retrospect, history and



methodology of folklore studies, analysis of significant folklore poetry in cultural history, and the use of folklore images in contemporary popular culture (Dorson, 1973; Dan, 1989; Barker and Povinelli, 2019). Various folklore images and meanings have become the subject of scientific attention by Magliocco (2018), Thompson (2018), Stashko (2014; 2016).

Furman A. studied the psycho-cultural features of the Ukrainian character in the pan-European context, focusing on the originality and identity of the Ukrainian nation (Furman, 2014). Miahkota I. considered the history of the formation of folklore studies as a science in Ukraine, focusing on the crystallization of the scientific and conceptual apparatus (Miahkota, 2011). Particular aspects of the specifics of the Ukrainian national character are reflected in the publications of Kuzmenko (2018), Liashuk (2016). In order to understand the influence of folklore sources on the Ukrainian character, one cannot ignore the achievements of the Ukrainian diaspora (Nahachevskyi, 2010; Maierchyk, 2010; Pavliuk, 2010; Lesiv, 2021). Studies by Lysiuk (2012), Lohvynenko (2016), Yaremko (2022) are devoted to post-folklore. An exclusive version of the origin of the image of Mamai in Ukrainian folk art, songwriting, proverbs and sayings is offered by Rakhno (2022).

The analysis of the folklore's influence on the formation of the Ukrainian character and its characteristic features is impossible without the involvement of the source base. In particular, within the framework of our academic paper, we have paid particular attention to the editions in which the compilers have carried out painstaking work on the search, systematization and classification of Ukrainian folk tales, folk sayings, proverbs, dumas as a unique song and poetry genre (Plaviuk, 1946; Dovzhenok et al., 2009; Ivanenko, 2020). The corpus of sources that were useful in writing the scientific article also includes the works of Hryhorii Skovoroda as the pioneer of studying folklore heritage through the prism of philosophical views and analysis of the specifics of national character (Skovoroda, 1994).

Even such a cursory review of scientific literature and sources makes it possible to conclude that there is a powerful layer of scientific researches aimed at studying folklore, its influence on the literary tradition, on the formation and development of artistic culture, education, science, production practices, and philosophical concepts. The influence of folklore heritage on the formation of the national character, in particular, stereotypes, norms of behavior, moral and ethical principles of society, is also included in this list.

### 3 Methods

The method of data integration enabled us to outline the features of the object under study – Ukrainian folklore – and to identify the subject of our research. The use of this method is also crucial for taking into account variations in views on folklore, its genres, types, usage, and influence on mentality and national character. The research data includes folklore characters such as Kotyhoroshko and Mamai, as well as collections of epic poems, proverbs, and sayings. To analyze the influence of folklore on the literary and scientific traditions of Ukraine, we reviewed the works of Hryhorii Skovoroda and the theoretical developments by scholars dedicated to the study of Ukrainian folklore heritage using the descriptive method. Additionally, data from the internet was utilized. The semantic content of 30 entries attributed to folkloric texts was studied. Folklore materials were incorporated using the historical-typological method, which involved collecting, classifying, and publishing materials from different periods, as done by folklorists.

We adhere to the idea of distinguishing between the concepts of "mentality" and "national character", despite the fact that they have long been equated. In particular, the criteria of national character include: attitude to social status and the desire to obtain a particular place in society, ethnic and social stereotypes, symbolic expression, language and modality of the individual (that is, ways of perceiving the world and comprehending it). At the same time, mentality is more likely to characterize various mental and thinking processes (for instance, what games are

most popular among a particular people, what are the ways of leisure, entertainment, space arrangement, popular colors, folk crafts, song themes, perception of natural landscapes, etc.). The manifestations of mentality in the practical plane of mentality are characterized by folklore, mythology, religion, ideology, philosophy, science (Viznytsia, 2010, p. 15-17). The syncretism of contemporary folklore, its thematic content, variability of presentation, forms and methods of presentation, and target audience should be studied using the methods of induction, deduction, and historical and comparative analysis. The issue of time and space in folklore can be analyzed using the methods of comparative studies, the method of analyzing historical sources, documents, and materials. Taking into account the breadth of the research field of this matter, an interdisciplinary approach should be taken as a methodological basis. This will significantly broaden the horizons of research perspectives, involve the methods and methodology of other social sciences and humanities (anthropology, history, archeology, sociology, psychology), and provide a more comprehensive vision of folklore in society at different historical levels.

## 4 Results

### 4.1 Importance of folklore for today. Reinterpretation of folklore heritage in conditions of full-scale war

The authors of the publication had already been working on the study of Ukrainian folklore, its various forms, and its reflection of the national character; the functioning of folklore in a polyethnic and multicultural environment; moral and ethical norms in folkloric texts as reflections of the national character.

In particular, A. Pavlova investigated how family relationships, value norms, attitudes towards life and death, compassion, grief, and condemnation of murder are reflected in chronicle songs, citing examples such as "Oh, the geese were flying low, "W Pietnoczkach w ponegiwnok", "Do you think, Dzhurdzheish, that your Vizhnitsya?", "Oh, Hafiechka was walking around, just embroidering", "And the young men of Pistyn caused trouble" (Pavlova, 2018).

In her analysis, Teleutsia examines the symbolism and metaphorical nature of folklore texts, using traditional wedding songs from the Podunavlje region as examples. She emphasizes the influence of the natural environment on the formation of the folk psyche, particularly through the active symbolic use of plant names to denote various qualities or phenomena, such as obedience being represented by grass and the transience of life being represented by flowers. The study used the example of the pumpkin (squash, gourd) to demonstrate its direct use in various stages of wedding rituals and the semantic significance of the word 'pumpkin' in traditional culture (Teleutsia, 2018).

Kopanytsia and Pavlova also examined the portrayal of moral and ethical values in Ukrainian lyrical-epic folklore. For instance, the ballad "Lebedyuga went to war with the lords" reflects on the responsibility for one's actions. The concept of moral responsibility is a recurring theme in lyrical-epic works throughout history. Folk creativity highlights the significance of understanding the impact of one's actions, both personally and in terms of societal judgement or approval (Kopanytsia & Pavlova, 2018).

Saltovska studied the poetics of Ukrainian folk riddles, the history of their scientific exploration, systematization, and interpretation of their semantic content, as well as the place and role of riddles in the system of folk artistic culture (Saltovska, 2008). Additionally, the research includes an analysis of folk proverbs from the period of the full-scale Russian-Ukrainian war. Saltovska and Saltovska collaborated on an article about the recorded slogans of national resistance found in virtual spaces. The researchers classify these slogans as folkloric texts. Due to the limitations of direct contact between researchers and respondents in war zones and areas under shelling, folklore material is collected from all available sources, primarily in virtual spaces. The investigation was based on the 30 most

common slogans in the virtual environment. One of the well-known slogans is “Russian warship, go to...!” which, despite being authored by Ukrainian border guard Roman Hrybov, has become a folk slogan transcending beyond the borders of Ukraine. If the previous slogan carries a contemptuous-ironic perception of the enemy, then another slogan - “Glory to Ukraine - Glory to the Heroes!” - refers to certain historical events and serves as a consolidating expression for resistance against Russian occupiers in today’s context (Saltovska & Saltovska, 2022, p. 68-69).

Firstly, folklore shapes national consciousness and a sense of patriotism, self-identification and self-representation. In support of this statement, let us consider historical dumas as a unique poetic genre of folk art associated with the Cossack period. The manner of performing dumas is similar to crying and lamenting; performers were usually kobzars, bandura players, and lyre players. The importance of dumas and their carriers was so crucial to national identity that it was reflected, in particular, in the attitude toward Taras Shevchenko as the nation’s indisputable moral and spiritual leader, who was called Kobzar. The most famous Ukrainian dumas include: “About the Cossack Holota”, “About Marusia Bohuslavka”, “About Samailo Kishka”, “About Ivan Bohun”. We can also trace the influence of folklore in contemporary Ukrainian culture, which is a reflection of current historical moments and is recorded in material and sacred manifestations (vyshyvanka is the code of the nation; vyshyvanka is the shield of the nation, etc.).

Secondly, it influences people’s values and beliefs. For instance, we can observe representations of distinctive individuals in folk tales that are social and heroic in nature, with Kotyhoroshko possibly being the most striking one. This is the archetypal prototype of the Ukrainian hero who, despite all the difficulties, betrayals and insults, overcomes a difficult path, defeats enemies and receives all the well-deserved rewards. The image captures the essence of the Ukrainian hero, who, although not having the most exceptional physical attributes, possesses extraordinary power, wisdom, endurance, perseverance, and victorious faith. All of these qualities are inherent in Ukrainian men and women – defenders against the Russian invasion. No wonder that even our enemies called our soldiers, the defenders of the Donetsk airport (DDA), “cyborgs” – human machines, because only they were able to withstand what they had to endure while defending the airport from September 2014 to the end of January 2015. Such an important role of folklore in shaping the national character was recognized by Hryhorii Skovoroda, who turned to folklore sources as a bottomless well of folk wisdom, pedagogy, ethics, and aesthetics, formed over time in various historical and cultural contexts.

Thirdly, by studying such short folklore forms as proverbs and sayings, we can trace their genesis over time, and, as a result, identify the characteristic features of recording events, phenomena and processes that are meaningful to the people, as well as significant traits of character and behavior of people recorded therein.

Fourthly, it is necessary to actively involve samples of post-folklore in scientific circulation as a source for the formation of national character in modern conditions, in specific historical circumstances.

Finally, in order to study the folklore influences on the national character, it is advisable to use such a genre of fiction as Ukrainian fantasy. They are ideologically based on Ukrainian mythology and its values.

The influence of folklore on national character persists. As an example that confirms this thesis, we can mention the contemporary carol “There in Bakhmut” by Oleg Vitvitskyi (Figure 1). The carol is dedicated to Oleg Yurchenko, a comrade-in-arms of Oleg Vitvitskyi, who died in the Russian-Ukrainian war. However, the text refers to the whole of Ukraine, including its cities and villages, particularly those that have become symbols of resistance to Russian occupiers, such as Bakhmut and Mariupol. The carol contains both biblical

allusions and references to contemporary Ukrainian soldiers and children affected by war, highlighting the connection to the historical past by mentioning the Lychakiv Cemetery.

There in Bakhmut, Where arrows are heard, Where so many flowers Have already fallen... Suddenly it became quiet And resounded: “Christ is born!” “Praise Him!” The Donetsk night, A trench candle, And to all enemies In defiance, Soldiers began To sing carols: “Christ is born!” “Praise Him!” Under Huliaipole, Kutia on the table, The sky there Bloomed with a star, The wind in the steppe Leads nativity scenes: “Christ is born!” “Praise Him!” In the city of Mariupol, A ray of hope Somewhere over the Sea of Azov Rose into the sky, There they await us, Quietly singing: “Christ is born!” “Praise Him!” Under the Lviv castle, In Lychakiv Cemetery, The army of knights Found peace... But we go to the Heroes With carols: “Christ is born!” “Praise Him!” In ancient Rome, Petryk from Crimea Together with the world Celebrates Christmas! Yulia from Luhansk, Nastya from Berdyansk: “Christ is born!” “Praise Him!” And in Ternopil, Little Olya Waits for her dad From the front. Folding her hands, Wiping away tears: “Christ is born!” “Praise Him!” Our family is - All of Ukraine, And the Armed Forces, And the Territorial Defense, Under God’s banner We march to victory! “Christ is born!” “Praise Him!”	Там во Бахмуті, Де стріли чути, Де стільки цвіту Вже полягло... Враз тихо стало І залунало: «Христос Родився!» «Славімо Його!» Донецька нічка, Окопна свічка, І ворогам всім Лютим на зло, Стали солдати Колядувати: «Христос Родився!» «Славімо Його!» Під Гуляйполем Кутя на столі, Звіздою небо Там зацвіло, Вітер у степу Водить вертепи: «Христос Родився!» «Славімо Його!» В місті Марії Промінь надії Десь над Азовом В небо звело, Там нас чекають, Тихо співають: «Христос Родився!» «Славімо Його!» Під замком львівським, На Личаківським, Лицарів військо Спокій знайшло... Ми ж до Героїв Із колядою: «Христос Родився!» «Славімо Його!» В древньому Римі Петрик із Криму Разом зі світом Славить Різдво! Юля з Луганська, Настя з Бердянська: «Христос Родився!» «Славімо Його!» А в Тернополі Маленька Оля З фронту чекає Татка свого. Ручки складає, Слізки витирає: «Христос Родився!» «Славімо Його!» Наша родина –Вся Україна, І Збройні сили, І ТрО, Під Божим стягом Йдем до звитяги! «Христос Родився!» «Славімо Його!»
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Source: (There in Bakhmut. Carol for the Armed Forces, 2022).

Another vivid example is the curse song “It will be for you, enemy, as the witch says” (lyrics by Lyudmila Horova, music by Angelina Katazhynska).

Sowing in thine eye,  
Sowing in the night.  
Thou shall get, my foe,  
By the Witch's word.

Сію тобі в очі,  
Сію проти ночі  
Буде тобі, враже,  
Так, як відьма скаже.

How many rye seeds  
Went to holy soil,  
Just as many times, foe,  
Shall thou be destroyed.

Скільки в святу землю  
Впало зерен жита  
Стільки разів буде  
Тебе, враже, вбито.

How many cries, foe,  
Rooster gives at night,  
That shall be the count, foe,  
Of days until thou die.

Скільки, враже, півень  
Вночі кукуріка  
Стільки днів у тебе  
Доживати віка.

Unto God - the God's,  
Unto foe - the foe's.  
Thou shall get, my foe,  
By the Witch's word.

Богові — Боже  
Ворогу — вороже  
Буде тобі, враже,  
Так, як відьма скаже.

How many steps, foe,  
Make thou in Ukraine,  
That many of thy clan folk  
End in early graves. <...>

Скільки зробиш, враже,  
Кроків по Україні  
Стільки твого ляже  
Роду в домовині. <...>

Source: (Angie Kreida - Vrazhe, 2022).

The lyrics of the song were first published on the internet on April 22, 2022. At first, they were just words, but later Angelina Katazhynska, who was hiding from rocket shelling in a cellar, composed music to accompany them. The song has become a folk anthem and a genuine curse against the Russian occupiers.

Although the works have their authors, they were immediately perceived as folk creations and have become part of contemporary Ukrainian culture.

#### 4.2 Understanding folklore in the Ukrainian literary and scientific tradition

The phenomenon of folklore has not been unchanged over time. Its origins go back to ancient times, to the pre-written period of human history. Currently, a number of scientific schools and directions have emerged that study folklore in its various manifestations, formats, and influences on various spheres of life, as well as how time, space, and circumstances have affected and are influencing the formation, transformation, and existence of folklore. Therefore, it is worthwhile to concentrate research attention on the scientific and conceptual apparatus and features of folklore as an important factor in the formation and evolution of culture before analyzing the influence of Ukrainian folklore on the national character.

When one turns to the origins of the involvement of folklore in the book or scientific tradition of Ukrainian culture, the "palm tree" is attributed to Hryhorii Skovoroda. He was the first who began to creatively rethink folk tales, folk sayings and proverbs in his literary works, imparting them with his characteristic style and philosophical perfection. The core of the Baroque thinker's philosophy was the understanding of happiness. He strongly believes that human happiness is not based on the pursuit of some ambitious, vain things, but on the satisfaction of one's essential problems and needs, and on the understanding of one's purpose and capabilities. In support of his views, he refers to the folk wisdom "If you are not born, do not aspire to be a bookworm" (Skovoroda, 1994, p. 19). Such thoughts resonate with Shevchenko's "Cherry orchard near the house..." and "Should we not then cease, my friend". That is, both Skovoroda and Shevchenko, as two luminaries and pillars of the Ukrainian spirit, having absorbed the age-old wisdom of the people, giving it a new sound, left a spiritual heritage to their descendants based on the experience of generations.

"The Encyclopedia of the History of Ukraine", posted on the website of the Institute of History of Ukraine of the National

Academy of Sciences, contains three definitions of the term "folklore":

- 1) a set of verbal, verbal-musical, musical-choreographic, game and dramatic types of folk art;
- 2) the art of words, folk literature;
- 3) all types of folk art (Chebaniuk, 2018).

According to the viewpoint of Miahkota, the formation and development of folklore, its national flavor, are related to historical events, natural landscapes, lifestyle, religious and ideological beliefs, traditions, customs and rituals, and psychological traits (Miahkota, 2011, p. 96). It is quite reasonable to include various folklore practices in contemporary cultural processes as those that, firstly, contribute to the preservation and in some cases revival of national identity and originality; secondly, not only contemporary art forms are capable of conveying deep emotional experiences, but also spiritual worldviews nurtured over centuries or even millennia are able to reflect the impulses of the contemporary world (Velev, 2009, p. 86-87)

Folklore can be considered from different perspectives of social and humanitarian studies. The historian will find in folklore a folk vision of important events, facts, phenomena, and processes (historical thoughts, historical songs, folk paintings, proverbs and folk sayings with references to historical characters or events). For a culturologist, folklore heritage is a bottomless well of customs, traditions, rituals, and mental peculiarities. An anthropologist will be able to study corporeality and social structure. A religious scholar will learn about religious and worldview concepts. The teacher will be enriched by folk practices of training and education. A philologist will admire the beauty of words and style. The musician will be fascinated by the richness of calendar and ritual songs and the variety of musical instruments (Serdeha, 2016). This is by no means an exhaustive list, but it does illustrate the richness and diversity of folklore as a source for researching many facets of human history and its influence on the present and future.

Kulchytskyi at one time classified the characteristics of the national character of Ukraine. He distinguished two of the most pronounced types of vital values that have historically been formed among Ukrainians. The first one is characterized by care and concern (a kind of universal motherhood); respect for things, everything earthly (hostility); elegiac and idyllic perception of the world. The second type is a bundle of nerves, a zigzag of emotions and feelings, an affective perception of the world, which can be called the "Cossacks' ideal" (Kulchytskyi, 1949).

