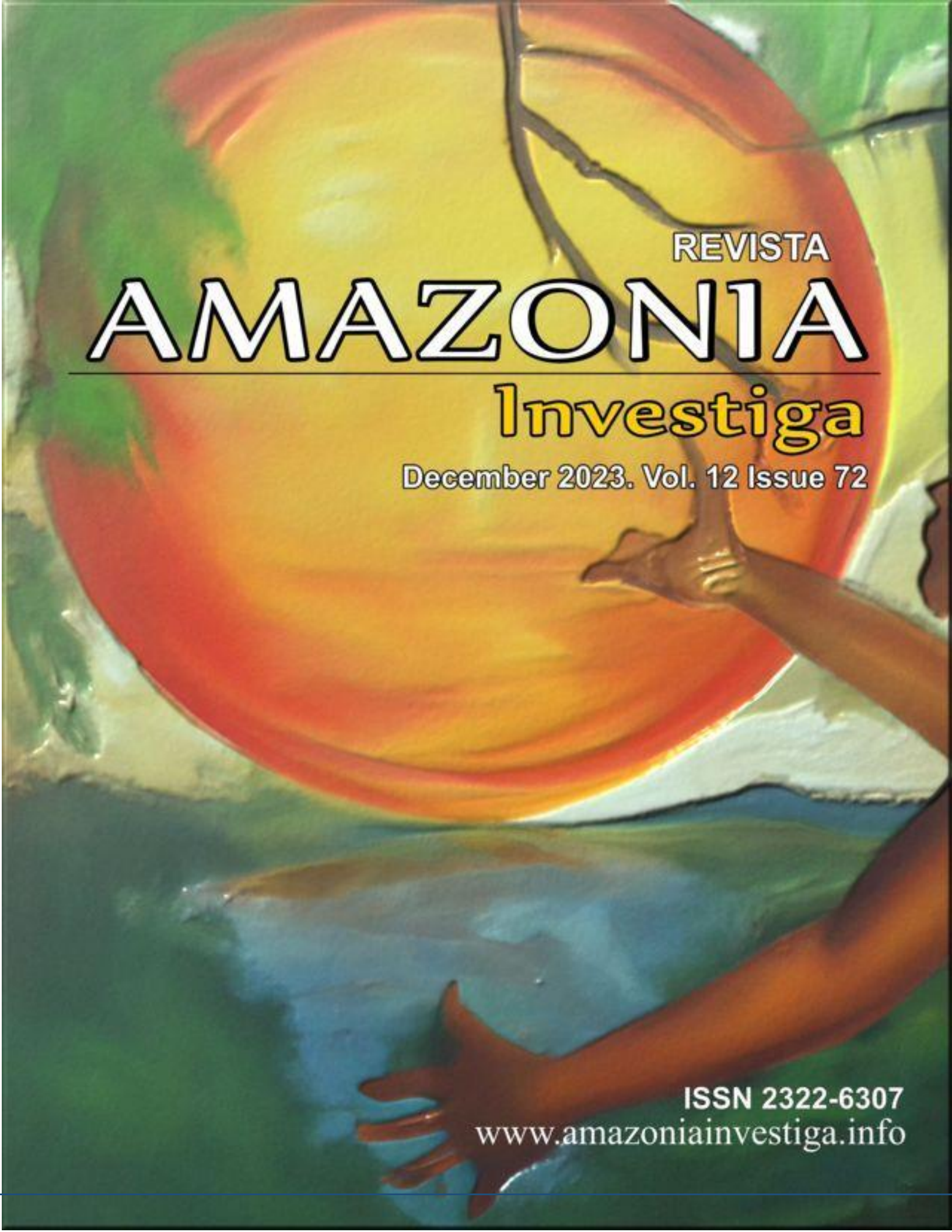

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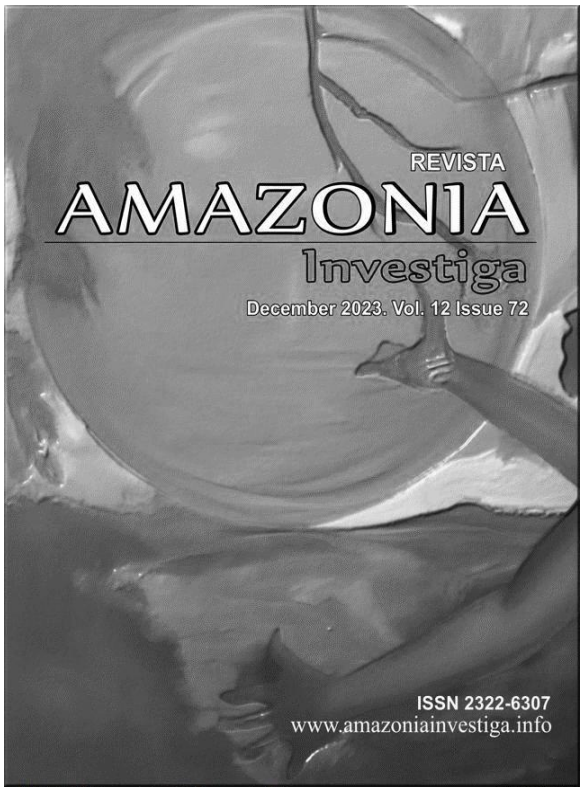


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# Cultural factors in foreign language teaching and their linguistic interpretation

## 外语教学中的文化因素及其语言学阐释

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**Abstract**

Systemic functional linguistics, intercultural communication and linguoculturology systematically explain the relationship between language, culture and communication. They are the main theoretical basis for modern foreign language teaching research. Based on the framework of the relationship between language and culture from the perspective of three disciplines, their cultural views are analyzed. General scientific methods of analysis and comparative study are utilized for conducting research. We propose that foreign language teaching includes three kinds of cultural factors, namely, symbolic resource culture, communicative norm culture and cognitive psychology culture, and point out the adaptation relationship between different theories and foreign language teaching research directions. Each subject has its emphasis, and the combination of the three can form a closed-loop research on language teaching and culture teaching in foreign language teaching.

**Keywords:** cultural teaching, foreign language teaching, intercultural communication, linguoculturology, systemic functional linguistics.