It is precisely this hospitality, earthiness and dreaminess that are reflected in Ukrainian folk tales, myths, and legends. Let's consider the myth about the origin of man from entirely "earthly" substances – God molded man from the earth and woman from dough or the cosmogonic myth of the World Tree and the creation of the world by birds (Hrushevskyi, 1994). Cardiocentrism, antheism, and executiveness (or intentionality) are believed to be characteristic features of the Ukrainian character. Cardiocentrism is characterized by the perception of the world through emotionality, intuition, feelings. That is, one should think with one's heart, not with a cold mind – this is what is meant when we talk about the Ukrainian soul, the soulfulness. Antheism is a kinship with the native land (Smorzhevskya, 2021, p. 254). The manifestation of antheism resonated with every Ukrainian on February 24, 2022. Perhaps never before in Ukraine's contemporary history has the sense of national identity, along with anguish and anxiety over its possible loss, been so clearly conveyed. Executiveness is the dominance of the "feminine" in the psyche, but it is not synonymous with femininity. This is exactly the kind of care and concern that has resulted in a powerful volunteer movement around the world. If we turn to folklore sources for examples, then primarily proverbs and sayings will be of great help here.

– We'll give our lives and destiny for the people and freedom;

- Where love for the motherland is a hero, no enemy force can resist;
- Although there is hell, here is paradise, where you were born, there you will die;
- From the heart to God is the straight road;
- The heart gives the message to the heart;
- The one who gives the heart will give the money;
- Feeling homesick in the sky and on the ground;
- If we leave our land behind, our children will curse us (Plaviuk, 1946).

The “Cossacks’ ideal” is vividly reflected in the images of the Cossack Mamai and the dumas. In particular, the Cossack Mamai is the ideal of a warrior – sage who, while sitting in the Buddha pose, is always ready to fulfill his direct duty to defend his native land and his fellow countrymen. This is evidenced by the horse standing at the ready and the weapon. The Cossack Mamai is a sacralized image of folk-art culture, along with Christian icons.

As early as 1892, Franko noted the true chivalrous spirit of Ukrainian dumas, which recorded the heroic ethos of our people and immortalized the Cossack glory (Ukrainian People’s Dumas, p. 7). For instance, the duma about the escape of three brothers from Azov formed the basis of Oles Sanin’s “Mamai”. In 2003, the film was nominated for an Academy Award for Best Foreign Language Film. Although the film did not win an award at that time, we believe that its value lies in the continuity of the tradition when archetypal, sacred pages of history and culture are shown to the world by means of cinema (contemporary culture).

The existence of Ukrainians at the intersection of two worlds – the West and the East – has also left its mark on the formation of the national character and the reflection of these processes in folklore sources. This specificity is pointed out by Shakhno Y., who describes Ukrainian individualism as a synthesis of orientalism, occidentalism, and even Americanism (Shakhno, 2020, p. 143). We can also note the regional specificity in the formation of folklore, which makes it possible to study the national character, taking into account other ethnic and cultural influences. For instance, the folklore of Zakarpattia is an extremely colorful “tangle” in which Ukrainian, Slovak, Hungarian, Romanian, and Polish “threads” are intertwined in an organic synthesis. A strong manifestation of mysticism is observed in the folklore of Zakarpattia’s citizens, which researchers attribute to a strong dependence on various natural phenomena. Images associated with the element of air (bosorkanya – a witch, povirulya – the daughter of the mountain wind, sharkan – a dragon) are prevalent in Zakarpattia folklore. We can trace the following human character traits in the folklore of Zakarpattia, namely: courage, developed imagination, ingenuity, especially in difficult situations, spiritual perception of the world, irrationality through religiosity, as well as conservatism in family relations, gender stereotypes, economic management, and the desire to organize the surrounding space (Tykhovska, 2021, p. 5-8). In fact, the outlined character traits are inherent in Ukrainians, regardless of their region of residence.

“There is no flower in the world more beautiful than a poppy;  
there is no kinship dearer than that of a mother.  
You can buy everything – except parents.  
Vodka is not a maiden, and a stepmother is not a mother.  
Our kin has no end.  
You can go to your own family even through water.  
If you want to make your daughter a lady, be strict with her.  
A thorn bush will not bear pears.  
He is my son, but he has his own mind.  
Children cry, and their mother’s heart aches”

“Нема у світі цвіту цвітійшого над маківочки;  
нема ж й роду ріднішого від матіночки.  
Усе купиш – матері, батька не купиш.  
Горілка не дівка, а мачуха не мати.  
У нашого роду нема переводу.”

До свого роду хоч через воду.  
Коли хочеш з доні молодиці, то держи в іжових  
рукавицях.  
Тернина грушок не родить.  
Син мій, а розум у нього свій.  
Дітки плачуть, а в матері серце болить” (Pazyak, 1993).

In folk tales, there are characters who, in our opinion, very accurately reflect in an allegorical form such features of the Ukrainian character as wit, a good sense of humor, the ability to find a way out of the most difficult situation, and not to be afraid of seemingly insurmountable obstacles and life trials: Divka – semylytka, Pan Kotskyi, Ivasyk Telesyk. Let us focus on the image of Kotyhoroshko. He has already become a part of contemporary culture as a legendary figure, appearing in folk children’s fairy tales about boy heroes as well as serving as the embodiment of a contemporary Ukrainian who, in the face of a terrible foe, never gives up and boldly pursues his objective. Such an allegorical vision is very important for moral support in the context of a full-scale war. We also remember that Kotyhoroshko defeated the Dragon with one well-aimed blow of his mace.

“Took his club [Kotyhoroshko – Author], put loaves of bread and biscuits in his bag, said goodbye to his parents, and went. He went along the furrow and entered the forest. He walked and walked through the forest. He came to a large courtyard. He entered the yard, then the house. But there was no snake, only his sister Olenka at home.  
– Hello there, girl! – says Kotyhoroshko.  
– Hello, birkie! Why did you come here? The snake will come and eat you.  
– Maybe it won’t eat me anymore. And who are you?  
– I was the only daughter of my father and mother, but the snake stole me, and my six brothers went to rescue me and died.  
– Where are they? – Kotyhoroshko asks her.  
– The snake threw them into the dungeon. And I don’t know if they are still alive or if nothing is left of them.  
– So maybe I’ll rescue you, – says Kotyhoroshko.  
– But how could you rescue me? Six couldn’t do it, and you’re alone! – says Olenka.  
– We’ll see! – Kotyhoroshko replies.  
And he sat by the window, waiting for the snake.  
The snake flies in. And as soon as he enters the house, he says:  
– Ugh, it smells of human spirit.  
– Of course it does, – says Kotyhoroshko. – That’s why I came.  
– What do you want, lad? Shall we fight or make peace?  
– No making peace! Let’s fight!  
– Let’s go to the iron threshing floor!  
– Let’s go!  
They arrived. The snake says:  
– You hit first.  
– No, – Kotyhoroshko replies, – you hit first.  
The snake hit him so hard that it drove him into the threshing floor up to his ankles. Kotyhoroshko pulled out his leg, swung his club, hit the snake – and drove him into the iron stake up to his knees. The snake broke free, struck Kotyhoroshko again, and now drove him into the stake up to his knees. Kotyhoroshko struck a second time, and this time he drove the snake into the stake up to his waist. And then he struck a third time – and killed him.  
Then he went into the deep dungeons, set free his brothers, and they were barely alive. He took brothers, his sister Olenka, all the gold and silver that was in the snake, and they went home” (Kotygoroshko, 2020).

In our opinion, within the framework of the present research, it is also significant to articulate the influence of folklore motifs, plots, and characters on the formation and development of such a genre of contemporary artistic culture as Ukrainian fantasy. After all, literature of this kind is gaining popularity in our country among people of all ages, social and property status. That is, one can talk about its universal readership demand. This

genre is distinguished by its usage of folklore figures and themes, as well as Ukrainian mythology. And such a creative approach attracts readers. Readers find Ukrainian fantasy appealing because of its rootedness in the country, which serves as the foundation for writers to create fantastical worlds, as well as its artistic and philosophical rethinking of folklore motifs and plots (such as Hero-Antihero, Good-Evil, Fate-Failure, Freedom-Freedom, etc.), action, and dynamic writing. They reflect many archetypal features of the Ukrainian character that are intuitively felt by modern Ukrainians. In particular, mysticism, mythological and magical perception of the world, immersion in the world of nature, poetry, expectation of a miracle and belief in the help of higher powers, allegory, ritualism, utopia – all of these are inherent in the Ukrainian character (Lohvinenko, 2016).

The United Nations General Conference on Education, Science and Culture, taking place on October 17-November 16, 1989 (Paris), stated that folklore is a part of the world heritage of mankind, a powerful means of rapprochement and mutual understanding of peoples, their cultural identity; the remarkable significance of folklore for the political, social, economic, and cultural life of mankind (Recommendation on the Safeguarding of Traditional Culture and Folklore). We are in full solidarity with this understanding of folklore in the history of human culture and in the modern processes of human development.

## 5 Conclusions

Ukrainian folklore is a significant part of Ukraine's cultural heritage. It has played and continues to play an important role in shaping the national character. It records the culture, history, worldview and axiology of the people. Ukrainian folklore influences the national character of Ukrainians on several levels: it shapes national consciousness and patriotism; it is associated with values and beliefs; it is a form of moral support in the context of a full-scale war. It also serves as a source of ideas for contemporary culture, in particular, Ukrainian fantasy literature and post-folklore literary works.

Studying the folklore heritage of different periods, peoples, and cultures can help better understand the history of human civilization, its historical progress, and ups and downs. Taking into account the multidirectionality of folklore genres and their influence on various forms society and socium, it seems promising to focus research attention on specific folklore works and their interaction with other areas of cultural development, in different time periods.

Researchers have considered the topic under study in various aspects and from different methodological and academic perspectives. However, the influence of folklore on the formation of national character, especially through analogies and parallels with the current social-cultural situation in Ukraine, is currently new and poorly explored. Consequently, it requires constant monitoring, recording and systematization of the data obtained, their scientific and practical interpretation, and comparative analysis with similar phenomena in other cultures, peoples and states.

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**Primary Paper Section: A**

**Secondary Paper Section: AJ, AL**

## UTILIZATION OF INNOVATIVE TECHNOLOGIES IN PUBLIC ADMINISTRATION: ADVANTAGES, CHALLENGES AND PROSPECTS

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**Abstract:** Globalized trends regarding the transformation of the paradigm of social and socio-economic processes administration are leading to a reformatting towards intensifying the role of publicity and information accessibility. The study aims to provide a comprehensive analysis of the potential of innovative technologies in public administration. The research involved general scientific knowledge methods, including analysis, deduction and induction, comparison, and abstraction. The study considers various aspects of public administration based on the principles of sustainable development as an essential basis for the implementation of internal policy. The authors analyzed the main issues of applying innovative technologies in management processes and various ways to solve them. The article explored the potential optimization opportunities of the public management transformation process using innovative tools. The authors have studied the experience of developed countries in the public administration of society's life processes, public administration, and legal and organizational aspects. The research outcomes have a practical value for improving the modern management system by means of innovative technologies based on the principles of publicity and balanced development.

**Keywords:** globalization, digitalization, balance, efficiency, optimization, public administration, electronic governance, innovative technologies.

### 1 Introduction

The intensification of integration processes in the administrative activity system causes the formation of new challenges that require appropriate dynamic adaptive changes in the publicity vector. The concept of sustainable development, implemented to the maximum extent possible in the modern management paradigm, is seen as an optimal, socially effective, and socially oriented trend. The outlined approach seeks to realize the balanced development of society through the development and implementation of a set of organizational foundations, as well as effective means of their implementation and monitoring of efficiency. The potential of modern innovative technologies and digitalization plays a significant role in this process.

Ukrainian and foreign scholars consider the issue of public administration in the context of the intensification of digitalization and technological development in an interdisciplinary context. Some studies of contemporary scholars are devoted to the analysis of the functioning of public administration mechanisms in the context of globalization and the study of practical projects for their implementation. Thus, modern Ukrainian scholars (Volska, 2020; Masyk, 2023) explore the concept of public administration from the standpoint of the complexity and difficulty of the issue, taking into account the global digitalization of social and socio-economic processes.

When considering the essence of public administration in terms of innovative opportunities, some researchers (Pastuch, 2022; Vasylieva et al., 2020) emphasize that the potential and capabilities of public administration are fully revealed only through the harmonization of the main factors of the sustainable development concept, and based on the updated functionality in the public communications system. General public administration issues amidst the rapid development of innovative technologies are thoroughly investigated in the research of modern scientists (Prylypko, 2023). They analyze the risks and challenges related to the outlined process.

Certain conceptual issues are reflected in the studies by Vinuesa et al. (2020). Their results confirm the high priority of digitalization and the introduction of artificial intelligence tools into the public administration system. Despite the significant scientific contribution of modern scholars, some aspects of this issue still need to be studied.

The issues related to the development of an algorithm for the successful practical implementation of modern innovative capabilities in the public administration system in the context of global challenges and crisis phenomena of our time are still poorly studied. They require further scientific analysis. This study aims to analyze the potential of innovative technological tools for optimizing the public administration system for sustainable development and the dynamics of conceptual priorities in today's crisis conditions.

### 2 Literature review

The scientific and methodological framework of the studied issues is based on the research findings of scholars who focus on the aspects of implementing the principles of public administration in the context of sustainable development, the problems of transforming social processes towards digitalization, and the active involvement of innovative technologies, as well as finding ways to mitigate related risks. There are numerous publications on this topic in scientific professional journals. Some elements of innovative mechanisms of public administration in the context of sustainable development are discussed in the studies of many modern scientists (Roieva et al., 2023). The results of scientific research include studies (Noja, 2019; Esposito & Dicorato, 2020) that fundamentally substantiate the principles of effective implementation of public administration in the context of modern global challenges of a sustainable economy.

At the same time, some scholars (Bisongo, 2023; Massey, 2022) emphasize the complexity of introducing some aspects of innovative technologies into the public administration system due to the specifics of contemporary social processes. Many scientists (Meuleman, 2021; Deslatte & Stokan., 2020; Guarini et al., 2021) have formed the basic conceptual framework for an effective public administration system. They have actualized the need to introduce digitalization and electronic document management tools into public administration processes.

Therefore, despite the importance of the scientific and practical achievements of scholars on the studied issues, there is a need to continue research on aspects related to the outlined issues to ensure the sustainability of positive dynamics and preventive response to new challenges in public administration in the context of intensive development of innovative technologies.

### 3 Methods

A set of general methods of scientific cognition was applied during the research. These methods include abstract, logical, comparative analysis, induction, and deduction, methods of specification, abstraction, and formalization, as well as a tabular and graphical interpretation of theoretical information. The theoretical and methodological background of the study was formed by taking into account the key principles of comprehensive research based on a systematic approach. The complexity principle made it possible to analyze the object and subject of principle as a system with a corresponding set of interrelations.

The methods of analysis and synthesis were employed to identify the factors and stages of development of the studied object, as well as its defining elements. The comparison method was used to determine the specifics of development and features of innovative optimization of public administration in the

context of sustainable development. The deduction method was used to develop proposals for the vector of improvement of management processes based on the capabilities of digitalization processes. The inductive method was used to forecast indicators of future development.

The abstract-logical and dialectical methods of scientific cognition, as well as the method of scientific abstraction, were used to formulate theoretical generalizations, clarify the conceptual apparatus, identify basic concepts and categories, and formulate research conclusions. In addition, these methods were used to develop the concept of a holistic process of digital optimization of the management system in the context of sustainable development. The general scientific method of concretization was used to position the effectiveness and feasibility of increasing the role of innovative technologies in public administration during the implementation of socio-economic reforms.

#### 4 Results

The modern concept of public administration sets the compliance with the current requirements of innovative technological solutions as the main prerequisite for its own implementation efficiency. The search for consensus between public administration actors in this area is determined by the priority vector of developing the public administration paradigm. Nowadays, a systemic approach to sustainable development is generally accepted in the main areas of public administration. They include financial and economic development, social transformation, and environmental safety guarantees.

The formation of a management system based on innovation potential involves consideration of available resource capacities, the priority of adaptability and prospective growth, as well as the synergy of national priorities and interests of local communities regarding the goals and means of development. The definition of public administration refers to the synergy of activities of state and local authorities, the private sector, and society in identifying and implementing management decisions of public importance within the limits of the powers and functionality defined by the legislation (Pastuch, 2022; Vasylyeva et al., 2020). Overall, public management covers the stages of planning, organizing, and controlling the implementation of management decisions. It involves the capabilities of modern information systems, digitalization tools, and regular performance monitoring.

The basic opportunities offered by an effective public administration system for modern society are depoliticization, prioritization of service users' interests, systematic quality monitoring, and continuous improvement. It is necessary to emphasize the partnership approach, which is positioned by the public administration system, where the state and citizens are equal participants in the relationship. Effective publicity is achieved with the help of modern technological capabilities. This includes electronic document management, digitalization of management processes, and the use of artificial intelligence tools.

By analyzing international experience in this area, it is possible to form certain conclusions about the benefits, risks, and challenges for each of them. In general, it can be argued that public administration systems in the context of the priority of sustainable development principles in developed countries are characterized by a focus on the active participation of society in management processes in various socio-economic spheres (Roieva et al., 2023).

The practical experience of developed countries can be used to formulate a strategy for the development of public administration in the context of sustainable development of Ukraine from the perspective of maximizing the use of innovative opportunities and digitalization tools. Globalization processes, which are typical nowadays, involve global economic, cultural, and political integration, which covers all spheres of public life and creates a system of interconnections and

interdependencies (Vinuesa et al., 2020). At the same time, changes in the governance system, decentralization of management processes, and the growing role of science, technology, and intelligence are inevitable. First and foremost, the principles of implementing modern innovative capabilities in the public administration paradigm focus on achieving decentralization, democracy, and adaptability to the needs of society (Table 1).

Table 1. Principles of public administration involving innovative technologies

Principle	Essence
Decentralization	Delegation (sectoral, regional, etc.) of management systems, financial autonomy of economic and investment processes
Prospects	The preference is given to technologies that have the potential for prolonged development in the future
Consistency	Selection of innovative tools based on the principle of complex multifactorial impact on administrative processes
Democratic nature	Intensification in the role of the public component within the public administration process
Adaptability	Possibility of dynamic changes while implementing strategic management under the influence of external and internal factors, following the principles of sustainable development
Monitoring	Regular analysis of the effectiveness and the need to update the tools of innovative public administration technologies based on performance evaluation

Source: authors observations

The need to transform the paradigm of public administration towards the use of digital technologies and innovative capabilities is driven by modern challenges in terms of data openness, access to decision-making procedures and control over their implementation, variability of corrective action, and effective performance analytics. Altogether, these dynamics will make it possible to ensure high quality of life indicators, as well as to significantly optimize and develop the public administration system (Figure 1).

An important issue for the establishment of public administration is to guarantee transparency, reliability, and relevance of informative data (Prylypko, 2023). Digitalization capabilities are the best option for communication in the system of modern public administration as a key factor in optimizing management mechanisms in order to simplify and autonomize processes. Electronic information systems allow for quick access to reference and statistical information and the collection and consolidation of necessary data. It should be noted that the active implementation of such systems in different countries as a central component of the transformation of public administration of socio-economic processes has highlighted several risks:

- The complexity of standardization and unification of documentation in different areas and organizations.
- Staff resistance to innovation.
- Passive participation of the population in the process.
- The lack of adequate quality software.
- Security of personalization and data transfer (Bisongo, 2023; Massey, 2022).

Today, the integration of artificial intelligence-based tools and methods into the public administration system is seen not only as a relevant strategy but also as a compelling necessity (Prylypko, 2023). This trend is confirmed by statistics showing that by 2025, 63% of management organizations in Europe plan to integrate artificial intelligence (Meuleman, 2021; Deslatte & Stokan, 2020; Guarini et al., 2021). The growing importance of artificial intelligence in management strategy indicates its significant potential in optimizing the threat detection process in the digitalized document environment. Nowadays, AI-powered tools are widely used to identify, monitor, and effectively



respond to cyberattacks. At the same time, they are marked by high levels of speed and accuracy.

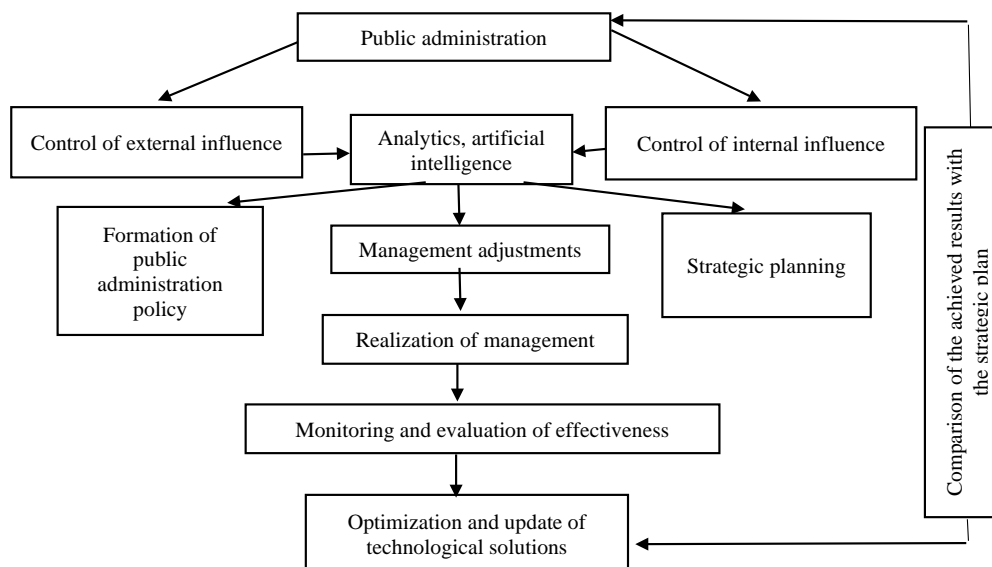


Figure 1. Optimization of the public administration process based on innovative technologies  
Source: compiled by the authors

Cybersecurity solutions based on artificial intelligence capabilities make it possible to identify suspicious activity and other abnormal actions with appropriate notification of the management system. In addition, artificial intelligence should be used to analyze web traffic to detect malicious actions. This prevents malicious code from entering the information system, detects and blocks identified malicious requests (Noja, 2019; Esposito & Dicorato, 2020). AI helps to create strong passwords and encryption keys, as well as to record suspicious activity of management process participants.

The involvement of artificial intelligence capabilities in the management process allows for optimal control and administration of user access to the information and resource database. It also guarantees selective access to confidential data. An additional positive bonus includes optimization of security control levels and effective identification of potential challenges in this area. This enables cloud providers to quickly identify and eliminate possible threats, thereby minimizing the risks of data leakage.

Today, there is a need to develop a perfect digitalization product that can guarantee a more convenient and secure format of communication in various areas of public administration. This issue is extremely urgent and requires special attention. A wide range of communications, as well as the process of implementing effective financial and administrative models in the socio-economic processes of society, depend on digital transformation. The implementation of the principles of modern effective public administration will help ensure the sustainable development of both individual local territories, communities, and the global community in the context of globalization. Based on the aforesaid, we can predict an increase in the role of public administration towards the implementation of the principles of sustainable development. This will allow to intensify its productivity in the direction of economic efficiency and minimization of environmental impact, in particular, through the introduction of innovative technological solutions and digital optimization capabilities.

Ukraine is currently implementing various reforms aimed at transitioning from the concept of state administration to the concept of public administration. At the same time, it is noteworthy that the democratization of management processes is based on the formation of a wide range of public self-governance. The most optimal approach involves the synergy of management processes with the possibilities of self-regulation of society, which are provided by modern tools of innovative

technologies. At present, the search for the most effective model of digitalization of public administration processes in the context of sustainable development is seen as a priority. It will create opportunities to improve the efficiency of management processes, intensify the effectiveness of economic processes, and strengthen the role of local development during the global transformation.

## 5 Discussion

The vast majority of modern scholars see innovative technological optimization of public administration of socio-economic processes as the basis for effective transformation towards sustainable development. In particular, some scholars (Strelcow et al., 2020) believe that the active influence of a public resource on the management decision-making process is a prerequisite for the successful implementation of public administration policy. In their opinion, the effectiveness of the management paradigm depends on the level of compliance with the needs of society in terms of technological innovation.

For some scientists (Lewallen, 2021; Guarini et al., 2021), the main positive effects of implementing AI-enabled management solutions are high speed of response to threats, minimization of information security management costs, reduction of the risk of data loss or unauthorized use and saving time for regular monitoring and security audits. A few scholars (Zuiderwijk et al., 2021) believe that the newest direction of artificial intelligence applications in the public administration system is to increase the level of cybersecurity of cloud providers by automated identification of potential threats.

Modern researchers (Tichenor et al., 2022; Yunita et al., 2022) argue that the improvement of the management process as part of its adaptation to the global digitalization process cannot be implemented in Ukraine following the European model. This is caused by the ambiguity of the internal environment's readiness for such a transformation. The authors have identified some factors that indicate both the readiness for digital transformation of the public administration system and those that impede its development. The introduction of remote work practices and the widespread use of information and communication technologies determine the urgency for encrypting sensitive data and the latest protection strategies.

A number of scientists (Marques et al., 2021; Krafft et al., 2022) have studied the identification of digitalization as a direction of

innovative development of public administration processes. They argue that crisis phenomena within society intensify the lack of state participation in the digitalization process. Representatives of current research directions (Benzaken et al., 2022) argue that the active use of digitalization tools is one of the most effective means to optimize the functioning of the public administration system. According to scholars, the main goal of the digital transformation process is to synergize data sets for optimal use. This goal can be achieved with the help of various effective algorithms. The authors emphasize that the process of digital optimization is influenced by multiple factors, including time constraints, financial capabilities, and the level of intellectual resources.

Modern researchers (Shandryk et al., 2023; Bouilloud et al., 2020) also consider digitalization to be the most promising direction for the development of the public administration system in the context of sustainable development. They emphasize that today, only a few areas of socio-economic processes can be considered consumers of innovative technological and managerial solutions. In this regard, it can be argued that insufficient access to modern technologies and unwillingness to implement them are the most significant factors limiting the potential of digital transformation within the public administration system.

Some scholars (Kankanhalli et al., 2019; Van Wynsberghe, 2021; Meier, 2023) believe that modern public administration based on digital methods is mainly an activity of a practical and advisory nature. It helps the service consumer to achieve goals and tasks by finding solutions to problems of various kinds, identifying new opportunities, implementing changes, and coaching. At the same time, scholars (Hutsaliuk et al., 2020; Trondal, 2021) identify specific prerequisites for the formation of an effective public administration system in the context of sustainable development. They include the availability of an appropriate resource base and the readiness of society for dynamic change. The scientists substantiate that such conditions are an essential component of the algorithm for implementing public administration in various spheres of socio-economic life, and it is difficult to disagree with them.

The scientific research of modern scholars (Magliacani, 2023; König et al., 2023) forms the belief that public administration within the context of sustainable development requires, first of all, digital support based on the principles of rational resource use. It will also need an increase in the efficiency of interaction between authorities at different levels of government, society, and business based on the principles of democratic balanced growth. Such an approach will help to accelerate the qualitative positive dynamics of society's transformation towards a sustainable approach to all spheres of life, ensure ecological reproduction of the resource potential, and make it possible to achieve financial stability of socio-economic processes.

The forecast of the trend of increasing importance of sustainable development principles indicates that in the future, the market demands of the industry will increasingly depend on the system of management decisions, where the principle of publicity should be a top priority. Based on the aforementioned conclusions, as well as the results of the current study, it can be argued that public administration in the context of sustainable development has significantly expanded the scope of its functioning today. It has become an essential element of the system to ensure the implementation of optimal balanced development. It should be noted that the effectiveness of implementing the principles of balanced development based on optimal public administration involves the gradual and effective achievement of goals through innovative opportunities and digitalization technologies.

## 6 Conclusion

This study proved that effective public administration is one of the crucial elements in the system of practical implementation of the sustainable development concept of modern society. It has

been found that innovative technologies, effective digitalization, and proper control by the state and society allow for the full and timely implementation of an effective public administration system in the context of sustainable development.

The research analyzed the potential of innovative capabilities of public administration, the main problems of applying innovative technologies in management processes, and variations of ways to solve them. The authors investigated the potential optimization capabilities of the public administration transformation process through innovative tools. Moreover, the article analyzed the experience of developed countries in public administration of the processes of society's life, as well as its public administration, legal, and organizational aspects. The authors investigated the feasibility and prospects of using innovative electronic systems and the capabilities of modern tools and technologies to optimize the public administration system.

A practical approach to public administration in the context of global digitalization and the rapid development of innovative technologies will ensure the successful adaptation of society to the necessary socio-economic transformations. It should be based on implementing a development strategy shaped by the principle of unimpeded access to information in a convenient format. Currently, the search for the most effective model for the practical implementation of the public administration strategy in the context of sustainable development involving the wide capabilities of digital tools is considered a top priority. Such a model will maximize the efficiency and accessibility of information resources and strengthen the priority status of transformations based on sustainable development in all spheres of socio-economic life.

Further research on this topic should be aimed at a detailed identification of the conditions for systemic integration of digitalization tools, taking into account the current capabilities of the existing electronic and communication base of administrative systems.

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**Primary Paper Section: A****Secondary Paper Section: AE, AF**

## **D EARTH SCIENCES**

DA	HYDROLOGY AND LIMNOLOGY
DB	GEOLOGY AND MINERALOGY
DC	SEISMOLOGY, VOLCANOLOGY AND EARTH STRUCTURE
DD	GEOCHEMISTRY
DE	EARTH MAGNETISM, GEODESY, GEOGRAPHY
DF	PEDOLOGY
DG	ATMOSPHERIC SCIENCES, METEOROLOGY
DH	MINING INDUSTRY INCLUDING COAL MINING AND PROCESSING
DI	POLLUTION AND AIR CONTROL
DJ	POLLUTION AND WATER CONTROL
DK	CONTAMINATION AND DECONTAMINATION OF SOIL INCLUDING PESTICIDES
DL	NUCLEAR WASTE, RADIOACTIVE POLLUTION AND CONTROL
DM	SOLID WASTE AND ITS CONTROL, RECYCLING
DN	ENVIRONMENTAL IMPACT ON HEALTH
DO	PROTECTION OF LANDSCAPE

## LEGAL REGULATION OF ENVIRONMENTAL PROTECTION AND CLIMATE CHANGE MITIGATION TO ENSURE SUSTAINABLE ECONOMIC DEVELOPMENT

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**Abstract:** In view of the globalisation of sustainable development and environmental protection, the optimization of the legal regulation mechanism in the field of environmental protection, based on the principles of public administration and the priority of greening all spheres of life, is an urgent issue nowadays. The purpose of the academic paper is to analyse the issues of legal regulation of Ukraine's "green" course development, to highlight the major trends and to identify promising areas for optimizing legal regulation in the area under study. It has been proven that the conceptual fundamentals of the administrative and legal mechanism for achieving the goals of sustainable environmental development are positioned in the functionality of elaboration and practical implementation of regulations on environmental issues on the basis of publicity of publicity and transparency, accompanied by the intensification of digitalization processes. The practical role of the research results is seen in the possibility of their use as recommendations for optimizing the legal support of Ukraine's environmental policy in terms of adaptation of Ukraine's national legislation to the European Green Deal.

**Keywords:** regulatory and legal regulation, legal relations, sustainable development, ecologization, rational environmental management, sustainable economic development, economic security.

### 1 Introduction

Given the priority of the European integration process, the problematic aspects of implementing the regulatory framework for sustainable development in Ukraine require priority attention. The main task of the modern legal system in the environmental sphere is to develop mechanisms for converging the interests of the state, business and community regarding the "green" course of development and defining the boundaries of strict responsibility for environmental protection, climate change and sustainable development.

A significant number of works by modern scholars are devoted to studying the legal support of the national environmental sphere. Researchers (Kupchenia & Sivtsova, 2023) argue that the main functionality of environmental regulation is the position of a social regulator to meet social needs and interests, ensure the sustainable environment and progressive development towards decarbonization.

Some scholars (Duliba et al., 2021) note that the priority vector of national environmental policy, which requires relevant legal support, is combating climate change. The legal acts regulating the implementation of the national climate change mitigation policy in the current conditions are actively criticized by scientists (Manko, 2021; Kruglov, 2023) since they do not fully reflect the realities of today. According to modern analysts (Muravyova, 2022), improving national legislation on climate change prevention and sustainable development, and adapting it to international and European standards are positioned as priority measures within the framework of the European integration direction. At the same time, some scholars (Holovach, 2022) believe that the primary problem in the field of research is the actual lack of responsibility for environmental protection, and in some cases, its extremely low level. Meanwhile, researchers (Chervinska & Chervinska, 2022) characterized the phenomenon of leveling environmental threats for the sake of economic effect, which takes place in modern social processes.

The general trends in the formation, testing, and improvement of Ukraine's legal policy on climate change mitigation are covered in detail in the scientific works of individual scholars (Buryk & Lysachok, 2020), based on the analysis of relevant international legal acts and national legislation. Particular issues related to the implementation of the concept of sustainable development have been studied within the framework of national jurisprudence (Kirin, 2022; Bilovitska, 2023). At the same time, the ways to optimize the legal regulation of the environmental sphere in the current realities are not sufficiently developed. Algorithms for solving the identified problems of the research area, such as insufficient funding, unstable regulatory environment and insufficient public participation, remain poorly explored and, therefore, require further studies.

The purpose of the present academic paper is to study the legal regulation aspects and the formation of the boundaries of responsibility for environmental protection, climate change and sustainable development in Ukraine, with the identification of relevant ways for optimization.

### 2 Literature Review

The theoretical basis of the research is based on the results of scientific developments of the scientific community in the interdisciplinary concept. The issue of choosing vectors for reforming the structure of the algorithm for legal support of sustainable development goals in Ukraine is studied in the works of a number of modern scholars (Korolchuk, 2022).

The fundamental principles of the formation and development of Ukrainian legal policy in the field of climate change are described in the scientific works of several scholars (Skjærseth, 2021; Sikora, 2021), whose conclusions actualize the study of the features of forming and developing legal policy in the field of climate change. At the same time, special attention should be paid to the studies (Chan et al., 2020), which advocate the viewpoint that the substantiation of the systemic concept of sustainable development based on the "green" economic course is considered impossible without the formation of European-style regulatory support. The scholars justify this standpoint by the fact that the European legislative framework is positioned as an effective regulator of legal relations, establishing strict levels of responsibility.

The scientific developments in this area include the research materials of scientists (George et al., 2021; Ruggerio, 2021; Sands, 2023), which study the basic legal acts developed and introduced as part of the implementation of international commitments to combat climate change. A significant contribution to the scientific substantiation of the outlined issues in terms of criticism was made by some representatives of the modern scientific community (Rehbinder & Stewart, 2020). First and foremost, the scientists describe in detail the significant shortcomings of the mechanism of legal support for climate change prevention. A detailed analysis of the phenomenon under study is conducted by scientists (Zhang & Li, 2022), who consider legal regulation to be an effective tool to stimulate the practical implementation of decarbonization projects, sustainable management and effective environmental policy.

Despite the significant achievements of the modern scientific community in this area, the potential for practical optimization of the legal framework of the environmental development management system remains unexplored. The vectors for improving the regulatory framework in this area have not been sufficiently developed, and, therefore, require further studies.