**摘要**

系统功能语言学、跨文化交际学和语言文化学理论系统地阐释了语言、文化、交际之间的关系，是现代外语教学研究的主要理论依据。本文基于三个学科视域内对语言和文化关系的架构，分析其文化观。在研究中使用了分析和归纳的一般科学方法以及比较研究方法。提出外语教学包含三种文化因素，即符号资源文化、交际规范文化和认知心理文化，指出不同学科理论与外语教学研究方向的适配关系。学理差异使得学科研究方向各有侧重，三者结合可以形成外语教学中语言教学与文化教学的闭环研究。

**关键字:** 跨文化交际学，外语教学，文化教学，系统功能语言学，语言文化学

## Introduction

The relationship between language and culture has been discussed in the research of many philosophers, linguists, and anthropologists, but the real systematic and scientific argumentation on the cultural characteristics and attributes of language, the role and influence of culture on language, as well as the relationship between language and culture in communicative activities began in the 1960s and 1970s. The representative theories are Systemic functional linguistics proposed by British scholar Firth and British-born Australian linguist Halliday, Intercultural communication studies emerging in the United States, Linguocountry studies

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(лингвострановедение) proposed by Russian scholars Vereshchagin and Kostomarov, and Linguoculturology (лингвокультурология), which has been developed based on them. There are many similarities between the theories of these disciplines, such as the emphasis on the communicative function of language, i.e., the distinction between "language" and "speech"; the focus on non-linguistic factors in the study of language, i.e., "context" and "culture"; the exploration of the breadth of semantics, i.e., "meaning potential", "decoding language information", "lexical context", etc. Different theories have different perspectives and focus on language and culture, which makes Systemic functional linguistics sociolinguistic and Linguocountry applied linguistics. Linguoculturology explores the multi-dimensional relationship between language and culture. Intercultural communication involves inter-ethnic cultural communication, inter-subcultural communication, and even communication between individuals with very small cultural differences in their standpoints or perspectives. The interpretation of the relationship between language and culture in the above disciplines has both commonality and distinctive features. On the one hand, it systematically demonstrates the cultural attributes of language and the influence of culture on speech; on the other hand, the different theoretical constructs reflect the differences in the disciplines' ideological origins, social backgrounds, and fields of application.

Like two wheels of a bicycle, language teaching and culture teaching are two equally important elements in foreign language teaching, and they are interrelated and interdependent. Different linguistic theories on the relationship between language and culture provide the theoretical basis for research on foreign language teaching and pedagogy. In the research on cultural factors in foreign language teaching, the theories of Systemic functional linguistics (Zhang, 2004, 2005; Feng, 2012; Zhao, 2023), Intercultural communication studies (Gao, 2001; Gu, 2017; Yang & Zhuang, 2007) and Linguoculturology (Liu, 2002; Zhao & Jiang, 2003) have been widely used, but few studies comprehensively analyze the views of language and culture constructed under the perspectives of different theories. This paper attempts to analyze the similarities and differences of the cultural viewpoints of different linguistic theories through a comparative analysis of the frameworks of Systemic functional linguistics, Intercultural communication, Linguocountry and Linguoculturology studies, and to expound on the relationship between language and culture from multiple perspectives. It points out three kinds of cultural factors in foreign language teaching, demonstrates the focus of each theory, presents a relatively complete picture of language and culture, and explains the scope of application of different theories in foreign language teaching research from the perspective of the nature and characteristics of the discipline, to provide a reference for the research on second language acquisition and foreign language teaching methodology.

**Theoretical framework or literature review**

The symbolic, instrumental, and informational nature of language essentially reflects the communicative function of language. Language is a symbolic system combining sound and meaning. As symbols have the common characteristics of materiality, denotation and conventionality, language establishes a link between "significant" and "signified", laying the foundation for realizing the communicative function. As a tool, language is an important way to realize communication, and at the same time, as a carrier and intermediary, language transmits information such as thoughts and knowledge through the conversion of sound and meaning. However, exploring the communicative function of language from its basic attributes remains in the field of structural linguistics, i.e., "language for language's sake". Although Saussure ignored the importance of speech, his distinction between language and speech and his interpretation of the two concepts is the initial point of language and culture research. According to Saussure, to distinguish between language and speech is to distinguish between the "social" and the "individual", the obligatory and the optional (de Saussure, 1959). This point of view has been extended in the theoretical systems of Systemic functional linguistics (SFL), Intercultural communication studies, and Linguoculturology, which further reveal the communicative function of language, the cultural factors of language and speech through systematic studies of speech activities.

SFL recognizes the view that language is a system, but it is different from Structural linguistics in that the "system" here goes beyond the scope of linguistic structure to include the view that "language is a part of the social system" (Halliday, 1974, p. 85), and that "the semantic system is itself a realization of something beyond language; a higher-level semiotic which we may define as a behavioral system or more generally as a social semiotic" (Halliday, 1978, p. 39). SFL


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regards language as a system with social functions, and its metafunctions include ideational, interpersonal and textual functions, which are realized by the "meaning potential" of language, depending on the participants in speech activities and the context, i.e., cultural factors. The ideational function is the communication between human beings and the material world, reflecting the knowledge, perception, and understanding of the real world by the participants in the speech activity, and reflecting "the meaning potential of the communicator as an observer" (Zhao & Jiang, 2003, p. 181). Interpersonal function and textual function are person-to-person communication. The former reflects the social relations between participants in speech activities and their attitudes towards events (objects), reflecting the meaning potential of the different identities of the communicators. The latter reflects the relationship between grammatical forms and encoded meanings, reflecting the meaning potential of communicative forms and expressions. According to the theory of SFL, language is a "meaning potential" system to realize social functions and its meaning is determined by the context of communicative activities. This idea of context-constrained meaning began with Malinowski.

Malinowski pioneered the concepts of "context of situation" and "context of culture" (Malinowski, 1923). He believes that context of situation mainly refers to the immediate context of the utterance, including the participants of the speech activity, non-linguistic factors, the general context of the situation, etc. While outside the context of situation, there is the context of culture, which refers to the communicator's living environment and cultural background, etc. "Malinowski's concept of contexts has a more obvious cross-cultural awareness as the concept of context of culture is proposed in response to the need for the study of foreign languages" (Peng, 2008, p. 109). The study of any foreign language must be carried out in conjunction with its situation and culture. However, Malinowski did not explicitly point out the relationship between language and culture. Halliday further explored context of situation and context of culture within the framework of SFL, arguing that the two are relations between the instance and the system, the part and the whole, with the former being a specific meaning potential system linked to the situation of a particular speech activity, and the latter being the entire meaning potential system of the language. Although Halliday pointed out that culture as a context includes "traditional lifestyles, beliefs and value systems of a language community" (Halliday, 1999, p. 284), his research focused on the same kind of language and the social nature of language, which did not break through the boundaries of cross-linguistic culture. In this case, his concept of "context of culture" refers to the socio-cultural factors of different social groups within the same nation. From this point of view, the "context of culture" is not unrelated to the age, gender and class of the communicators, which are also important factors in characterizing the participants in speech activities within a given "context of situation".

It can be seen that SFL makes it clear that the two kinds of contexts are related to each other, but it does not explain the difference between the two clearly, and the exploration of the relationship between language and culture has the characteristics of sociolinguistics, i.e., it recognizes the relationship between language, society and culture. SFL emphasizes the role of context of situation and believes that context determines semantics. Its research focuses on specific communicative activities, including the influence of communicators, field, tenor and mode on the meaning of the discourse.