### 3 Methods

The methodological basis of this research is based on special and general scientific methods. The dogmatic method made it

possible to clarify the essence of legal regulations on environmental protection. The methods of analysis, deduction and generalization were used to analyze the fundamental doctrines of the issues under study. The comparative legal method was used to study the world's experience in ensuring the sustainable environment, including by stimulating the introduction of resource-saving technologies. The method of dialectical research allowed fulfilling the analysis of definitions. The system-functional method made it possible to analyze the scientific literature containing certain aspects of the methodology for improving regulatory support and legal regulation in the environmental sphere.

#### 4 Research results

The issues of climate change and ensuring the sustainable environment are in the focus of attention of both the international community and Ukraine in particular. Minimizing greenhouse gas emissions and other decarbonization measures, switching to renewable energy sources, and prioritizing green investment are just some of the measures, the execution of which at the national level indicates the implementation of the sustainable development course.

Ukraine is positioned as an active participant in international climate policy, and, therefore, is interested in developing an effective legal policy in the environmental sphere. At the same time, the effectiveness of the decarbonization policy depends on the quality of implementation of international climate agreements and the harmonization of the Ukrainian one with them.

The institution of environmental and legal liability is positioned as a mandatory component of the mechanism for legal regulation of social relations in the country, encouraging responsible environmental management, strategic environmental policy, and sustainable decarbonization. At the same time, the lack of a tradition to regularly optimize the legislative framework for managing relations in the field of environmental protection complicates the outlined issues.

The analysis of the system of Ukraine's environmental legislation shows that the environmental sphere of social relations is regulated by a significant number of legal acts, which, in general, negatively affects its perception by society, and also causes ambiguity of certain environmental provisions in the practical legal application of legal norms of laws. Such a problem is ideally solved by systematizing and codifying environmental legislation by consolidating it into a single legal document, such as the Environmental Code (Chan et al., 2020). However, as of today, the legislative authorities have not provided adequate regulatory frameworks that would guarantee the specific regulation of environmental definitions and the establishment of strict unambiguous measures of liability for environmental offenses.

The path of Ukraine's independence was marked by the stagnation of institutional models of environmental safety. The managerial paradigm in the area under study is limited directly to the development and practical implementation of regulations, neglecting the aspects of strategic planning and performance monitoring. The lack of a sequence of processes is one of the strategic problems of ensuring national environmental security. Taking into account the fact that the European "green course" for Ukraine is positioned as an integral component of the development strategy, the structure and functionality of the mechanism of legal regulation of the environmental protection sector and its functional content should reflect the practical aspects of the European environmental policy, ensuring their proper implementation.

The legal framework in the field of environmental protection in Ukraine is formed by the Constitution of Ukraine, laws, and bylaws. The harmonization of Ukraine's environmental legislation with generally accepted European norms is a requirement of the modern international order regulated by

international law. However, the choice of the form of such coordination should prioritize national interests.

On September 25, 2015, the United Nations General Assembly (UNGA) approved the Sustainable Development Goals for the period up to 2030 in the form of the Agenda. This document recognized the fight against climate change, sustainable development, clean energy, and reduction of the overall anthropogenic pressure on the environment as priority goals of sustainable development. At the same time, climate neutrality was chosen as the main goal of the European "Green Course" (George et al., 2021; Ruggerio, 2021; Sands, 2023). Furthermore, in September 2019, the Sustainable Development Goals of Ukraine for the period up to 2030 were approved, reflecting the main vectors of national sustainable development.

It is worth noting that Ukraine has a number of international legal obligations in the field of climate change. In particular, it is identified as a party to the 1992 UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement as of 2015. The latter document is an innovative legal instrument of international climate policy aimed at stabilizing the global response to threatening climate change in the context of sustainable development. Ukraine ratified the Paris Agreement on July 14, 2016, thereby securing its commitment to decarbonization.

The National Concept on State Policy on Climate Change Prevention was adopted to implement aspects of the Paris Agreement. The primary goal of this concept is the principles of phased decarbonization and the formation of relevant legal prerequisites. It is obvious that the outlined Concept is a pioneer among the documentation regulating strategic approaches to climate change prevention on a national scale.

While not minimizing Ukraine's efforts to implement a progressive legal policy on climate change mitigation, it should be noted that the existing strategy requires effective reform. The outlined trend is determined by a combination of factors, including:

- lack of a unified concept of climate change mitigation and its corresponding enshrining in the legislative field;
- pronounced inconsistency of certain legal acts regulating issues in the field of climate change mitigation;
- dualistic approach to the implementation of the Association Agreement between Ukraine and the European Union;
- unresolved legislative structure of financing sectoral projects;
- development of declarative strategic documents that do not form a system of effective algorithms for their practical implementation.

Currently, there is no unified legislative expression of the legal regime for climate change mitigation in Ukraine, and the current legal acts are characterized by the absence of a definition of climate as an object of legal protection. The Concept outlined above is the first legislative achievement in the area of climate change mitigation and implementation of the Paris Agreement in order to achieve climate neutrality. In particular, the Concept identified the main target areas of state policy, as well as the phasing and specifics of increasing resilience, minimizing risks, and preventive protection.

National efforts should focus on the interaction and convergence of environmental safety measures as a component of sustainable development. Popular changes to the legislative field are often controversial and contradict European standards. It is necessary to be guided by the fundamental principles of environmental protection, sustainability, and energy efficiency as the basis for all three areas under study: sustainable environment, climate change, and minimized pressure on the natural environment.

In 2017, the Cabinet of Ministers of Ukraine approved the Energy Strategy, which envisages the main measures for implementing energy and environmental transformation as the

basis for the sustainable development strategy until 2035. It is necessary to argue for the need to harmonize environmental law with other areas of legal support. Such a conceptual approach will provide for a systematic consideration of the issues of sustainable development, safe environment and climate change prevention. In addition, it is worth emphasizing the expediency of maximizing the share of environmental protection issues in the general legal framework. In terms of constitutional law, this approach involves the development of an ecological network and reliable protection of environmental rights. The procedure for regulating the use of natural resources can be considered in terms of commercial law. In terms of criminal law, it is worth focusing on the study of environmental crimes and liability.

The institution of legal liability for environmental offenses is characterized by frequent cases of breaking the principle of inevitability of legal liability. The problematic phenomena are the environmental and legal nihilism of society, the evasion of individual officials from imposing sanctions on violators, and the minimal significance of sanctions, which is manifested in a number of inconsistencies, dualism and contradictions in the legal framework. At the same time, despite the lack of proper attention to the institution of legal liability, the latter is positioned as one of the basic factors in ensuring environmental protection, along with economic incentives for environmentally sound economic activity and environmental taxation.

Implementation of the principle of inevitability of liability for violation of environmental legislation is one of the basic postulates of the state environmental policy's concept for the period up to 2030. Amendments to the Code of Ukraine on Administrative Offenses and the Criminal Code of Ukraine were adopted in 2021 in order to achieve these goals, which was the first step in ensuring the inevitability of liability for violations of environmental legislation.

In the light of the above issues, it is necessary to pay attention to the inconsistency of the legal norms governing liability for violation of environmental legislation in Ukraine with European standards, which, as a result, is positioned as the main reason for their ineffectiveness. In particular, a fine of 85-119 UAH is paid for violation of the procedure for carrying out activities aimed at artificial changes in the state of the atmosphere and atmospheric phenomena (Article 78-1 of the Code of Administrative Offenses), while the fine for similar illegal acts in Croatia is 1320-2000 EUR, and in Slovenia – from 10,000 to 20,000 EUR.

It is obvious that optimization of the environmental protection system with the involvement of the potential of administrative liability will contribute to the intensification of the preventive function of administrative penalties and liability for environmental offenses. The basic vector of the outlined optimization is a multiple increase in the amount of administrative fines for environmental violations. At the same time, there is a risk factor in terms of solvency since the amount of the fine should be in line with accepted social standards. In this regard, when improving the system of liability for environmental offenses, it is necessary to be guided not only by European practice, but also by the real social-economic situation in the country. However, the priority criterion should still be the proportionality of the damage caused to the amount of the fine.

It should be highlighted that updating the amount of fines and improving corresponding regulatory documents are prerequisites for implementing European norms of legal culpability for environmental violations into national legislation. At the same time, it should be noted that criminal sanctions are often applied in the environmental aspect of European practice, which guarantees the proper implementation of environmental legislation to the fullest extent.

An essential vector of environmental legislation stability is the elimination of inconsistencies or incorrectness in legal terminology, and the avoidance of duplication of legal norms. At the same time, the process should be based on a scientifically grounded approach to legislative creativity, involving the potential of professional developments and recommendations,

which will ultimately form a factor of balancing the content of sectorial legal norms and ensure systematic coordination of the system of regulatory legal acts.

It is evident that actively implementing the concept of sustainable development is challenging given the current martial law situation in Ukraine, but even in these challenging circumstances, it is worthwhile to consider the possibility of establishing a system of citizens' administrative responsibility to control environmental pollution. Currently, it's required to define administrative violations, update the level of accountability, and establish substantial penalties. Such small steps will make it possible to follow the course of sustainable development, increasingly implementing European requirements to the national regulatory framework of the environmental sphere.

## 5 Discussion

Regulatory support is positioned as the basis for global transformation processes towards sustainable development. The level of efficiency of legal regulation directly affects the practical effectiveness of the concept.

The science of environmental law has repeatedly considered the issue of bringing such specific objects as the climate and the ozone layer into the sphere of legal regulation (Adler, 2021; Gulluscio et al., 2020; Yan et al., 2021). According to scientists' standpoint, the object composition of environmental law is characterized by a tendency to expand, and sometimes new objects directly reflect the features of the natural environment, and sometimes – the latest integration approaches. Some contemporary researchers (Pidubna & Karakash, 2020) focus on the Law of Ukraine "On Environmental Protection", proposing amendments to the Law of Ukraine "On Environmental Protection" in terms of highlighting climate as an object of the legal field. In addition, the researchers are convinced that the Law should include a separate article on fixing and ensuring compliance with the standards of maximum permissible emissions of harmful substances that are defined as climate-forming.

Some scholars (Senn & Giordano-Spring, 2020) are convinced that the basis for optimizing the regulatory and legal support of the environmental sphere should be a rigid system of various types of liability for violations of environmental legislation. In addition, according to the researchers' viewpoint, it is necessary to stimulate the ecologization of all spheres of life by introducing a system of incentives in the legislation. Several contemporary scholars (Glicksman et al., 2023) believe that the active use of innovative technologies for the use of alternative energy sources is an instrument for regulating legal relations in the field of environmental protection that meets the goals of sustainable low-carbon development.

Some modern scholars (Gunawan et al., 2020) emphasize the need for the state to create a sufficiently clear legal framework at the national level that provides for liability for environmental damage. According to some researchers (Falcone, 2020), environmental crimes are identified as illegal dangerous actions of an environmental nature. The subject of the scientists' studies is related to the issue of corruption schemes in the field of research.

Despite the considerable scientific interest in the issues under study, further development and practical implementation of optimization measures to improve the regulatory framework in the field of environmental safety, maximum convergence of the latter with generally accepted international standards, as well as the search for ways to improve the efficiency of the national legal framework in the environmental field remain relevant.

## 6 Conclusions

The research reveals the issues of the mechanism of legal regulation of environmental safety guarantees, the concept of

sustainable development and prevention of global climate change in Ukraine in the context of globalization and European integration processes. The relevance of implementing an integrated approach to identifying the content of environmental policy has been proven.

In the course of the research, the main challenges related to the system of legal regulation of environmental protection were identified. The major aspects of the correlation between rational nature management and environmental safety have been substantiated, involving social-economic, ecological, and regulatory prerequisites, as well as the engagement of innovation potential.

In the course of the research, the essence of legal regulation of ensuring the goals of sustainable environmental development in Ukraine is considered to be a guarantee of compliance with the requirements of efficiency and transparency in the process of making managerial decisions and lawmaking, in terms of adaptation of Ukraine's national legislation to the European "green course".

The national system of legal regulation on climate change prevention has to be modified as a result of studying the current legislation since the idea of comprehensiveness needs to be introduced. The situation is complicated by the fact that current regulations do not provide for a legal definition of climate and measures to mitigate the effects of climate dynamics. Taking this into account, it is expedient to develop and adopt a separate sectorial law that would consolidate the legal regime for defining climate protection in line with international and European standards. The proposed concept will form the prerequisites for the legal fixation of the concept of climate as an object of legal protection, as well as the identification of responsibility for actions that potentially affect the climate.

The research highlights the necessity for empirical verification of theoretical and methodological advancements in the field of study and, based on the research findings, suggests priority topics for additional scientific exploration on the pertinent subject. The strategy for optimizing the legal framework in the field of ecology should be based on the implementation of a development strategy formed on the basis of harmonization of national environmental legislation with the European one. The need for further practical study of relevant adaptation of administrative, budgetary and criminal legislation is deemed necessary.

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**Primary Paper Section: D**

**Secondary Paper Section: DO**

## **E BIOLOGICAL SCIENCES**

EA	MORPHOLOGICAL GAME PARKS AND CYTOLOGY
EB	GENETICS AND MOLECULAR BIOLOGY
EC	IMMUNOLOGY
ED	PHYSIOLOGY
EE	MICROBIOLOGY, VIROLOGY
EF	BOTANY
EG	ZOOLOGY
EH	ECOLOGY - COMMUNITIES
EI	BIOTECHNOLOGY AND BIONICS

## RELATIONSHIP BETWEEN THE INTEGRATION OF BIOETHICAL COMPETENCE INTO THE EDUCATIONAL PROCESS

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**Abstract:** The importance of bioethics in education cannot be overestimated in modern society, where technological progress and ethical challenges are intertwined. Changes in medicine, biotechnology, and the social sciences require both specialists and citizens to be competent in dealing with ethical issues. This article aims to analyze the relationship between the integration of bioethical competence into the educational process and people's ethical awareness. The research is based on a discursive approach using systemic, structural-functional, and prognostic methods. The obtained results indicate a significant impact of bioethical competence on the level of critical thinking and ethical awareness in different age and professional groups. The lack of systematic bioethical training correlates with an increased risk of ethical conflicts in professional activities. Modern methodological approaches, such as problem-based learning and case methods, have been shown to be effective in preparing people for real-life ethical challenges. The research findings have important practical implications for the reform of educational programs and the creation of an ethically competent civil society.

**Keywords:** bioethics, educational process, ethical competence, critical thinking, methodological approaches.

### 1 Introduction

In today's world of rapidly advancing science and technology, bioethics has become an increasingly relevant field of knowledge. It deals with the ethical, social, and legal aspects of biomedical research and technology. Issues related to genetic engineering, cloning, medical assistance, and animal research are becoming increasingly complex. These issues cannot be considered in isolation from their ethical context. In education, these issues often remain "gaps" that are not adequately addressed in curricula. It is noted that educational systems typically focus on the acquisition of technical skills and knowledge while neglecting the ethical aspects of scientific and medical research (Sewchurran, 2021).

The additional relevance of this research is reflected in the broader context of societal and scientific challenges. In an era of globalization and technological revolution, there is a growing need for specialists who possess technical skills and can ethically evaluate the consequences of their actions. It can be applied to medical specialists, biologists and engineers, programmers, sociologists, and other specialists. The integration of technical and humanitarian disciplines is taking place. It emphasizes the need for ethical education (Calderon & Tan, 2023).

In addition, scientific advances in genomics, neuroscience, artificial intelligence, and many other fields are creating new ethical dilemmas that require immediate and comprehensive solutions. The emergence of new technologies, such as CRISPR for genetic modification, artificial intelligence in medicine, and robotics, increases the potential for ethical violations with far-reaching social, economic, and environmental consequences (Doudna, & Charpentier, 2014).

Therefore, an integral part of modern education should be the study of the technical aspects of scientific and practical activities and an in-depth analysis of the ethical principles and norms that govern these activities. Ignoring this need can lead to the unbalanced development of specialists who cannot respond adequately to their profession's ethical challenges. Thus, the

relevance of this research lies in the need to develop methodological approaches and pedagogical strategies for the effective integration of bioethics into the educational process, considering the growing ethical challenges in the modern scientific and technological space (Koleva et al., 2020).

In conclusion, the relevance of this research lies in the need to analyze and evaluate the impact of bioethics on the educational process and identify possible ways to integrate this discipline into the curriculum.

The following article will try to test several working hypotheses, namely:

1. The integration of bioethical competence into the educational process correlates with an increase in the level of critical thinking and ethical awareness among students. This hypothesis predicts that the inclusion of bioethical modules in academic curricula, particularly in higher education institutions, will contribute to the acquisition of professional skills and the development of the ability to assess and analyze ethically (Tamozhska et al., 2023).
2. The absence of systematic bioethical training in the educational process increases the risk of ethical conflicts and unlawful decisions in future professional activities. This hypothesis is based on the assumption that insufficient attention to bioethics in education may lead to the formation of a class of specialists incapable of adequately responding to ethical dilemmas in their field.
3. The use of modern methodological approaches (such as problem-based learning, case methods, etc.) in the study of bioethics in the educational space promotes effective adaptation of students to the real ethical challenges of the present. The hypothesis suggests that the adaptation of contemporary teaching methods will allow for a deeper exploration of ethical aspects in scientific and practical activities, thereby enhancing the effectiveness of bioethical education.

### 2 Literature review

The fact that over the past ten years, the share of research on bioethics in education has grown rapidly is a clear indicator of the scientific community's awareness of the importance of this topic in modern society. Bioethical education standards vary from country to country, but the common trend is its integration into medical and scientific training (Wilson, 2014; Adachi, 2015; Saad Hossne & Pessini, 2015; Mitchell, 2016; Rejimon, 2017; Kelam, 2020). Adachi (2015) describes how, in Japan, bioethics is an essential part of education for students in medical institutions. Similarly, Ajuwon (2015) notes that access to bioethical education is also gaining significant societal importance in Nigeria, albeit with a set of unique challenges.