Intercultural communication studies emerged in the United States. Three factors contributed to the development of the discipline. Firstly, with the increasingly significant trend of globalization, a large number of Americans went overseas to live, work and study. There was an urgent need to adapt to the local culture in order to achieve effective communication. Secondly, the United States is a multi-ethnic country, so how to achieve inter-ethnic communication and mutual understanding is the common concern of anthropologists, sociologists, linguists, ethnologists and culturalists. At the same time, the US is also a multicultural country, and the friction between subcultural groups and their collision with the mainstream culture is becoming more and more prominent. Thirdly, the communicative character and individual consciousness of Americans. Influenced by individual consciousness, each individual can be regarded as a carrier of "a small culture", and the communicative behavior between people can be regarded as cross-cultural communication. While the communicative character constitutes the original demand for the development of cross-cultural communication. These three factors also determine the theoretical construction and research scope of the discipline. Intercultural communication is "a transactional, symbolic process involving the attribution of meaning between people from different cultures"


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(Gudykunst & Kim, 2003, p. 17) or "the exchange of information between individuals who are unalike culturally" (Rogers & Steinfatt, 1999, p. 1), which includes "communication between different countries, ethnic groups, races, social groups, tributaries or subcultures, different linguistic associations, and even strangers or individuals" (Jia, 1992, p. 53). The view of culture in the field of Intercultural communication is broad, the "culture" here not only covers the factors of national context in the perspective of Linguocountry studies, but also includes the cultural and context of situations concerned by SFL, and also involves the values, worldviews, thinking, cognition and emotions of the communicating individuals.

In terms of the scope of research, the context of culture in SFL studies the socio-context of culture, and the context of situation includes the objective factors of specific communicative situations and the "subjective factors related to the communicator, such as age, gender, occupation, cultural literacy, emotion, etc." (Zhao & Jiang, 2003, p. 180), which is similar with the study of subcultural group communication and interpersonal communication in Intercultural communication. In terms of theoretical structure, the former's view of culture is vertically structured (Figure 1), while the latter is horizontally structured (Figure 2).

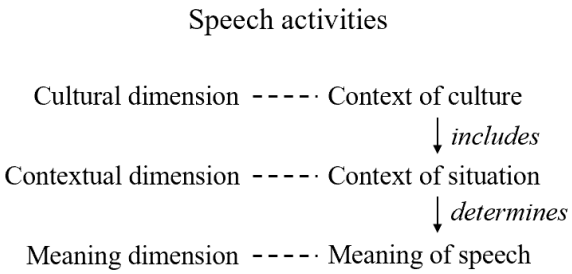


***Figure 1.*** The relationship of speech activities and culture in the framework of SFL.

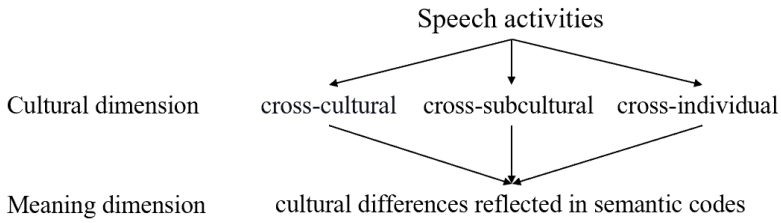


***Figure 2.*** The relationship of speech activities and culture in the framework of Intercultural communication studies.

SFL argues that there are two different levels of context: the context of culture and the context of situation. In the context of situation, subjective factors and identity factors of the participants of speech activities are influenced by the higher level of context of culture. This higher level includes ideologies, thinking patterns, living habits, communicative traditions, and other cultural factors. The context of situation determines the meaning potential of discourse. In the theoretical framework of Intercultural communication study, intercultural communication, communication between subcultural groups, and interpersonal communication are three types of speech activities, which are juxtaposed at the same level. Participants in speech activities are regarded as representatives of a kind of "culture", and the focus of the study is on "cultural" communication. Regardless of the scope of the "culture", the variables involved in the three types of communication activities are the same and have the same characteristics with a cross-cultural nature. Communicative language produces different semantics because it carries different cultural information and meanings.

In terms of research content, the cultural differences involved in Intercultural communication studies include cultural differences in verbal communication, cultural differences in non-verbal communication, cultural differences in social structure, ideology and values, which are also at the same level, i.e., effective intercultural communication activities benefit from understanding the cultural


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differences between the two sides of the communication, which include verbal, non-verbal, and ideological differences. They correspond to the meaning of speech, context of situation and context of culture in the structure of SFL.

Linguocountry is a sub-discipline of linguistics based on the development of foreign language teaching. It was born in the late 1960s and early 1970s by the Soviet scholars Vereshchagin and Kostomarov and was positioned as "an aspect of the teaching of the Russian language to foreigners", to realize "the culture-bearing and culture-accepting function of Russian as a foreign language" (Vereshchagin & Kostomarov, 1990, p. 5) in the educational process. Similar to SFL, the theory of Linguocountry proposes three functions of language: communicative function, culture-carrying function and instructional function. The theoretical basis of these three functions reflects the discipline's research ideas and echoes its definition, which believes that foreign language teaching is essentially a communicative activity, teachers and students use language to realize the communicative purposes of teaching and learning, language carries national culture, collective and individual experiences, and in the process of foreign language teaching, the culture-carrying function of language is explored and utilized to play the instructional function of language, to make the students aware of the Russian national culture and national conditions, and to realize the cultural importation.

The Linguocountry study focuses on the culture-carrying function of language, and more specifically, on the culture of words, i.e., the theory of lexical context. According to the theory of lexical context, words consist of lexemes, which represent symbolic features, and sememas, which reflect semantic features. Semema consists of conceptual and non-conceptual morphemes, the former reflecting the attribute characteristics of things or phenomenons represented by the word, which is the basic and rational meaning of the word. The latter includes the associative, rhetorical and cultural meanings associated with the word, which can be divided into social and individual morphemes according to their nature. Social morphemes can be subdivided into national cultural morphemes and cross-language morphemes.

As the research scope of Linguocountry was limited to the field of pedagogy, and the content of research was focused on the vocabulary reflecting the culture and lifestyle of the Soviet Union, it was not possible to systematically explain the relationship between language and culture within the framework of the discipline. The research contents were fragmented linguistic phenomena. At the end of the twentieth century, based on the continuation and refinement of Linguocountry studies, Linguoculturology opened up a new way of thinking for the study of language and culture, and the research contents included both the culture in language or "people in language" (человек в языке) and language in culture or "language spoken by people" (язык в человеке). The most representative is "linguistic personality" (языковая личность) theory, which "truly finds the mediator between language and culture, both perfecting the understanding of the language itself and deeply revealing the ethnicity of the people who speak the language" (Wu & Peng, 2001, p. 205). The expansion of the research object and scope of Linguoculturology determines its cross-disciplinary nature, analyzing the interaction and mutual constraints between language and culture from multiple dimensions and directions. Linguoculturology studies regard language and culture as a juxtaposition rather than a subordinate or inclusive relationship.