One of the key theoretical frameworks in bioethics is the research by Beauchamp and Childress (2013). Their study proposes four principles of biomedical ethics: autonomy, non-maleficence, beneficence, and justice. Aleksandrova-Yankulovska (2014) explores an innovative approach to the study of bioethics in healthcare management. The author emphasizes that healthcare specialists and managerial staff should know bioethics.

Recent works by Calderon & Tan (2023) and Degeling et al. (2023) in the analyzed field consider the relevance of bioethics education in the context of global challenges such as ecological crises and pandemics. Calderon and Tan (2023) emphasize that environmental care is becoming an increasingly important aspect of bioethical discourse. In the context of technological innovations, Doudna and Charpentier (2014) explore new

horizons and challenges associated with genome editing using CRISPR-Cas9. The authors highlight the need for educational spaces to discuss the ethical aspects of such technologies.

It is also essential to consider methodological approaches to the study of bioethics. The work by Davtyan (2012) presents an experimental course in bioethics based on the UNESCO bioethics curriculum and underscores its effectiveness in preparing students for ethical challenges in medicine. In terms of methodological approaches to the study of bioethics, interesting research by Fan (2023) examines the potential of Marxist network governance to address issues in bioethics education in medical institutions. This demonstrates the wide range of approaches that can be applied to this discipline. The issue of ethics in genomics and its social, legal, and ethical implications is discussed in the study by Fletcher (2023). The author emphasizes the need for training a more diverse ethical workforce, especially regarding racial diversity.

In the context of religious ethics, Franc (2020) examines contemporary birth control methods in the Coptic Orthodox Church. The author highlights the diversity of ethical perspectives on biomedical issues in different cultural and religious contexts. Bioethics education extends beyond clinical parameters. Gary and Berlinger (2023) highlight the importance of addressing bioethical issues in-home care, which has traditionally received less attention in academic research. In addition, Grace and Kirkpatrick (2018) propose an ethics teaching methodology that considers both the patient's and the clinician's voice, emphasizing the need for balance in clinical practice.

Have and Patrão Neves (2021), Hoffmann and Nortjé (2018), Lee et al. (2014) and Loike et al. (2013) provide specific guidelines and methodologies for teaching bioethics. They can be valuable in developing effective educational programs. Munday (2013) examines the interplay between bioethics and education. Meanwhile, Levinson (2023) emphasizes the need to create a separate field of educational ethics. Contemporary scholarly literature highlights different approaches to teaching bioethics and medical humanities.

Ngan, Hui and Sun (2023) emphasize the connection between historical events and contemporary issues in these disciplines. Ngan (2022) also explores new teaching methods, including the use of digital technologies.

Paranhos (2018) focuses on the use of cinema as a tool in global ethics. At the same time, Pegoraro (2018) discusses the priorities of teaching ethics in the context of globalization. Active teaching methods, including scenarios, cases, and other interactive forms, are described by Pereira et al. (2023). From a psychological perspective, Płotka, Ghenu and Brad (2017) investigate whether emotional maturity facilitates the expression of moral beliefs during bioethics education. M. Qakharova (2023) examines bioethics as a practical philosophy of human life activity.

National features of teaching bioethics are also reflected in scientific works. For instance, Vaswani and Vaswani (2015) provide a detailed description of bioethics education in India, while Wang and Wang (2015) examine the bioethical aspects of education in China. In the field of journalism, Sewchurran (2021) critically analyzes the impact of digital disruption on journalism and education in this field. The topic of cultural and religious system conflicts in bioethics is addressed explicitly in the works of Yang et al. (2010), who explore the conflict between Confucian and Western views in Taiwan.

In summary, the literature review presented above demonstrates that the teaching of bioethics and medical humanities is a multifaceted process that depends on various cultural, historical, psychological, and technological factors. On the other hand, issues such as the integration of bioethical competence into the educational process, the lack of systematic bioethics training, and the use of modern methodological approaches in the study of bioethics are still under-researched.

This study aims to analyze and evaluate the impact of integrating bioethics into the educational process on the level of critical thinking and ethical awareness of people of different ages and vocational groups. The research also focuses on the effectiveness of modern methodological approaches to teaching bioethics and their impact on a person's professional and social activities.

The following tasks were set to achieve these goals:

- to explore the correlation between the integration of bioethical competence into the educational process and the increase in the level of critical thinking and ethical awareness in various age and professional groups. In particular, to assess how bioethical modules and courses influence the ability for ethical assessment and analysis.
- to examine the relationship between the absence of systematic bioethical training in the educational process and the risk of ethical conflicts and unlawful decisions in a person's subsequent professional and social activities. Determine how a lack of focus on bioethics can affect a person's response to ethical dilemmas in various life spheres.
- to evaluate the effectiveness of contemporary methodological approaches (such as problem-based learning, case methods, and others) in the study of bioethics. To investigate how these methods contribute to a person's adaptation to real ethical challenges in modern society and their ability to make ethical assessments and decisions.

### 3 Research methodology

The study is based on a discursive approach that reflects the relationship between language practices and social structures in bioethics. This approach allows us to analyze both pedagogical and academic discourses on bioethics and their impact on forming ethical standards and norms in the educational space. In this regard, we employed the following methods:

1. *Systemic method.* This method aims to study bioethics as a complex system encompassing various elements such as norms, principles, methodological approaches, pedagogical strategies, etc. Through a systemic approach, we can uncover the interdependencies among these elements and evaluate their cumulative impact on the effectiveness of bioethical education.
2. *Structural and functional methods.* This method is utilized to analyze the role and functions of bioethics in the educational process. Specifically, it helps determine how bioethical competence is integrated into different levels of the education system (e.g., university education, postgraduate training) and the functions it performs in each of them.
3. *Prognostic method.* This method was applied to assess the potential consequences of introducing or modifying bioethical courses and programs. This method involves analyzing possible positive and negative scenarios and developing recommendations to enhance methodological approaches in bioethics education.

Applying this combination of methods aims at a deep, multifaceted analysis of the issue. These methods enabled an evaluation of the current state of bioethical education and its prospects and potential risks. Ultimately, these methods were intended to contribute to the development of effective strategies for its optimization (Yermakov et al., 2019).

### 4 Research Results

#### 4.1 Theoretical assessment of the correlation between integrating bioethical competence into the educational process and enhancing critical thinking and ethical literacy: an intergenerational and professional perspective

One of the key hypotheses of this study is the idea that integrating bioethical competence into the educational process may have a positive impact on the level of critical thinking and

ethical awareness in various age and professional groups. This section will focus on the theoretical analysis of this hypothetical correlation.

Bioethical competence in an educational context refers to understanding and the ability to analyze ethical issues in the biological and medical sciences critically. This concept is closely related to critical thinking. It is defined as the ability to rationally analyze and evaluate information and ethical awareness, representing an awareness of ethical principles and their application in practical activities.

The focus on the development of bioethical competence can have far-reaching positive consequences that go beyond narrow professional training. The inclusion of bioethical modules and courses in the educational process can contribute to professional preparation and the ability to analyze and ethically assess various life situations critically.

A literature review and educational practices indicate that such comprehensive training can be particularly effective in the context of interdisciplinary education, which involves various age and professional groups. Indeed, bioethical competence is becoming increasingly relevant for medical specialists and representatives of different knowledge domains, from scientists and engineers to humanities scholars. Integrating bioethical competence into the educational process can be an effective tool for enhancing critical thinking and ethical awareness, regardless of a person's age or professional orientation.

#### **4.2 The relationship between the lack of systematic bioethical training and the risk of ethical conflicts in further professional and social activities**

The absence of systematic bioethical education in the educational process can have profound and multifaceted consequences for a person's future professional and social activities. This study aims to elucidate how an insufficient focus on bioethics can affect a person's response to ethical dilemmas in various spheres of life.

Bioethics provides a scientific and professional framework for analyzing medicine and biotechnology's moral and ethical aspects. It is also a key element of humanistic culture. It can serve as a bridge between scientific knowledge and social and cultural values, which can be critically important in the context of rapidly changing technological scenarios.

The absence of bioethical education can lead to a significant deficit in understanding ethical dilemmas that may arise in professional activities. This increases the risk of ethical conflicts in the workplace and points to a broader problem- an inability of people to adequately respond to ethical challenges they encounter in a broader social context. The lack of proper attention to bioethics can ultimately impact the formation of a comprehensive ethical awareness. It is necessary for understanding and addressing ethical issues in various life domains, from professional to personal. Insufficient awareness of ethical principles can lead to unethical decisions with far-reaching social and cultural consequences.

Let us consider the medical practice area, where ethical dilemmas are inevitable in professional activity or at least a daily reality. Healthcare specialists often encounter ethically challenging situations, namely:

- choosing between treatment and palliative care for a terminally ill patient;
- dilemmas regarding informing the patient and their family about serious diagnoses;
- ethical questions about medical research, etc.

Without systematic bioethical training, healthcare specialists may not have the tools to assess and respond to such dilemmas adequately. This can lead to ethical conflicts among specialists, patients, and their families, as well as unethical or improper

decisions. For example, a lack of understanding of ethical principles can lead a physician to decide not to inform a patient about potential adverse treatment outcomes, relying solely on their own conception of the "patient's good".

Such unethical decisions violate the ethical norms of professional practice and can have far-reaching social and psychological consequences, affecting trust in medical institutions and the healthcare system as a whole. Therefore, deficiencies in bioethical education can have complex and multifaceted consequences that require a systematic approach to address them.

#### **4.3 Effectiveness of modern methodological approaches for studying bioethics during the educational process**

Current methodological approaches to the study of bioethics, such as problem-based learning and case methods, are essential tools for preparing people to face real ethical challenges in contemporary society. These methods are characterized by a high degree of realism and practical relevance. They create the conditions for a comprehensive assessment of ethical dilemmas and the selection of optimal strategies for their resolution.

In fact, problem-based learning stimulates critical thinking. It helps people to separate the ethical aspects of a problem from its other components. This enables them to respond effectively to challenges and anticipate potential ethical conflicts at different stages of their professional lives. On the other hand, case methods contribute to a deeper and more systematic understanding of bioethics by providing an analysis of specific, often contextual, situations.

It is important to note that the use of these methods can only be effective if integrated into the broader educational context. This includes theoretical preparation, practical skills, and ethical literacy. It enables people to adapt effectively to a wide range of ethical challenges and enhances their ability to engage in independent ethical analysis and make informed decisions. Such a comprehensive education fosters in a person a set of isolated skills and a holistic system of interrelated competencies. It significantly improves the quality of ethical decision-making in professional and social activities.

Continuing this line of reasoning, we can point out that modern methodological approaches contribute to the scientific understanding of bioethics as well as to the formation of a deep ethical intuition. This is particularly important in the context of rapid scientific and technological change, which poses new ethical challenges and dilemmas. Existing ethical codes or principles may not always address them. Such deep ethical preparation broadens individual horizons of understanding and significantly enhances collective ethical culture within professional communities and in a broader societal context. This is particularly relevant in an era of globalization when ethical decisions in one part of the world can directly or indirectly affect people in other regions.

Moreover, as contemporary society increasingly integrates different scientific disciplines to address complex problems, methodological approaches in bioethics can serve as a model for interdisciplinary ethical studies in other fields, such as ecology, technology, or the social sciences (Govender, 2021). This interdisciplinary approach enriches academic discourse and facilitates the formulation of more harmonious and balanced decisions at various levels, from the personal to the global.

In conclusion, the integration of modern methodological approaches in the study of bioethics is not only advisable but also necessary to prepare people to face the ethical challenges of today's world. It creates the conditions for the development of a broad, deep, and adaptable ethical competence. This competence is essential for successful professional and social engagement in today's fast-paced society.

#### 4.4 Bioethics in education: further discussion

In considering this topic, we cannot ignore the debates that arise when trying to integrate bioethics into the educational process. One of the most controversial issues is determining the optimal content for bioethics education. For example, should it be limited to classical ethical theories, or should it include contemporary issues such as genetic modification, artificial intelligence in medicine, or ecological challenges? Critics point out that an excessive focus on current issues can lead to a trivialization of fundamental ethical principles.

Another point of debate is related to teaching methodology. Not all educators agree that modern, dynamic teaching methods such as problem-based learning or case methods effectively cultivate profound bioethical competence. In their view, classical methods based on lecture formats and textual analysis may be equally effective in preparing students to grasp the complexity of ethical dilemmas (Eltaiba, 2015).

In addition, we must recognize the question of how bioethics education relates to cultural, religious, or philosophical differences. Given the multicultural nature of contemporary society, what is the most appropriate approach: a universalist approach based on widely accepted ethical principles or a relativist approach that considers cultural specificities? All these questions not only intensify the scholarly discourse but also stimulate further research. They underscore the need for more in-depth analysis, methodologies adaptation, and bioethics education content that reflects the complexity and multifaceted nature of ethical challenges in the modern era. These discursive aspects can promote more balanced and effective approaches to bioethics education within the educational sphere.

#### 5. Conclusions

The importance of integrating bioethical competence into the educational process has been confirmed by the research conducted. It contributes to increasing the level of critical thinking and ethical awareness and reduces the risk of ethical conflicts in professional and social settings. Although it was initially expected that such integration would be more effective in the academic environment, it turned out that its benefits extend across age and professional groups.

Methodological approaches such as problem-oriented learning and case methods are quite effective in preparing people for real ethical challenges. They confirm their relevance in the modern educational landscape and point to the need for further integration into academic programs. On the other hand, the research encountered several limitations, including insufficient systematization of research materials and methodological challenges related to the scarcity of empirical studies in this area.

Based on the results obtained, it is recommended that further research be conducted in this area, especially empirical research focusing on the influence of cultural and social factors on the effectiveness of bioethics education. In addition, the development of specialized bioethics modules for different professional groups should be considered.

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# I INFORMATICS

IN INFORMATICS



## THE IMPACT OF INFORMATION TECHNOLOGIES ON LEARNING AND EDUCATION: ANALYSIS OF INNOVATIVE METHODS AND STRATEGIES

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**Abstract:** The present academic paper is devoted to studying the impact of information technologies on modern education and learning, as well as analyzing innovative methods and strategies used in the educational process. The academic paper explores the benefits and drawbacks of using information technologies in education and considers innovative techniques such as Flipped Classroom, adaptive learning, massive open online courses (MOOCs), specialized learning programs, and the application of virtual reality (VR). Based on the analysis of innovative methods and strategies, the scientific article examines how modern approaches are changing traditional education and contributing to the quality of learning. The research points to the necessity of integrating information technologies into the educational process and permanently improving methods to achieve better results in modern education. The academic paper also emphasizes that the application of information technologies in education requires careful planning and support for teachers and education seekers to use these tools effectively. In conclusion, the research points out that the information technologies not only transform the way of learning and education but also create new opportunities for improving the learning and development of education seekers.

**Keywords:** adaptive learning, massive open online courses (MOOCs), virtual reality (VR) in education, gamification in education, interactive technologies in education.

### 1 Introduction

It is impossible to overestimate the influence of information technologies on contemporary education. These technologies have revolutionized the learning process, changing the way we acquire knowledge. Modern education faces numerous challenges and opportunities brought by information technologies. Information technologies are revolutionizing traditional approaches to learning, from open access to knowledge to personalized learning and interactive methods. Information technologies make it possible to create individualized curricula that take into account each education seeker's needs and interests, and the use of interactive methods and innovative technologies can increase the level of knowledge acquisition. All these aspects emphasize the relevance of the impact of information technologies on education and the necessity of analyzing and implementing innovative methods and strategies in the modern educational process.

The purpose of the research is to analyze the impact of modern information technologies on the processes of learning and education and to explore how innovative methods and strategies of learning based on information technologies transform traditional approaches to education.

Research objectives:

1. Analysis of the impact of information technologies on modern educational space and learning processes.
2. Consideration and description of innovative teaching methods based on the application of information technologies.
3. Study of modern strategies and approaches to education that actively use information technologies to improve learning outcomes.

### 2 Literature Review

Many scientific works have been devoted to the issues of innovation and the features of introducing information technologies into the education system. Johnson, Adams Becker, Estrada and Freeman (2015) describe recent trends in higher education, including the use of information technologies. The research on the interaction between democracy and education in contemporary society by Noddings (2013), the idea of connectionism and its effects on modern education by Siemens (2014), and the introduction to the analysis of learning and knowledge data are noteworthy (Siemens & Gašević, 2012). Identification of key trends and innovations in higher education, including the use of technologies, belongs to the research of Johnson, Adams Becker, Cummins, Estrada, Freeman and Ludgate (2013). Isak (2023) defines the role and place of information technologies as a significant component of modern educational society. Babenko, Batsurovska, Gorbenko, Andriushchenko and Kim (2019) explore the use of monitoring of information and educational environment in the education system, which may be relevant for developing effective learning strategies.

The achievements of scientists in numerous domains are examined in the context of analyzing innovative methods and strategies in education. For instance, the features of the "Flipped Classroom" methodology have been studied by Mahesh (2023), where the scholar insists on the effectiveness of the "Flipped Classroom" methodology, which is confirmed by the effectiveness of education seekers' outcomes, and it is of particular importance for understanding the impact of this methodology on learning; Paramita (2023) also analyzes the effectiveness of the "Flipped Classroom" methodology and its impact on learning outcomes in higher educational institutions.

Fadieieva (2023) conducts a literature review on the issue of adaptive learning. This scientific work is essential for understanding the development of adaptive learning over the past decade and identifying key themes and directions in the field. The authors Wu, Wang, and Liu (2023) consider the issue of self-regulated life-long learning using adaptive approaches, which is useful for understanding self-learning technologies and adaptive learning strategies. Their analysis provides information on technological solutions for implementing adaptive learning in universities.