**Methodology**

This is a qualitative study that aims to analyze the various disciplines related to language, culture, communication and their relationship. The study employs general scientific methods of analysis and comparative research to achieve its objectives.

The research comprises three main steps. Firstly, the study analyzes the disciplinary ideological origin, social background and theoretical structure of Systemic functional linguistics, Intercultural communication, Linguocountry and Linguoculturology studies. It explains how each of these disciplines understands language, culture, communication and their relationship.

Secondly, the study carries out a comparative analysis of the theoretical frameworks and cultural viewpoints of the different disciplines. The aim is to summarize the differences and similarities in the perspectives of the language and culture research of the various disciplines.

By doing so, the research helps to establish a clear picture of the theoretical landscape of language and culture research.

Finally, the paper points out that foreign language teaching involves three kinds of


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cultural factors: symbolic resources, communicative norms and cognitive psychology. The study explains the research perspectives and research focuses of various disciplines from a doctrinal point of view. The aim is to organize the theoretical picture for the research on foreign language teaching and to provide a theoretical basis for the further development of more specific pedagogical research.

The study's reliability is confirmed by an in-depth analysis of a large number of research works on the topic, which provides a significant amount of analyzed theoretical material. Additionally, the study conducts a multidimensional and complex analysis of the relationship and interaction of language and culture within different disciplines.

**Results and discussion**

In this study, disciplines – Systemic functional linguistics (SFL), Intercultural communication, Linguocountry and Linguoculturology – have been compared to identify their distinctive approaches to language and culture. SFL emphasizes the functions of language and asserts that social culture determines the meaning of discourse. It regards linguistic analysis as a study of meaning and defines it as a function in context (Firth, 1964, p. 19). SFL studies language in culture. On the other hand, both Intercultural communication and Linguocountry emphasize the cultural aspects of language and believe that language reflects culture. While Intercultural communication focuses on applied research and linguistic and cultural differences in communicative activities, Linguocountry emphasizes theoretical research and linguistic and cultural differences in the lexical and grammatical levels of linguistic structures. Although there are differences between these disciplines, they all share the common use of advancing the research on the theory and methods of foreign language teaching.

Foreign language teaching is a communicative activity that involves the transfer of linguistic and cultural information through linguistic and non-linguistic tools. It consists of four factors – language, culture, communication and teaching. From the cultural view and theoretical structure of SFL, Intercultural communication, Linguoculturology, and taking into account the cultural factors in foreign language teaching, it is possible to broadly classify the directions of pedagogical research that are compatible with different theories.

SFL focuses its perspective on the relationship between the context of situation and meaning potential. Its disciplinary nature is to study the realization of language functions in the social system, emphasizing the ideational, interpersonal and textual functions of language. From the perspective of foreign language teaching, pedagogical research can start from the situational and textual contexts, by setting up specific scenarios to enable students to master the semantic and pragmatic norms in the situation, and by utilizing the influence of the field, tenor and mode on the discourse domain to carry out foreign language teaching.

The theoretical core of Intercultural communication is the communicative theory in general communicative studies. The focus of its attention is the communicative culture, i.e., the differences between different cultures in terms of language, non-language, cognition, and ideology that are manifested in communicative activities. Scholars argue that intercultural communication competence consists of global awareness, cultural adaptation, knowledge and communicative practice (Yang & Zhuang, 2007, p. 16). From the perspective of foreign language teaching, intercultural communicative competence is the highest level of communicative competence and the ultimate goal of foreign language teaching. The first three competencies, i.e., global awareness, cultural adaptation and knowledge, are the basis and prerequisite for the realization of communicative competence. The “knowledge” here does not mean linguistic knowledge such as phonetics, vocabulary, grammar, etc., but cultural knowledge including values, social customs, history, and religion in communication. The theory of Intercultural communication can be applied to research centered on communicative normative culture and cognitive psychological culture in foreign language teaching.

Linguoculturology studies are developed based on Linguocountry studies, which were proposed for the study of teaching Russian as a foreign language. Linguoculturology focuses on the study of language and culture and how they interact with each other. Within the theoretical framework of the discipline, the theoretical and practical research on pedagogy can be carried out from the perspectives of cultural comparison, cross-cultural training, cultural adaptation and the model of cultivating cross-cultural communicative competence. The practical research can include the preparation of teaching materials with knowledge of the cultural background of the national context and the



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teaching materials for communicative training including audio-visual and speaking.

In summary, these linguistic disciplines have distinct theoretical structures that can be utilized in pedagogical research. SFL's perspective can be applied to research centered on symbolic resources and communicative norms, Intercultural communication theory can be applied to research centered on communicative normative culture and cognitive psychological culture, and Linguoculturology can be used to study the relationship between symbolic resources and culture of cognition and psychology (Figure 3).

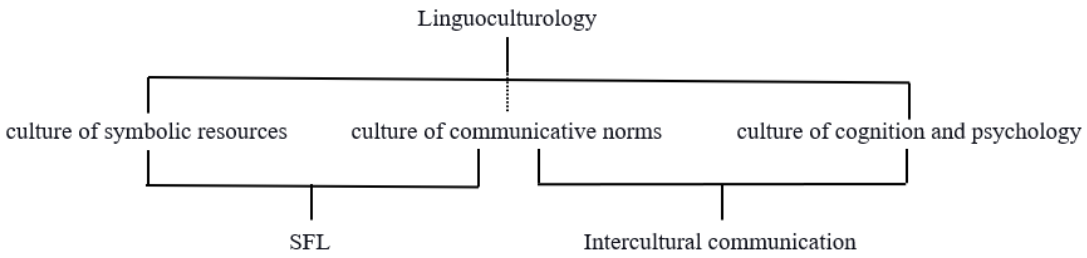


***Figure 3.*** The fitting relationship between the disciplines and the study of cultural teaching in foreign language teaching.

**Conclusions**

The present research examines the theoretical structures of three linguistic disciplines, namely Systemic functional linguistics (SFL), Intercultural communication and Linguoculturology, and their implications for foreign language pedagogy. SFL primarily emphasizes the functions of language and how social culture shapes the meaning of discourse. Linguistic analysis within the framework of SFL is defined as a study of contextualized meaning, whereby meaning is construed as a function in context. SFL studies the relationship between language and culture and is particularly concerned with the ideational, interpersonal, and textual functions of language. Pedagogical research under the aegis of SFL may begin by focusing on situational and textual contexts and utilizing the field, tenor and mode to convey foreign language teaching. The theory of Intercultural communication, on the other hand, emphasizes communicative culture and differences between cultures in terms of language, non-language, cognition and ideology. Foreign language pedagogy may benefit from the theoretical underpinnings of Intercultural communication by emphasizing the cultivation of intercultural communication competence, which is composed of global awareness, cultural adaptation, knowledge and communicative practice. Linguoculturology, a field developed based on Linguocountry studies, emphasizes the cultural aspects of language and how they reflect culture. The theoretical foundations of Linguoculturology may be applied to foreign language pedagogy by focusing on cultural adaptation, cross-cultural training and the model of cultivating cross-cultural communicative competence.

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# Digital technologies and human rights: challenges and opportunities

## Tecnologías digitales y derechos humanos: retos y oportunidades

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**Abstract**

Digitalization has revolutionized modern life, but it also presents complex challenges to human rights. The objective of this study is to consider digital technologies phenomenon in its complexity. In our research we mainly relied on dialectical method, systematic approach, comparative-historical method, axiological approach. Our research highlights both a range of benefits and a variety of risks associated with the deployment of digital technologies into life. Key concerns include data safety, human consciousness manipulations, cyber-security threats, the 'digital divide', algorithmic biases, and authoritarian technology misuse. But despite these challenges, digitalization offers opportunities for human rights advancement. We can also envision comprehensive social inclusion

**Resumen**

La digitalización ha revolucionado la vida moderna, pero también plantea complejos desafíos a los derechos humanos. El objetivo de este estudio es considerar el fenómeno de las tecnologías digitales en su complejidad. En nuestra investigación nos basamos principalmente en el método dialéctico, el enfoque sistemático, el método comparativo-histórico y el enfoque axiológico. Nuestro estudio pone de relieve tanto una serie de beneficios como una variedad de riesgos asociados al despliegue de las tecnologías digitales en la vida. Entre las principales preocupaciones figuran la seguridad de los datos, las manipulaciones de la conciencia humana, las amenazas a la ciberseguridad, la "brecha digital", los sesgos algorítmicos y el mal uso autoritario de la tecnología. Pero a pesar de estos retos, la

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in cyberspace, digital literacy promotion, further technological innovation, and robust ethical and legal frameworks safeguarding digital rights. Mindful AI deployment can enhance living standards, improve education and healthcare, and even extend longevity. Contemporary political systems must comprehend and regulate digital technology's power, ensuring responsible governance, as without safety protocols and reasonable limitations for AI-powered tools and technologies, human rights and freedoms remain at risk.

**Keywords:** digital technologies deployment, algorithms, neural networks, ethics, laws, rights, technology misuse.

digitalización ofrece oportunidades para el avance de los derechos humanos. También podemos prever una amplia inclusión social en el ciberespacio, la promoción de la alfabetización digital, una mayor innovación tecnológica y sólidos marcos éticos y jurídicos que salvaguarden los derechos digitales. El despliegue consciente de la IA puede elevar el nivel de vida, mejorar la educación y la atención médica e incluso prolongar la longevidad. Los sistemas políticos contemporáneos deben comprender y regular el poder de la tecnología digital, garantizando una gobernanza responsable, ya que sin protocolos de seguridad y limitaciones razonables para las herramientas y tecnologías impulsadas por la IA, los derechos humanos y las libertades siguen estando en peligro.

**Palabras clave:** despliegue de tecnologías digitales, algoritmos, redes neuronales, ética, leyes, derechos humanos, mal uso de la tecnología.

## Introduction

When we start talking about human life, individual rights and information rights, today we can no longer talk about them abstractedly, outside the context of the development of the latest digital technologies, including the artificial intelligence. Such a technology as an Artificial Intelligence (algorithms, chat-bots, neural networks) is becoming more powerful not every year, but every month. This rapid digitalization and the implementation of comprehensive cyber-technologies have a direct connection with human rights discourse.

The ***actuality*** of this research is determined by the ambivalence of technology, especially those in the digital field. Studying the latest digital technologies from the standpoints of social philosophy is important for several reasons, particularly, it has broader implications for society and its ethical, moral, and philosophical foundations. As philosophy often addresses ethical questions related to the impact of technology on individuals and society, researching the interaction of human beings with digital technologies allows us to assess their ethical implications, such as privacy concerns, surveillance, data ownership, and the responsible use of AI (artificial intelligence). Social philosophy often debates the idea of technological determinism, which posits that technology drives societal change. Researching digital technologies can contribute to this discourse by examining the extent to which technology shapes our values, culture, and social structures.

The ***object*** of this study is the phenomenon of digital technologies, taken in its complexity, variability, and multidimensional nature.

The ***purpose*** of this study is to analyze the range of possible advantages, hazards, and challenges of introducing the latest digital technologies into modern life, taking into account the contradictory nature of the innovative process.

The ***importance*** of given research, as we hope, is connected with the ability to contribute into better understanding of *how* the latest digital technologies may impact on society, including issues like social inequality, unemployment, cyber-gap, digital economy divides, democratic values and processes, public opinion manipulations, transparency problems, consumerism and new ecological thinking, and the potential for social improvements. It allows us to consider how technology influences power dynamics, social structures, and human relationships. We believe that researching digital technologies helps us examine how these technologies can *empower* or *disempower* individuals, affecting their choices and actions.

## Literature review

The ***current knowledge*** of the topic is presented in some publications and contemporary social discussions. Within the array of publications pertinent to gaining a comprehensive grasp of the studied subject, it's important to acknowledge the works that center their focus on some related


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issues, like: the Machine Learning, which underlies computational systems that are biologically inspired, statistically driven, agent-based networked entities that program themselves (Audry & Bengio, 2021); Deep Learning foundations and concepts (Bishop & Bishop, (s.f)); Deep-Learning architectures and methods (Goodfellow et al., 2017); issues of image processing and synthesis using Deep learning (Ganin et al., 2019); Deep neural networks for natural language processing (Lin & Bengio, 2019); Organizational decision-making structures in the age of AI (Shrestha et al., 2019); Human-centered Artificial Intelligence (Shneiderman, 2020); measuring neurophysiologic responses when people choose to trust algorithms (Alexander et al., 2018); the link between information processing capability and decision-making effectiveness (Cao et al., 2019); the intersection of AI, decision-making and educational leadership (Wang, 2021); use of Big data and AI-embedded systems in some industries (Plantec et al., 2023 ; Svyrydenko & Stovpets, 2020); the role of Trust during Human-AI collaboration in managerial decision-making processes (Tuncer & Ramirez, 2022); some opinions from the AI architects, on what may be the path toward human-level machine intelligence (Ford, 2018); generative pre-trained neural networks and AI-human collaboration issues (Fui-Hoon Nah et al., 2023).

Among the aforementioned studies, there are a number of works between 2019-2023 that we consider impactful, as they raised a number of issues that were further enhanced in our study.