Batsurovska (2021) considers the features of using massive open online courses (MOOCs) in the e-learning system. Daniel (2012) conducts an analysis of massive open online courses (MOOCs) and considers their possibilities and constraints. Siregar Siahaan, Claudia Hasya and Sitompul (2023) investigate information about computer networks and their use for educational purposes. Bashabsheh, Alsharu & Fakri (2023) study the features of legal protection of computer programs. Alipour and Khatib (2018) consider the peculiarities of applying virtual reality (VR). The source provides information on the benefits, challenges and trends in this sphere. It is important since it points to the possibilities of using virtual reality in education and learning. Batsurovska, Dotsenko, Soloviev, Lytvynova, Gorbenko, Kim, Haleeva (2022) point out the possibilities of using 3D models in training, in particular, in laboratory works. Deterding, Dixon, Khaled and Nacke (2011) define gamification and consider it as an approach to learning in their scientific works. The researcher Malamed (2012) provides a detailed description of gamification as a teaching method and provides examples of its application. The author offers practical recommendations for implementing gamification in teaching and learning.

Molokanova and Hordieieva (2023), Horokhivska and Demchuk (2023) explore the issues of project-based learning. The authors propose ways to improve project-based learning in Ukraine, consider project-based learning as a factor in the professional

development of scientific and pedagogical staff and its impact on the educational process in educational institutions. Shvardak (2017) and Vemian and Soltysiuk (2014) studied problem-based learning in modern schools and the methodology of problem-based learning as a special structure of education seekers' creative learning activities. Information on blended learning and international approaches to it is presented by Bonk and Graham (2012). The scholars provide a detailed overview of blended learning and its variations. Doolittle, Wojdak and Walters (2023) explore active learning and provide a limited systematic review of this approach. By the way, the consideration of active knowledge-based learning also deserves attention (Ciravegna et al., 2023). Bakker, Hoof and Welling (2023) have studied active learning strategies with a focus on specific learning objectives.

Anderson and Dron (2011) analyze the evolution of pedagogical approaches in distance education. This source provides information on developments and modifications in distance learning methods. Anderson and Dron (2011) also consider the topic of distance education, in particular, the difference between traditional, content-oriented and more interactive learning methods. Batsurovska, Havrysh, Hruban and Novikov (2021) discuss the methods of organizing conferences for specialists through distance learning, which can be useful for improving the quality of education in a remote format. Kay (2012) conducts a literature review on using video podcasts in education and provides information on their effectiveness.

Siemens and Gašević (2012) consider the analysis of learning data and the importance of collecting and analyzing information to optimize the learning process through information technologies. Ramos and Soliven (2020) studied the impact of webinars on education seekers' learning process. Tarusan, Naparan and Celesio (2022) analyze the learning experiences of teachers participating in webinars. Zavolodko and Kasilov (2020) studied the use of interactive tools in online education. Maher, Baeseman, Liggett and Sparrow (2011) studied how free online webinars can meet the needs of international career development.

In general, these sources include various aspects of learning, the use of information technologies and methods in education; however, as a result of processing the sources, no sufficient analysis of the impact of information technologies on learning and education and consideration of innovative methods and strategies in the education system in the context of information technologies was revealed.

### 3 Applied Methods

The survey in the present paper was conducted using the following research methods:

1. Literature review: analysis of scientific publications, studies and articles on the impact of information technologies on education and innovative teaching methods.
2. Analysis of statistical data: use of statistical data and reports from educational organizations to assess trends in the use of information technologies in education.
3. Comparative analysis: comparing the learning outcomes and achievements of education seekers who use information technologies with those who study using traditional methods.

### 4 Research Results

Information technologies are revolutionizing training by providing access to a huge number of learning resources via the Internet. They contribute to the personalization of learning, allowing education seekers to choose individual development paths and use adaptive learning platforms. Interactive technologies, such as virtual reality and games, can make learning more fun and engaging. Information technologies help education seekers develop the digital skills they need for a successful future career. Educational institutions and teachers should develop strategies to successfully integrate these

technologies into training and ensure the quality of education. Information technologies have significantly transformed the modern educational process. They are intensively transforming modern education, making it more accessible, personalized and engaging. Educational institutions and teachers need to develop strategies for the successful integration of technologies in the learning process and provide education seekers with the opportunity to develop in this direction.

Information technologies in education have both benefits and drawbacks (Table 1).

Table 1. Benefits and drawbacks of information technologies in education

Benefits	Drawbacks
<i>Access to unlimited information:</i> The Internet and digital resources provide education seekers with access to a vast amount of knowledge and educational materials.	<i>The lack of personal contact:</i> Real-time interaction with teachers and the community can be limited in online learning.
<i>Personalized training:</i> Technologies make it possible to create training programs that take into account the education seekers' individual needs and pace of learning.	<i>Problems with the quality of information:</i> The Internet also contains incorrect or unverified information that can confuse education seekers.
<i>Interactive and engaging learning experience:</i> The use of virtual reality, games, and other interactive technologies makes learning fun and engaging for education seekers.	<i>Dependence on technologies:</i> When the learning system is dependent on technology, there is a risk of losing access to learning in the case of technical problems.
<i>Increasing productivity and convenience:</i> Information technologies simplify learning and data management processes, which increases productivity.	<i>The lack of motivation:</i> Some education seekers may feel a lack of motivation in online courses because they don't have the external pressure and communication with classmates.
<i>Global access:</i> Online courses and distance learning allow education seekers to study anywhere in the world.	<i>Data privacy issues:</i> Storing and processing the personal data of education seekers online can create privacy and security issues.

The analysis of innovative training methods and strategies involving the application of information technologies reveals a wide range of opportunities for improving the process of education and knowledge acquisition.

Let's consider modern innovative methods and strategies in education in the context of the impact of information technologies and their benefits for learning.

#### 1. Flipped Classroom (the method of inverted class)

The education seekers study new material before the classes, using videos, online resources and other sources, and then actively discuss and apply the knowledge gained in the classroom. The "method of inverted class" or "Flipped Classroom" methodology is an innovative approach to teaching, where the traditional order of the lesson is inverted (Naik, 2023). The education seekers acquire this material independently before the class, typically through videos or other online resources, rather than learning it during the lesson. Along with this, the classes are used for discussion, problem-solving, group work and solving specific tasks related to the material that education seekers have previously acquired.

The "Flipped Classroom" methodology is actively used in modern education and helps improve learning efficiency, engage

education seekers in active participation, and develop their critical thinking and collaboration skills.

## 2. Adaptive Learning

Adaptive learning is a methodology that uses information technologies to create individualized learning paths for education seekers based on their needs, abilities, learning pace, and academic performance. This approach enables education seekers to study the material at their own pace and focus on the topics they need to achieve their specific learning goals.

This type of training also helps increase education seekers' engagement, since they feel that their learning needs are being taken into account. In addition, this approach simplifies the assessment of education seekers' progress and makes it possible for teachers to focus on individualized improvement of teaching methods. Adaptive learning helps ensure efficient and effective learning where one can develop skills and gain knowledge according to one's individual needs. It is especially useful in the modern educational environment, where education seekers have different levels of knowledge and learning speeds.

## 3. Massive Open Online Courses (MOOCs)

These are online courses that provide access to higher education from the world's leading universities and organizations without restrictions on location and time. They are popular for self-study and professional development. Figure 1 shows the evaluation of the dynamics of using massive open online courses (MOOCs) during the period from 2011 to 2023.

The estimated number of MOOCs' users is based on the general growth in popularity of these courses and the possible number of users during this period. According to these estimates, in 2011, MOOCs were fairly new and had a limited audience. However, their popularity has been growing since 2012. In the following years, in particular, in 2013–2014, the number of users has grown to more than 4 million. The number of users increased significantly starting in 2015 and surpassed 100 million in 2018. 2020 was a particularly important year, when the popularity of MOOCs increased due to the COVID-19 pandemic, and the number of users reached more than 160 million. Forecasts for 2021 indicate a further increase in this figure, up to more than 180 million users. These dynamics show how MOOCs have become an important means of learning and self-development for millions of people around the world, particularly, due to their accessibility and flexibility.

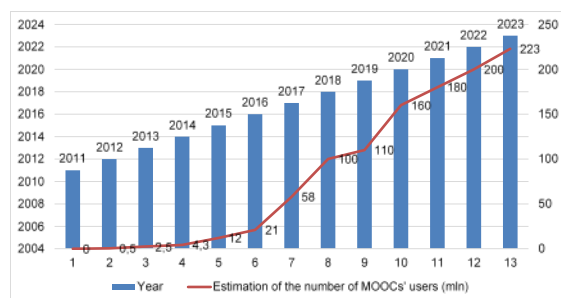


Figure 1. Dynamics of using MOOCs

The main features of MOOCs include accessibility and diversity of courses; flexibility and quality of learning; open access to materials and the possibility of certification. MOOCs provide learning opportunities for millions of people around the world. Many MOOCs are developed by leading universities and experts, which guarantees high-quality learning. Such courses contribute to developing self-discipline skills and working skills in the online environment, which are important in modern society.

## 4. Specialized Computer Programs for Training.

These programs are intended for learning and developing specific skills and knowledge. Figure 2 provides examples of specialized training programs and their purposes.



Figure 2. Specialized computer programs and their purposes

These programs help education seekers acquire new skills and knowledge in various fields using interactive and practical learning methods. They help improve skills and career opportunities and can be available in both online and traditional formats, giving education seekers the flexibility to choose the way they want to study. Specialized programs are focused on current trends and requirements of the labor market in the relevant industry.

## 5. Virtual Reality (VR)

The use of VR for immersive learning and simulations is especially relevant in medicine, engineering, and other industries. VR is an immersive technology that creates a simulation of the world around us and gives the users the feeling of being in another place or environment that does not exist in reality. It is achieved with the help of special headsets (for example, virtual glasses) that provide visual and audio immersion, as well as other technologies for interacting with this virtual environment. VR for learning is an innovative approach that uses virtual reality technology to create a simulated learning environment in which education seekers can learn, practice, and develop their skills.

## 6. Gamification

This is the method of using game elements to stimulate motivation and active learning, in particular, in serious games. Gamification in education is an approach that uses gaming elements and techniques to stimulate motivation, improve academic achievement, and engage education seekers in the learning process. Gamification promotes active participation in the learning process, including problem solving and task completion, and its systems can be sequential in nature, which encourages education seekers to complete tasks step by step and

achieve learning outcomes. Gamification systems can provide feedback on education seekers' academic performance and progress. Gamification in education promotes active learning and helps education seekers better acquire material and develop important skills such as problem solving and collaboration.

### 7. Problem-based and Project-based Learning

It involves creating tasks and projects that encourage education seekers to solve real problems and make projects. Problem-based and project-based learning are pedagogical approaches aimed at actively engaging education seekers in learning through solving real-world problems or creating projects. Problem-based and project-based learning emphasizes the development of teamwork and cooperation skills. They can be successfully applied in various areas of education, including higher, secondary and primary schools. These methods of training are designed to prepare the education seekers to work in a modern society where it is essential to possess analytical, creative and communication skills. They contribute to education seekers' intrinsic motivation since learning becomes more meaningful and practical.

### 8. Blended Learning

This approach combines traditional classes with online resources and education seekers' active work in the network. It develops self-study skills and increases the accessibility of materials. Blended learning, also known as hybrid learning, is a pedagogical approach that combines elements of traditional in-class instruction with the use of technologies and online resources. Blended learning makes it possible to choose the place and time of study, which increases the flexibility of the learning process. Blended learning helps education seekers develop the skills they need for working and living in a digital society and allows them to combine different learning methods to achieve better results.

### 9. Active Learning

This approach involves engaging education seekers in dynamic activities, such as discussions, group work, and projects, using technology to facilitate interaction and engagement. The implementation of active learning with the help of information technologies is a modern approach to education that stimulates the active participation of education seekers in the learning process with the help of various technological tools and resources. The application of interactive tasks makes it possible to implement active learning. Information technologies make it possible to create interactive exercises, tests and tasks that encourage education seekers to think actively and solve problems. Web-based platforms for collaboration enable users to work together on projects and tasks even when they are far away from each other.

### 10. Interactive Webinars and Online Seminars

Webinars and online seminars provide an opportunity for education seekers to interact with teachers and classmates in real time, despite the physical distance. Interactive webinars and online seminars are important components of modern distance education and have a number of features that make them effective and popular. They provide remote interaction. Interactive webinars and online seminars allow education seekers and teachers to interact without the need to be present in the classroom. Webinars are usually held on specialized web platforms that provide access to tools for video conferencing, communication and collaboration. Participants can communicate in real time using chats, webcams, and microphones to share ideas and questions.

## 5 Discussion

Some experts believe that Flipped Classroom makes it possible to use classroom time more efficiently; however, there are limitations in access to technology for all education seekers. The discussion concerns the extent to which education seekers can be

independent in mastering the material before the class. The importance of an individual approach to education seekers, which provides adaptive learning, is emphasized. There are concerns about the quality of algorithms for adapting and protecting the privacy of education seekers' data. The discussion focuses on the recognition of MOOCs' diplomas and their importance in the labor market. Supporting students in the transition between learning formats is an important aspect. The issue is being worked about active learning methods that are most suitable for different subjects and audiences. The discussion focuses on supporting teachers and infrastructure for active learning. The effectiveness of webinars and seminars as learning tools is also discussed. The development of interactive methods for conducting webinars and ensuring active participation of users is an important aspect.

## 6 Conclusions

Therefore, information technologies influence modern education in a significant way. They make learning more accessible, flexible, and interactive for participants in the educational process. The innovative training methods, such as Flipped Classroom, adaptive learning, MOOCs and the use of virtual reality, make a significant contribution to improving the efficiency of learning and engaging the education seekers. Gamification in education is becoming increasingly popular, encouraging education seekers to actively participate and gain new knowledge. Problem-based and project-based learning contributes to the development of critical thinking and practical skills of participants in the educational process. Blended learning, which combines traditional and online approaches, opens up new opportunities for individualizing learning and improving the quality of education. All the innovative approaches and methods outlined create a powerful potential for improving education in the modern world. It is crucial to continue exploring, developing and implementing them to ensure quality education and prepare the education seekers for the challenges of our time. The mentioned innovations also pose new challenges and tasks for educational institutions and teachers. Information technologies require not only technical training but also new pedagogical strategies and approaches to learning. Instead of merely acting as information intermediaries, teachers should encourage education seekers to actively participate in the learning process. Thus, information technologies have become an integral part of education; they have a significant impact on the way of learning and the educational process. It is crucial to include these technologies in the educational process and continue to develop cutting-edge teaching approaches and strategies in order to achieve the best results.

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**Primary Paper Section: I**

**Secondary Paper Section: IN, AM**

# **K MILITARISM**

KA MILITARISM

## CREATION OF A SUBSYSTEM FOR EXTERNAL QUALITY ASSURANCE OF PROFESSIONAL MILITARY EDUCATION ON THE MOODLE PLATFORM

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**Abstract:** The paper analyzes approaches to improving the quality of military education based on feedback between educational institutions and those who are studying or have graduated, in particular, using the technologies of the Moodle platform. Based on the research findings, a subsystem for ensuring the quality of professional military education was developed and tested based on a survey of L-course graduates following their service activities using the MOODLE platform. The survey was conducted through a questionnaire with achievement tests based on a program of direct specific questions. The functioning of the subsystem was tested for the survey of graduates of the L-3 professional military education course who were trained in the 2021–2022 academic year. It has been shown that the use of information and communication technologies, in particular the MOODLE toolkit, allows visualization and processing of the results in graphical and numerical formats. The results of the study confirm the effectiveness of the developed subsystem of external quality assurance of professional military education. It is shown that it is an effective feedback tool and is designed to involve course graduates in the evaluation of educational programs of professional military education courses.

**Keywords:** professional military education, subsystem of external quality assurance of education, evaluation of educational programs, information and communication technologies, Moodle platform.

### 1 Introduction

The Military Security Strategy of Ukraine (2021) envisages such activities as:

- The development of the military education and training system of the Armed Forces.
- The study of modern combat experience and training methods.
- The introduction of training programs for officers and NCOs using NATO principles and standards (Mirnenko et al., 2021).

One of the key tasks is to achieve the strategic goals of developing the country's Defense Forces until 2030 (About the Strategic Defense Bulletin of Ukraine, 2021). The transformation of the military education system (MES) primarily involves the professionalization of the Armed Forces and other components of the Defense Forces. It also includes an achievement of cooperation with the relevant institutions of NATO member states (On the Transformation of the Military Education System, 2023). The functioning of the military education system in the context of repulsing the armed aggression of the Russian Federation is the main factor that causes rapid and qualitative changes in the training of military personnel for the benefit of the defense forces. High-intensity military operations in the context of significant changes in the forms, methods, and means of warfare and armed struggle require intensification of reserve training, especially in human resources.

In the era of rapidly changing technologies and the requirements of modern military training, the creation of an effective subsystem of external quality assurance is becoming an important element of professional military education. In this article, we will address the importance of integrating an external quality assurance subsystem in the context of military educational institutions focusing on the Moodle platform. This modern educational tool provides unique opportunities for creating and optimizing educational processes. This makes Moodle an attractive solution for improving the quality of professional military education. By improving this system on the Moodle platform, we will be able to effectively contribute to improving the standards and results of military training. This

will provide the best conditions for the successful training of future military professionals.

In the modern world of high-tech military training, creating effective subsystems for external quality assurance in professional military education becomes a key task. Existing quality assurance systems in military educational institutions often do not meet modern standards and requirements for military training. The lack of structure and inefficiency in existing quality control methods in military educational institutions can negatively impact the learning process and the readiness of military professionals. Existing educational platforms are not always able to effectively integrate quality assurance subsystems. They require the development of specialized approaches for the Moodle platform. The absence of standardized methods for assessing and controlling the quality of education on the Moodle platform may reduce trust in this system in the context of military education.

The need to consider the specifics of military education, such as crisis management and strategic planning, in developing external quality assurance subsystems becomes an important aspect. The absence of a clear methodology for assessing the professional skills and competencies of military professionals through the Moodle platform requires the development of specialized tools and approaches.

Existing problems with data security and confidentiality on educational platforms can be an obstacle to the successful implementation of external quality assurance subsystems. The lack of clear standards in the field of military education on the Moodle platform may lead to discrepancies in assessing the quality of training and preparation of military personnel. Therefore, the development and implementation of specialized external quality assurance subsystems on the Moodle platform is a relevant task. It requires a comprehensive analysis and innovative approaches to ensure the effectiveness of the professional education of future military specialists.