In particular, the study made by G. Cao, Y. Duan, & T. Cadden investigates IT-enabled capabilities and the relationship between competitive advantage and the key concept of value, rarity, inimitability and non-substitutability of information processing in business realm. They use data collected from 633 UK companies, and their study shows that there is a positive relationship between the value, rarity and inimitability characteristics of information processing, and competitive advantage, which is partially mediated by decision-making effectiveness. Another study, made by F. Fui-Hoon Nah, R. Zheng, J. Cai, K. Siau, & L. Chen, aimed to make some categorization for generative AI challenges, which can be attributed to ethics, technology, regulations and policy, and economy. As authors claim, many of these challenges arise due to the lack of HCAI (Human-centered AI); to be successful, generative AI needs to be human-centered by taking into account empathy and human needs, transparency and explainability, ethics and governance, and transformation through AI literacy. In the recent book, written by S. Audry, & Y. Bengio, there are insightful questions and discussions on the progress of ML-based AI; this work may appear interesting for engineers and computer scientists who examine the deep potential of ML (machine learning) in the realm of different arts. In this book, Y. Bengio makes an assumption that human artists and the ML tools may be able, in their synergy, to enter those 'mental territories' where none alone can easily go further.

In addition to those sources we address in our literature review, in this research we try to raise some unexplored questions. Among them, we emphasize on how the 'digital divide' may exacerbate socioeconomic disparities, and how the 'emotionally calibrated' neural networks wield the potential to be weaponized by non-democratic regimes to manipulate public opinion, adding another dimension to the threat landscape. In some extent, we develop the consideration of the 'algorithmic biases' problem that may lead to discrimination in employment, education, housing, and service access (this discourse was seriously elevated by T. Baer in 2019, and we enriched it with some fresh examples).

**Methodology**

of the research is based on a dialectical method, systematic approach, comparative-historical method, axiological approach. Applied in a comprehensive manner, they contribute into mental modelling of different future scenarios, which have the potential for fulfillment, depending on the combination of certain technological and social factors.

Applying the ***dialectical method*** to the study of digital technologies can offer valuable insights and contribute to a deeper understanding of this rapidly evolving phenomenon. Using this method, we identify the following dialectical contradictions within digital space:

– *privacy vs. publicity* (the tension between privacy concerns and increased public involvement becomes a significant dialectical aspect in the digital realm);
– *inclusion vs. exclusion* (digital technologies can both include and exclude individuals or groups; the dialectical method helps in examining the contradictory nature of inclusivity and exclusivity, shedding light on


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how technologies can simultaneously empower some while marginalizing others);
- *centralization vs. decentralization* (digital technologies, like blockchain, introduce the growing conflict between centralization and decentralization; the dialectical method can aid in examining how these opposing forces interact, what trends arise, and how they are manifested in various digital contexts);
- *order vs. chaos*;
- *freedom vs. total control*;
- *development vs. disruption* (while digital technologies contribute to progress and innovation, they may also disrupt traditional industries and job markets; the dialectical method helps to identify and analyze these contradictions, allowing to understand how they should be resolved).

A ***systematic approach*** in studying the phenomenon of digital technologies contributes to this research by providing a structured and organized framework for exploring such concepts as cybersecurity, communication, creativity, AI social impact and its possible economic implications. A systematic approach ensures encompassing of various aspects of digital technologies, including technological specifications, user behaviors, market trends, regulatory frameworks, and social consequences. A systematic approach also encourages *interdisciplinary exploration*, ensuring that research considers not only technological features, but a related issues from sociology, anthropology, economics, ethics, and law.

The use of ***comparative-historical method*** emphasizes historical context in respect of digital technologies' impact to human rights, and studies their evolutionary path. Applying this to the study of digital technologies involves tracing the historical development of technologies, understanding the crucial contradictions at different stages of civilized history, and examining how they've shaped societal structures and norms.

An ***axiological approach*** used in this research makes it possible to look at the specific values embedded in, and associated with digital technologies. Axiology focuses on ethical values and principles. In the context of *digital technologies and human rights*, this approach helps to evaluate the ethical dimension of 'digital revolution'. It addresses questions related to privacy, security, transparency, and the responsible use of AI. In some extent, digital technologies reflect (and even can shape) cultural and societal values. Axiological approach allows us to explore how digital tools and platforms align with or challenge prevailing cultural norms. For example, social media platforms may influence communication styles and societal expectations, and an axiology helps to assess these impacts.

**Results and discussion**

We want to frame our research moving forward around Artificial Intelligence *positive* aspects, and AI as a *threat* right now. As many futurologists fairly say, there are two essential things to know about AI. Firstly, it is the pioneering technology in history that can *make decisions* by itself. Secondly, it is also the first technology in history that can *generate ideas* by itself. Some developers try to calm us down by comparing it to previous technologies, where initial concerns faded away over time. However, AI is unlike anything we've seen before in history. Whether it was a stone axe or an atomic bomb, but all previous tools empowered humans, because it was *humans* who had to *decide* how to use them (Bigman & Gray, 2018). But AI can make decisions by itself, so it potentially can take power away from the humankind.

Additionally, previous information technology could only reproduce or spread human ideas, such as the printing press, which could *print* the Bible, but not *write* the Bible, as well as it couldn't provide a commentary on it. In contrast, systems like GPT can create entirely new commentaries on the Bible or any other topic. In the future, potentially, they might even create *new* holy texts for future religions. The irony is that Humans have always fantasized about receiving holy scriptures from a superhuman intelligence, and now it is becoming possible (not from God above, but from neural network).

While there are many positive applications for this kind of power, there are also many negative ones (Xu et al., 2022 ; Fui-Hoon Nah et al., 2023). It's fundamentally different from anything we've encountered before (Agrawal et al., 2019). We shall try to draw the attention on how the newest information technologies may show up in different life spaces.

The first example is the election process. The tools derived from the large language models can be used for propaganda, misinformation, and personalized trolls that could manipulate voters' decisions. Presently one may use, for example, such generative neural nets as "Midjourney", or "Craiyon", or Google service named "Dream A.I" - any of such instruments might be applied


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for creating fake images, aimed simply at discrediting your political rivals, and to deceive voters. That is an obvious hazard for the democracy.

The second threat, which may arise in a few years from now, is if we overcome the lag between the current level of technological development in AI, and human intelligence. If we build machines that are at least as intelligent as us, they would have inherent advantages due to their access to vast amounts of data, and their digital communication bandwidth. This would enable them to acquire and share information much more faster than humans. Eventually, this will have an impact on the dynamics of the decision-making process. Decision-making effectiveness mediates the link between information processing capability's value, rarity, inimitability and non-substitutability and competitive advantage (Cao et al., 2019: 124).

It makes researchers think that even if we only uncover the same principles that give us our own intelligence, AI would surpass us in certain ways. We already observe this with technologies like ChatGPT, which in some ways is already smarter then us. Of course, neural nets possess more knowledge and also exhibit limitations, but it's just the beginning. Creating a 'new species' that was smarter than us wouldn't bode well for us.

What's important in this technological transition, it's *timelines*. If all mentioned changes come in decades, maybe we have a chance to adapt society to AI. If it comes in five years, it seems hopeless to prepare. Human societies are extremely adaptable. We are good at it, but it takes *time*. For instance, if you look at the major technological transition, the Industrial Revolution, from the early 19th century until today, it took us many generations to find out how to design relatively prosperous industrialized societies. Along the way, we had some terrible failed experiments, while building industrial societies, such as Nazism, Soviet communism, Maoism, which resulted in the deaths of millions of people (Pokorny, 1993). These experiments were attempts to build functioning industrial societies, but ultimately failed.

Now, we are facing something even more powerful than the trains, radio, television and all other inventions of the Industrial Revolution. Now we face the advent of AI. We all want to believe: there is a new chance to organize safety and prosperity with AI, but it will require *time* and *caution*. We must ensure that we do not make the same mistakes as in the past. Because, with *this* kind of technology, there won't be a second chance for us no more. Actually, in the 20th century, we managed to survive those failed experiments of the 'Second Industrial Revolution' only because the technology was not powerful enough to destroy us. Therefore, we must be extremely careful and take things more slowly when dealing with the potential consequences of AI. In addressing these immense issues, there needs to be both a corporate and societal response, as well as a government response. Ultimately, it's the responsibility of governments to regulate this very dangerous development.

The problem is that the incentive system we've built works reasonably well both for industrial societies and liberal democracies. It is based on competition, and companies would not survive if they didn't play that game, because another one would take their place. But now, there are also individuals in those companies, who may think that ethics, human rights and social values are important (Schrempf-Stirling et al., 2022), so humans can temper a bit that profit maximization incentive, but it's a very strong one. That is why it's hard to restrain this rapid evolution of AI technologies, especially in such populated and centralized countries as China.

What is the *principal difference* in the understanding of human rights in China and the West? Predominantly, in most liberal democratic societies, issues of human rights, fundamental freedoms, democracy and the rule of law are universal in nature and *do not* belong exclusively to the internal affairs of the particular country. Such a state of affairs sequentially derives from J. Locke's concept of justice, largely due to his ideas about the ethical unity of people. As per Locke, this unity is explained by the equality of all human beings, by virtue of belonging to the human race, and therefore, each individual is guided by a single 'natural law' (Borinshtein et al., 2021: 260).

In China's government, they believe that each country has the sovereign right to set *its own human rights standards* within its state jurisdiction, as well as to interpret the degree of compliance with human rights standards in their country; and *no one* has the right to criticize *anyone* in relation to human and civil rights, because this, as they claim in China, would be an 'interference into internal affairs' (Stovpets, 2020: 69). According to the Chinese government, countries should build mutually beneficial economic policies, cooperate on security, and respond to global threats, rather than *teach* each


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other about democracy and human rights, because every nation has its own standard of human rights. This is important to keep in mind, in order to have understanding of the *starting points*, from which human rights are evaluated and interpreted in different cultures and civilizations.

Here we could place a lot of arguments & counter-arguments on Chinese so-called "social rating system" (also known as the "system of social credit"), and there would be a variety of opinions: from that using such comprehensive cyber technologies is the only possible instrument to keep in order such a huge population as Chinese (Jinghua, 2019) - to the opinion that contemporary China is turning on the true "cyber-prison" due to specific features of Chinese cyber security and data laws (Parasol, 2022). And even in the 'liberal world', what we saw in recent years, is that the political discussion is just not there. If you look at the main issues that politicians are concerned of, that their parties are talking about - they are not talking about AI seriously, while this should be one of the top issues in every election campaign. Just because it is not some *abstract* existential dangers down the line, it's also *immediate* concerns of everyday life. It's our *jobs*, it's about *who* is making decisions influencing our life. You apply to a bank to get a loan, and increasingly - it's an AI making the decision about your loan. You try to enter a university, or you apply to an employer to get a job - increasingly it's an AI making the decision! And you don't even understand, if they rejected you - *why* did they reject you? How were you evaluated and *who* made final decision? Maybe AI was wrong?

Thus, the AI should be regulated more. And when we talk about regulation, we need to differentiate between regulating *the development* of AI in controlled realm, its research in laboratories, and regulating the *deployment* of AI products into the public sphere. Now we need a strict control in respect of its *public deployment*. There are some very simple rules that we need to make, for instance, that an AI cannot *counterfeit humans*, meaning that if we're talking with someone, we need to be aware of whether it's real human or artificial intelligence. If we don't, public dialog will fail and democracy will appear impossible. It's two different things: trying to convince *human* to change their worldview and beliefs, and trying to do the same to AI bot! The last one would obviously be pointless. If you're having a discussion about the elections with somebody, and you cannot tell whether it's an AI or a real human, that's the end of democracy. Because for a human being, it makes no sense to waste time trying to change the mind of a bot, as it doesn't have a mind. But for the bot, every minute it spends talking with us, it gets to know us better. It builds even a kind of *trust* with a true person, and then it's easier for the bot to make changes into human's views.

We have known for a couple of years that there is a battle for *attention* going on in social media. Now, with the new generation of AI, this battlefront is shifting from attention - to *trust*. If we don't regulate it, we are likely to be in a situation when you have millions of hunting AI agents trying to gain our sincerity and trust. Because that's the easiest way to convince us to buy a product, or vote for a politician, or whatever. And if we allow this to happen, it will lead to a new kind of manipulations. The same way you cannot release powerful new medicines or vehicles into the public sphere without going through safety checks and getting approval, it should be the similar to AI. Yes, we do have legal acts about data, we have laws about communication, legislation on information and personal data protection. But they were not designed to deal with some of newest problems, produced by the advanced AI. The science and technology moves, the market changes, and we need a lot of agility from governments.

Another interesting thing, how democratic system would use the AI technologies, and how it would be used by authoritarian or totalitarian systems. It's credible, totalitarian systems will be much worse than democracies when it comes to regulating AI and keeping it under control. The traditional problem of totalitarian regimes is that they tend to believe in their own infallibility. They're convinced they never make mistakes, and they don't have any strong self-correcting mechanisms for identifying and correcting their own mistakes. And with the totalitarian regime, or some kind of super powerful 'world government', the temptation of that system to give too much power to AI, and then not be able to regulate it, will be almost irresistible.

And once the totalitarian regime gives power to an AI, there will not be any self-correcting mechanism that can point out the mistakes that the system will inevitably make. It should be very clear that AI is not infallible. It has a lot of power, it can process a lot of information, but information isn't always *truth* (Handley-Miner et al., 2023). These two notions do not necessary coincide. There is a long way leading from information to truth and to wisdom. And if we give too much power to AI, it is *bound* to make



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mistakes. Only democracies have this kind of checks and balances that allow them to try something, and if it doesn't work, to identify the mistake and correct it.