### 2 Literature review

The feedback issue between educational institutions and those who are studying or have completed their studies has always been the focus of educators and researchers. The Law of Ukraine "About Education" (2017) is a vital source in discussions on military education. In Zelnytskyi's article (2021), the essence of feedback in the management system of changes in military education is defined in terms of transitioning from the current state to the desired state under the influence of specific factors from the external and internal environment. The author proposes an approach to forming the content of feedback for graduates of educational institutions based on the results of their service in a unit (military unit). This methodology is used to provide input to graduates of educational institutions and to assess the level of formation of specific competencies and professional qualities of graduates.

The author suggests developing feedback with graduates based on a list of competencies and a five-point scale for assessing the degree of acquisition of competencies by graduates. Matsevko and Hodovanskyi (2021) analyzed the normative legal acts of military education on the assessment of learning outcomes of higher military education institutions (HMEIs) graduates based on the results of military service as one of the elements of information support of the educational process. The authors identified inconsistencies in the provisions of regulatory acts that shape approaches to evaluating the training results of HMEI graduates.

The article by Orda et al. (2021a) is dedicated to studying the issue of legal support for the creation of a system for collecting and processing information on the evaluation of education quality based on the results of military service of HMEI

graduates, harmonized with the modern approach of NATO member states. The authors analyze legislative requirements for assessing the activities of officers according to NATO standards and approaches that exist in Ukraine's Armed Forces. They emphasize the intersection of the content of officer assessment cards and feedback with graduates.

The study emphasizes that feedback from graduates of military colleges after one year of service is the only means of evaluating their educational achievements. The research by Syrotenko and Artamoshchenko (2021) is devoted to summarizing military education and training based on NATO standards.

Jukka (2014) examines the process of students' feedback in improving the quality of higher education. The author emphasizes the importance of reliable and timely feedback for the development of educational programs and for improving education quality. The use of students' feedback is considered from the standpoint of two parallel processes: for the university and the student. Given that universities are service providers and students are their consumers, the authors emphasize that understanding both of them and the two processes allows for a new look at the phenomenon of cooperation between them. A similar opinion is expressed by Selvaraj and Azman (2020). The feedback is a mechanism for eliminating shortcomings and gaps in learning. It is noted that feedback should focus on fundamental aspects of learning that can improve the learning process and achieve certain results. Another important and relevant issue in research and publications is the creation and use of information systems and platforms to solve educational problems. For example, the monograph by Bocharov and Voevodina (2015) summarizes the experience of building and using information technology in the educational process as a basis for ensuring the quality of educational activities, as well as internal and external components of quality assurance systems. It also addresses the issues of program implementation of the information technology developed by the authors, using the Moodle system as an example.

The paper by Orda et al. (2021b) considers the technical aspects of building a system for collecting and processing information to assess the quality of higher education for graduates of higher education institutions by the relevant results. The authors consider the process of collecting information for evaluating the quality of education of university graduates through an electronic document management system by receiving feedback from emergency services, postal services, or military unit commanders. In addition, they propose to create an independent automated information system. The article by Haitan (2022) discusses the use of webinar platforms such as Zoom, Google Meet, and Microsoft Teams in high schools and universities. The author emphasizes that profound knowledge and the use of these platforms by teachers is the key to successful learning. Moreover, various services of these programs can make the teaching process more exciting and compelling. The issue of the formation and development of information and communication competencies (ICC) of both students and teachers is also relevant today. The article by Sudnikov (2023) analyzes the main problems of ICC formation and suggests ways to improve and develop ICC. In NATO member countries, educational activities are regulated by international education quality standards, national regulations, and many NATO's doctrinal documents. For example, NATO's Strategic Force Integration Directive on Education and Individual Training 075-007 (2015) defines the components of a quality management system. These include course evaluation and review as feedback elements within the systematic approach to military education in NATO (Allied Command Transformation, 2015).

Several studies have also been devoted to various aspects of the Moodle system. Thus, the authors Oliynyk et al. (2021) describe the information and educational Moodle for teaching general technical disciplines. The article by Batsurovska et al. (2021) discusses methods of organizing conferences through distance learning in the Moodle system. The paper by Babenko et al. (2019) deals with the use of monitoring in the Moodle system of

the information and educational environment. The article by Macías et al. (2023) is devoted to the problems of using Moodle in the university center. Lysenko (2023) describes the features of the distance and blended learning organization on the Moodle platform. The study by Karishma and Raghuvaiya (2023) is devoted to the correlation between the student activity log in Moodle and other forms of participation in a compulsory English course. The study by Krupali (2019) discusses the use of Moodle in teaching methodology. The work of Rotelli and Monreale (2023) on processing and understanding Moodle log data and its temporal dimension.

However, it should be noted that the problem of creating a subsystem of external quality assurance of professional military education on the Moodle platform has not been sufficiently studied by scholars.

The study aims to create and test a subsystem of external quality assurance of professional military education based on a survey of L-course graduates following their service activities on the MOODLE platform.

### 3 Methods

Research methods include:

- Analysis of scientific literature. A literature review was conducted to identify current approaches to external quality assurance of military education. This includes an analysis of existing quality control systems and their compliance with modern standards.
- Analysis of approaches to improve the quality of military education. The authors investigated various strategies and methods based on feedback between educational institutions and students, including the use of Moodle platform technologies.
- Development and testing of surveys. Questionnaires were designed and tested to assess the quality of professional military education using psychological methods and test tasks. The test and survey technologies were implemented and used. In particular, the Moodle platform was used to visualize and process the research results. The effectiveness of the developed subsystem was analyzed using feedback from the participants of the training process. Also, the authors analyzed the results and compared them with the existing standards.

### 4 Results

One of the effective tools for the professionalization of defense personnel has been the implementation of training in the professional military education system. The NATO directive "Education and Individual Training" requires the mandatory use of an information system by educational institutions to collect and analyze information, as well as effectively manage the educational process (About the Strategic Defense Bulletin of Ukraine, 2021). Existing approaches in the Armed Forces of Ukraine to managing the quality of military education are oriented towards periodic and final control of acquired competencies and achieved learning outcomes. Currently, in addition to the ongoing and final assessment of learning outcomes (as a component of internal assessment), some aspects of external assessment are used (Orda et al., 2021a), including:

- Certification of HMEI graduates before conferring military rank.
- Periodic and annual assessment based on the results of service activities.
- Feedback on HMEI graduates after one year of military service.

In assessing the quality of training at HMEI, feedback from graduates after one year of service is considered the most objective and informative. By using this tool, HMEIs have the opportunity to receive feedback on the effectiveness and practical orientation of the training program. Typically, based on



these reviews, adjustments are currently made to educational programs and training content. The issue of preparing feedback on HMEI graduates is covered in the Methodological Recommendations for preparing feedback on HMEI graduates, approved by the Minister of Defense of Ukraine. According to the recommendations, the input contains evaluation results on a 4-point scale (excellent, good, satisfactory, unsatisfactory) specifically for:

- Core subjects of individual training (humanitarian training, mobilization training, tactical training, fire training, formation training, physical training, etc.).
- Social-personal competencies (moral-ethical, psychological, information-communicative, etc.).
- General professional competencies (legal, organizational-managerial, general military, individual-educational, etc.).
- Specialized professional competencies (tactical-specialized, military-technical, etc.).

Thus, a year after the training, HMEI receives feedback with a fairly large number of ratings (on a 4-point scale) of competencies and practical skills. However, the educational practice of HMEI indicates that the process of making changes to academic programs based on feedback from graduates is quite problematic due to the weak correlation between the components of graduate assessment in input and the content of educational programs and training plans. It is difficult to assess which specific elements of education should be given attention.

Currently, HMEI has implemented a distance learning system on the Moodle platform, oriented towards real-time work, one-time report generation, and subsequent review. The practical experience of HMEI in conducting internal assessment activities for professional military education courses L-2, L-3, and L-4 during the experimental phase and throughout their testing convincingly demonstrates that the Moodle platform, with its properties, is an entirely acceptable foundation for creating a course assessment system for professional military education. Since 2019, HMEI has been evaluating officer courses at various levels of military education (Syrotenko & Artamoshchenko, 2021):

- At the strategic level, the “Higher Leadership Course (L-4)” teaches the process of forming and implementing national security policy in the military, defense, and construction sectors.
- At the operational level, the “Unified Staff Officers Course (L-3)” teaches the process of operational planning for troop (force) groups of the Unified Staff according to NATO JOPP (Joint Operations Planning Process).
- At the tactical level, the “Command and Staff Course (L-2) (Ground Forces, Air Forces, and Naval Forces)” aims to teach procedures for making military decisions according to NATO MDMP (Military Decision-Making Process) standards at the brigade (battalion) level of command, as well as the “Basic Course (L-1A)” and “Professional Course (L-1B)”, which aim to teach procedures for making military decisions according to NATO TLP (Troop Leading Process) standards.

The complex of L-courses serves as the basis for military education as a component of the professional training of officer personnel (About Education, 2017). In the conditions of countering armed aggression from the Russian Federation, training on L-courses has become an essential tool for quickly meeting the needs of preparing officer personnel at the tactical, operational, and strategic levels with an orientation towards compatibility with NATO (About the Strategic Defense Bulletin of Ukraine, 2021).

One of the essential elements on the way to meeting the criteria for membership in the North Atlantic Treaty Organization is ensuring the quality of military education (Syrotenko & Artamoshchenko, 2021). The assessment in the external quality assurance subsystem of professional military education in the context of the Moodle platform aims:

- to establish the sufficiency, effectiveness, and accessibility of the educational course,
- to identify ways to improve and enhance it.

The review of the L-course is a structured and regular process. The initial review of the conducted course includes internal evaluation – a report processed based on assessments and participants' feedback. It also includes observations by instructors regarding the course's outcomes. Subsequently, external evaluation occurs based on surveys of graduates and their supervisors from places of professional activity. Graduates provide feedback on the application of acquired knowledge and skills in their professional activities. Such surveys are typically conducted six months after completing the training. The collected data is later analyzed to determine whether individuals are learning the necessary things at the required level. The extensive information obtained is carefully analyzed and used to update the course content accordingly. The experimental basis for creating the external quality assurance subsystem of professional military education is the educational program of the “For Officers of Unified Operational Level Staff L-3” course. The latter was tested at the National Defense University of Ukraine in 2020 (Curriculum program of the courses, 2020).

The research was conducted by creating a survey on the Central Repository of Resources of the Distance Learning System of the Armed Forces of Ukraine platform (<https://adl.mil.gov.ua/>) for L-3 course graduates. The graduates' survey was carried out using a psychological diagnostic method that assesses the degree of a military service member's mastery of specific knowledge, skills, and abilities. The survey was implemented through questionnaires with achievement tests based on the program of direct particular questions. The respondents could provide clear “yes” or “no” answers. The development of the questionnaires was based on the decomposition of tasks of practical (professional) activities, the formation of learning outcomes for each block (module) of the L-3 course according to NATO performance qualification levels and complexity levels in cognitive, psychomotor, and affective domains, and the determination of their descriptors (About the Strategic Defense Bulletin of Ukraine, 2021).

The participants in the experiment were graduates of the L-3 course who underwent training in the academic year 2021–2022. The authors do not disclose numerical indicators of course graduates who participated in the survey due to the confidential nature of such information under the conditions of the legal regime of martial law. The experiment (survey) was conducted no earlier than 6 months after the completion of training during the 2022–2023 academic year. The processing of the survey results was based on the method of expert evaluation and SWOT analysis (dividing factors and phenomena into four categories: strengths, weaknesses, opportunities, and threats).

According to the tasks of the quality assurance subsystem of professional military education, self-assessment of graduates based on the results of their service is carried out through a survey, which is built on a list of training outcomes with questions about the use of this knowledge and skills, as well as the degree of their application (including frequency). The questionnaire matrix is built on the components of the course (blocks, modules, topics, etc.). For each element, a list of training outcomes is formed.

For each training outcome, the respondent provides answers to two groups of questions:

- The first group reflects the degree of use of a specific training outcome (knowledge, skills) in practical activities and the respondent's ability to apply this outcome (knowledge, skills) during the performance of official duties (used or not, capable or not).
- The second group reflects the degree of influence of a specific training outcome on the development of new abilities and the performance of other tasks (whether it influenced the growth of new opportunities) and the

importance of this outcome (knowledge, skills) during the performance of official duties.

The basis for forming groups of questions and further evaluating training results is the SWOT analysis. The first group of questions focuses on strengths and weaknesses, while the second group focuses on identifying new opportunities and threats. Engaging a sufficient number of respondents allowed for forming a general attitude towards each training outcome, i.e., its objective evaluation.

The survey of graduates is conducted using the method of expert evaluation. At the stage of forming opinions on each training outcome, the respondent assigns a score independently and independently of others. If the answer is “yes”, the respondent gives 1 point, “no” – 0 points, and if a clear answer is not possible – 0.5 points. Giving an identical (affirmative) answer to two opposite questions of one group is impossible. An example of designing the questionnaire matrix is provided in Table 1.

Table 1. Creation of a questionnaire matrix based on SWOT analysis

List of blocks (modules), competencies, and learning outcomes	Survey questions				
	Group 1			Group 2	
	I needed it and used it in my professional activities		I did not need and did not utilize it	It has influenced (become the basis for) the development of new knowledge, skills, etc.	Failure to do so could have led to an inability to fulfill the task(s)
module 1	I was capable (I knew; I had skills)	I failed (I didn't know, I didn't know how)			
learning outcome 1					
learning outcome 2					
...					
learning outcome N					
module M					
learning outcome 1					
...					
learning outcome M <sub>n</sub>					

Source: author's development

The evaluation of each learning outcome is determined as the arithmetic average of the grades obtained for all assessments. Assessment is conducted under the assumption that all learning outcomes are equivalent. The criteria for determining the level of correspondence of learning outcomes are formed based on parameters that allow for a clear delineation of its state. They

provide a single affirmative answer, “yes” or “no”, and a unified scale for assessing the probability of a random event occurring. The assessment of each learning outcome is carried out according to levels of correspondence and criteria as outlined in Table 2.

Table 2. Criteria for determining the level of compliance with the learning outcome

Number of points, % of respondents	Probability of Event Correspondence	Responses regarding application in practice	SWOT analysis result	Level of compliance
0...29	0...0,29	definitely “NO”	More weaknesses and threats	D
30...50	0,30...0,49	rather “NO”	More weaknesses and threats are not significant	C
59...74	0,50...0,74	rather “YES”	More strengths, there are new opportunities	B
75...100	0,75...1,00	definitely “YES”	More strengths and new opportunities	A

Source: author's development

Levels of correspondence describe the degree of achievement of the learning outcome per the declared level of complexity in the educational program and its application in practical activities:

- Level “A”. The degree of achievement of the learning outcome fully corresponds to the requirements regarding the level of complexity. The graduates apply the acquired knowledge and skills in practical activities.
- Level “B”. The degree of achievement of the learning outcome overall corresponds to the requirements regarding the level of complexity. The graduates apply the acquired knowledge and skills in practical activities.
- Level “C”. The degree of achievement of the learning outcome overall does not correspond to the requirements regarding the level of complexity. The graduates do not predominantly apply the acquired knowledge and skills in practical activities.

- Level “D”. The degree of achievement of the learning outcome does not correspond at all to the requirements regarding the level of complexity. The acquired knowledge and skills are not precisely applied in practical activities by the graduates.

According to the survey results, the level of compliance of a particular learning outcome with the requirements of the educational program is summarized and determined in terms of complexity and professional needs. Based on the set of answers to the same question, information on each question is summarized depending on the number of positive or negative answers. An example of building a matrix for processing survey results is shown in Table 3.

Table 3. An example of building a matrix for processing survey results

List of blocks (modules), competencies, and learning outcomes	Survey questions					
	Group 1			Group 2		
	Total score (importance)	Rate	Total score (ability)	Rate	Total points	Rate
Block 1 (module 1)						
learning outcome 1	82	A	76	B	71	B
learning outcome 2	26	D	21	D	31	C

...						
learning outcome ...n						

Source: author's development

The text discusses the results of a survey. It draws the following conclusions regarding:

- the correctness of formulating and establishing the level of complexity in cognitive or psychomotor domains;
- achieving the declared level within the allocated time budget;
- types of educational activities, methods of achievement;
- assessment of learning outcomes, etc.

It also identifies a list of learning outcomes that were not utilized by graduates in practical activities. Based on a comprehensive assessment, decisions are made regarding removing these learning outcomes from the educational program or reviewing their complexity level. The survey results were evaluated by a group of experts, including scientific and pedagogical staff. A commission method was employed to summarize expert assessments for a specific learning outcome, where experts discuss the overall evaluation. This approach was tested during the institutional audit of professional military education in educational institutions of the Ministry of Defense and the Armed Forces of Ukraine in 2020.

The obtained result was announced in points for each learning outcome, and a final evaluation was discussed. Also, the SWOT analysis method assessed strengths and weaknesses, risks, and new opportunities. This approach allows for the implementation of changes in educational programs based on specific learning outcomes rather than overall subject areas. It increases the accuracy of assessment and the effectiveness of program implementation by evaluating the quality of education obtained. Following the defined approaches, a survey of L-3 course alumni was created on <https://adl.mil.gov.ua/> using Moodle tools. This website is administered by the National Defense University of Ukraine. Per the experiment's conditions, access to the survey was granted to course graduates who completed their studies in the 2021–2022 academic year. The starting page of the external quality assurance subsystem creation for professional military education in the Moodle platform's context of the Moodle platform survey (Figure 1) provides general information about the purpose and conduct of the study and the method of providing answers.

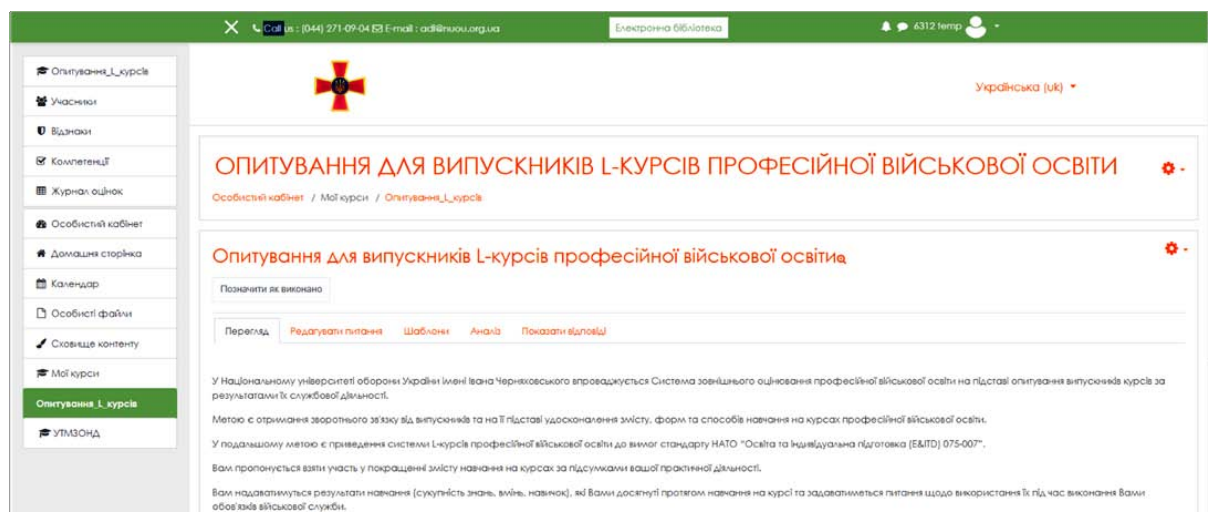


Figure 1. The initial page of creating a subsystem of external quality assurance of professional military education on the Moodle platform survey of professional military education course graduates  
Source: author's development

The internal structure of the survey is organized according to the matrix (Table 1) and includes a set of learning outcomes in corresponding blocks. The number and names of the blocks in the survey, as well as the learning outcomes, correspond to the structure of the educational program of the course for officers of

the Joint Staff L-3. The latter was implemented in the academic year 2021–2022 (a total of 12 modules and a total of 50 learning outcomes). An example of visualizing the internal structure of the survey for Module 1, “Military Leadership”, is presented in Figure 2.

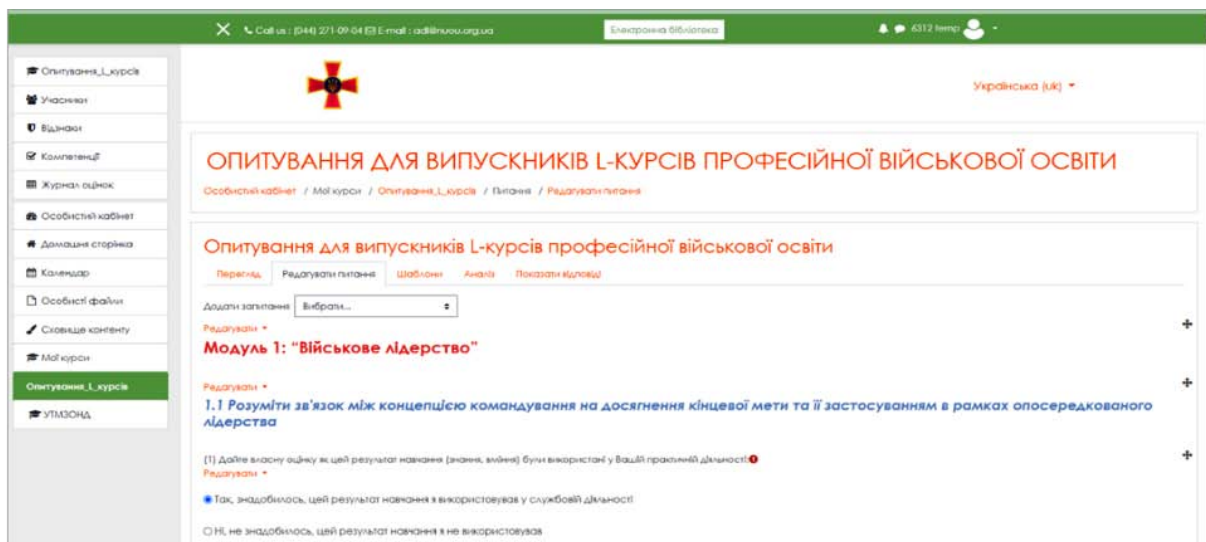


Figure 2. Internal organization of the questionnaire when creating a subsystem of external quality assurance of professional military education on the Moodle platform for graduates based on the results of training in the relevant modules (on the example of Module 1)  
Source: author's development

Following a similar approach, the rest of the learning outcomes are provided, and other survey blocks are constructed.

According to the established algorithm, providing an answer to the first set of questionnaire questions regarding the use of a specific learning outcome in professional activities is envisaged (Figure 3, a). When answering “Yes, I needed it, I used this learning outcome in professional activities”, the second part of

the first set of questions regarding the ability to use this outcome is opened (Figure 3, b).

In the case of answering “It was needed, I used in professional activities”, a transition to the second set of questions is also made. This provides an opportunity to assess the impact of this learning outcome and other possibilities (Figure 3, c).

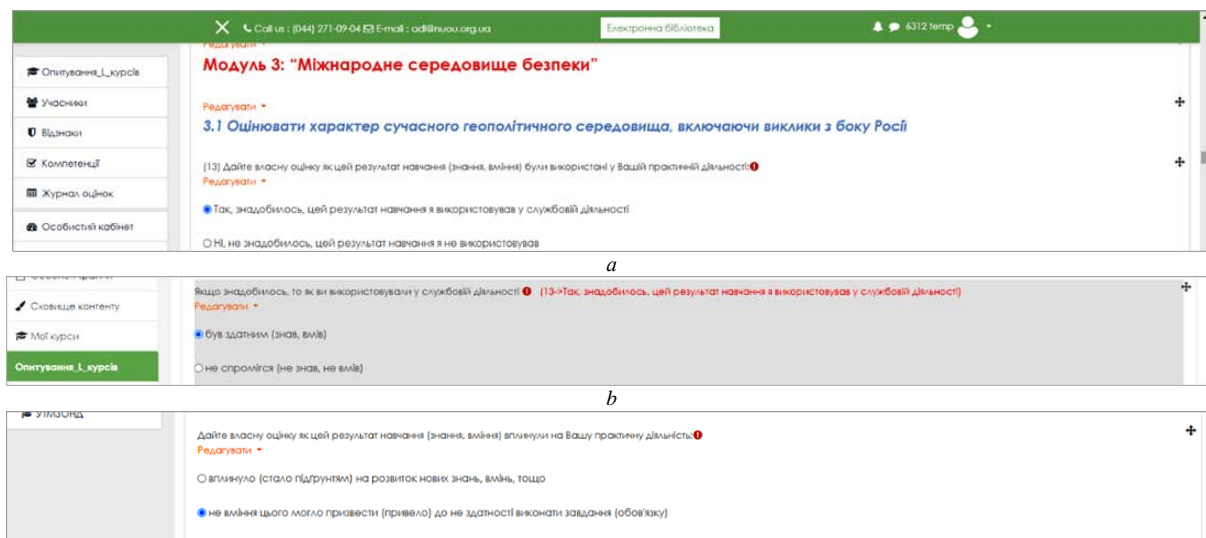


Figure 3. Visualization of answers to the questionnaire of external quality assurance subsystem of professional military education on the Moodle platform (on the example of the 1st learning outcome of Module 3): for part 1, 1st group of questions (a); for part 2 of the 1st group of questions, in case of a positive answer on the use of a certain learning outcome (b); for the 2nd group of questions (c).  
Source: author's development

Providing answers to the questionnaire of the subsystem of external quality assurance of professional military education on the Moodle platform according to the proposed scheme allows to obtain a set of answers that are available for analysis in graphic (Figure 4, a) and digital (percentage) formats (Figure 4, b).

Also, given the available Moodle tools, it is possible to export the survey results to an Excel spreadsheet (Figure 5). It significantly expands the possibilities of analyzing and statistically processing the results.

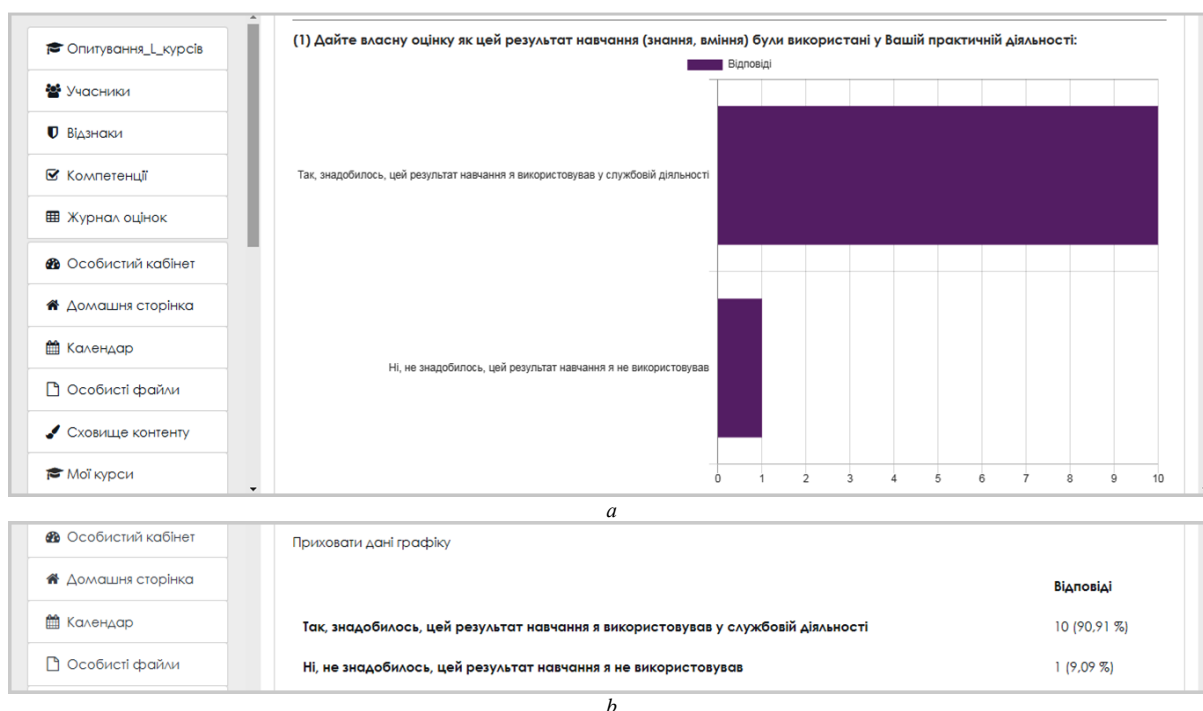


Figure 4. An example of analyzing survey results in the subsystem of external quality assurance of professional military education on the Moodle platform: graphic format (a); digital format (percentage) (b)  
Source: author's development

Питання	Відповіді
1 Дайте власну оцінку як цей резу	Так, знадобилося, цей результат навчання я використовував
	Ні, не знадобилося, цей результат навчання я не використовував
	10 1
	0,91 0,09
2 Якщо знадобилось, то як ви вики був здатним (зн не спромігся (не знав, не вмів)	
	4 6
	0,4 0,6
3 Дайте власну оцінку як цей резу вплинуло (стал не вміння цього могло призвести (привело) до не здатності виконати завдання (обов'язку)	
	6 5
	0,55 0,45
4 Дайте власну оцінку як цей резу	Так, знадобилося, цей результат навчання я не використовував
	Ні, не знадобилося, цей результат навчання я не використовував
	6 5
	0,55 0,45
5 Якщо знадобилось, то як ви вики був здатним (зн не спромігся (не знав, не вмів)	
	1 5
	0,17 0,83
6 Дайте власну оцінку як цей резу вплинуло (стал не вміння цього могло призвести (привело) до не здатності виконати завдання (обов'язку)	
	4 7
	0,36 0,64
7 Дайте власну оцінку як цей резу	Так, знадобилося, цей результат навчання я не використовував
	Ні, не знадобилося, цей результат навчання я не використовував
	6 5

Figure 5. An example of survey results in the subsystem of external quality assurance of professional military education on the Moodle platform, exported to an Excel spreadsheet  
Source: author's development

It is worth noting that the tabular format could be more convenient and easier to understand due to the large number of questions asked during the survey. Therefore, the use of survey data exported to Excel makes it possible to visualize the results in the form of various nomograms (Figure 6). The latter can be used in analytical reports based on the survey results.

The most reasonable approach is to conduct an analysis within each module with a subsequent comparative assessment of the obtained results or a comparative evaluation based on specific criteria, etc. In any case, the results obtained during the creation of the external quality assurance subsystem of professional military education on the Moodle platform are representative and objectively reflect the assessment of graduates' competencies and learning outcomes formed while mastering the educational program of professional military education.

Thus, the use of the Moodle platform toolkit, deployed at HMEI, is justified for the creation of the external quality assurance subsystem of professional military education. The experimental part of the external evaluation system of professional military education includes L-courses. This, given compatibility with NATO quality principles, can subsequently be certified and accredited by NATO. It is recommended to conduct surveys 6 months after the course completion, with the results summarized no later than 3 months after the start of the next course. The proposed approach will help bridge the gap between what is laid out in the educational program and what is actually needed to perform functional duties. It will also allow the educational institution to react promptly to the implementation of educational programs by making changes in line with the results of their application in service (military-service) activities.

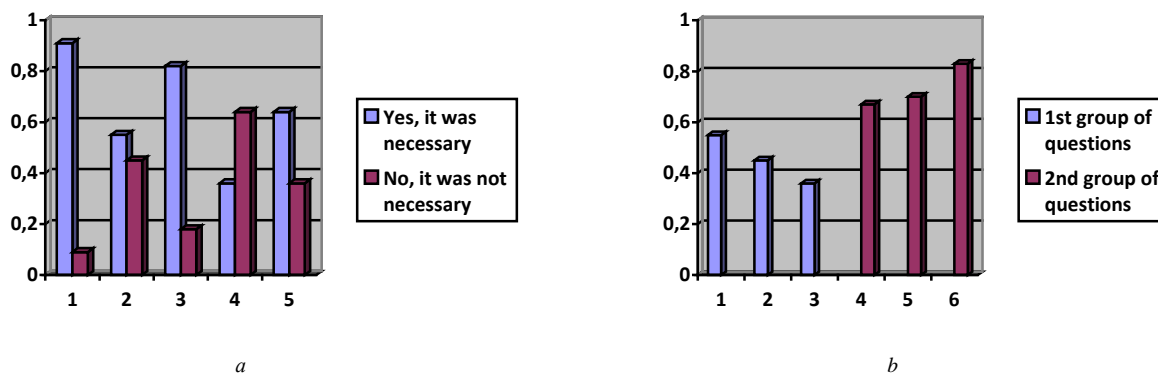


Figure 6. Examples of survey results' nomograms in the subsystem of external quality assurance of professional military education on the Moodle platform:

For the 1 group of questions within the module (a);

For all questions by learning outcome (b) following the questionnaire matrix (Table 1): 1 – “I found it useful, I used it in my work”;

2 – “I did not need it; I have not used it”;

3 – “I was able to (I knew, I managed)”;

4 – “I was not able (I did not know; I could not do it)”;

5 – “It had an impact (was the basis) on the development of new knowledge and skills”.

6 – “Failure to do this could have resulted in my inability to complete the task”.

Source: author's development

## 5 Discussion

The article discusses the drawbacks of current quality control systems in military education and their inconsistency with current standards. The authors discuss the issues that may arise due to the lagging of quality control systems with modern requirements. At the same time, they emphasize the importance of military education processes complying with modern standards. The discussion focuses on the impact of using the MOODLE platform on assessment and quality assurance processes. It discusses how technologies, including MOODLE, can improve the learning and assessment processes in military education. There is some debate in the context of the potential for a discrepancy between how MOODLE is integrated into the military education system and the expected results. Some studies emphasize the importance of technological compatibility, while others point to the usability of MOODLE for users.

The article discusses the research findings, their practical applicability, and their generalized value for improving military education systems. The interaction of the present study with previous research on military education and quality control systems is also discussed.

## 6 Conclusions

Thus, a subsystem of external quality assurance of professional military education in the context of the Moodle platform was created and tested. It is aimed at eliminating the discrepancy between the requirement of the NATO standard “Education and Individual Training” to involve graduates of professional military education courses in the evaluation of educational programs in the Armed Forces of Ukraine and the lack of a mechanism and tool for involving graduates in the assessment of academic programs in the Armed Forces of Ukraine.

Finally, the creation of a subsystem of external quality assurance of professional military education on the Moodle platform is an essential step in the modern era of educational technologies. The implementation of this subsystem will allow to effectively cope with the challenges faced by military educational institutions in ensuring high standards of education and training of specialists in the HMEI. The integration of modern assessment methods, control, and standardization on the Moodle platform will improve the quality of education and help keep military skills up-to-date. This approach enables the creation of a high-tech and adaptive training system that meets the needs of the modern

army. In general, the development and implementation of the external quality assurance subsystem on the Moodle platform is a promising direction for further improvement of professional military education.

Further research on this topic can be carried out by conducting an in-depth analysis of the effectiveness of external quality assurance subsystem implementation, including:

- the use of multidimensional approaches to assess the impact of the created subsystem on the quality of military education (performance, satisfaction, and feedback effectiveness);
- the research of current trends in teaching methods;
- the development of strategies for integrating innovative educational approaches in the context of military education.

These research areas can complement the current understanding of the effectiveness of the created subsystem and contribute to the further improvement of military education on the Moodle platform.

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