We obviously need to focus society's attention on all these problems. It is not about being alarmists. Rather, it is important to acknowledge that, aside from the long-term existential risk, many of our most immediate problems in the economy and society can significantly worsen due to AI. Particularly, the job market should be a central concern for everyone.

Artificial Intelligence definitely will not destroy *all* jobs, but it will certainly *eliminate some* of presently existing jobs, while creating new ones. However, the transition and retraining of individuals will be challenging. It is important to remember that historical events, such as Hitler's rise to power, were influenced by prolonged periods of high unemployment, when around 3 years - up to 25% people in Germany were unemployed. And even if we anticipate that in 20 years (but maybe we don't have these 20 years) the situation in labour market will be better, we cannot ignore the immediate consequences of 20% unemployment for this transition period. As Humans have legal and moral responsibilities over the design of Machines, including robots (Shneiderman, 2020: 113), we must thoroughly calculate the risks to the labour market.

Regarding the job issues, the various camps make very different claims. Among them, there are people who suggest that a large fraction of jobs would be modified. A recent study coming out of "OpenAI" and some academics indicating that (Eloundou et al., 2023). This may lead to increased productivity, meaning we would either have fewer people doing those jobs, or we would do more with the same number of existing workers. So, two options may arise: either jobs shortening, or their preserving with rise of productivity. It's rather hard to predict those things precisely.

Also, one of the arguments we've heard on the side of not worrying, is that *societies change slowly*. Even if we had the technology for something, it might take years or sometimes decades for people to fully integrate it into society, and have a significant impact on the job market. We just can suppose, once you have a system that essentially does the work better, like the ability to manipulate language through email, social media, databases, and other tasks, it's *likely* that those kinds of jobs could be done better fairly quickly in many sectors. Whether companies will be able to adopt these changes impetuously or gradually, it's not easy to foresee. But if they do, we could potentially face all these transition problems.

Psychologically, it's hard to accept: *what if a bot or an AI is coming for my job*? Though it immediately grabs people's attention, it's not a simplistic idea, that there will no longer be any jobs for humans. There will be a lot of new jobs, but the transition is always difficult. How do we retrain people, especially if to take into account the global considerations? Because the AI Revolution is being led by a very *small* number of countries who are likely to become extremely rich and powerful because of that, whereas it could destroy the economy of less developed countries. Even if we think about something like the textile industry, what happens to the economy of some populated countries, when it becomes *cheaper* to produce textiles in Canada or the USA, than in Brazil, Mexico, or even in India or Bangladesh?

Do they really will be able to *retrain* millions of textile workers in these countries - to become web designers or digital developers? And who will pay for the retraining? Maybe, in the advanced developed countries, the gains from the AI Revolution will enable the government, hopefully, to cushion the blow for the people who would lose their jobs, and enable them to retrain. But it won't occur in the same manner in developing heavy populated countries.

Eventually, it may be like with the Industrial Revolution in the 19th century, which led to very few countries basically conquering and dominating the whole world. This could happen again within a very short time, due to the Automation revolution and the AI Revolution. And again, it's not just the economy; it's also the type of *political control* that you can get from harvesting all the world's data and analyzing it. Previously, to control a country, you needed to send in the soldiers, or set up a military base there. Now, increasingly, you just need to take out the *data*. What happens to a country, when the entire personal records, medical records, tax codes, real estate documents, bank accounts, files with other sensitive information, phones and emails, whatever - personal data of every politician, and entrepreneur, and journalist, and judge, and policeman, and military officer of this country - is held by somebody, for instance, in Silicon Valley or in China? Is it still an *independent* country, or did it become a kind of *data colony*? So, these are the immediate dangers


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that should be clear to any citizen, no matter what their views are on the long-term existential risks of AI.

Of course, progress brings not only *dangers*, but also *benefits*. Current technological progress is inseparable from the solving of socio-economic and ecological problems. It is commonly said that information is a powerful resource that can be transformed into knowledge and experience, into competitive advantage. And this was true for most of history, when there was very *little* information, and monopolists (whether they were shamans, magicians, high priests, or later - state censorship) acted by withholding information, blocking the flow of information. But *now* we live in a very different era, when we are bombarded with an enormous amount of information. We have too much of it, and we don't know sometimes how to make sense of it. And censorship works differently now, distracting people with too much information, irrelevant information, misinformation. In this age, *clarity* is more important than ever before, because we need to know what to focus on. *Attention*, *sincerity* and *trust* are becoming perhaps the most scarce resource among all those associated with the human mind.

Let's remember these two famous dystopian novels: Orwell's "*1984*", and Huxley's "*Brave New World*". But if we look at the way *information is treated* in these two different novels, we see that in Orwell's dystopia, information is constantly being brutally fabricated, rewritten, clipped. In Huxley's dystopia, the manipulation of information is more subtle: people are programmed from their birth, and their minds from the beginning are filled with *different* information, and each of the five castes is part of a single plan. A described system works in a manner that makes an *impression* that the system understands you, and appeals to your own passions and emotions. The system works in such a way as to make you feel that they are "on your side". It's not an old-style structure (like Gestapo, or KGB, or Stasi), because in many cases the system gives the lasting impression that it is benevolent.

However, if we talk about today's smart technologies, about artificial intelligence, in many cases these systems actually understand us *better* than many people do, and can improve our lives in many ways. And that is where the *temptation* lies. In some cases, it becomes especially obvious when we take as an example the health care system. Even today, advanced technologies capable of handling large amounts of data, recognizing photos, interpreting medical device readings, summarizing the information obtained, and evaluating symptoms; such systems *already surpass* the professional skills of a *single* doctor, and are comparable in their effectiveness to a whole council of doctors. Such systems make very accurate diagnoses with minimal error, due to causal machine learning (Richens et al., 2020).

Now let's imagine that a technology is developed that continuously monitors what's going on inside your body, and yes, it knows what's going on inside your body *better* and *more accurately* than your conscious mind. Because now, if people have a serious disease spreading through their body, very often people only find out about it when it's already a big problem, and when a person suddenly starts feeling pain without knowing what it is? So he (she) goes to the doctor, gets examined and analyzed, and then the doctors discover that a person has a serious disease, in an already neglected stage, and now it may appear very difficult, rather painful, and extremely expensive to cure it.

An alternative is a system that constantly *monitors* what is going on in your body and is able to *detect* that a serious disease is starting to spread in some part of person's body. When this serious disease is still in its early stages, a person doesn't feel anything, but the biometric sensors are already capturing the first clear signs that the problem is starting - when it's still easy, cheap and painless to get rid of.

It all looks great. So why would we want to block this kind of development? After all, the same analogy, hypothetically, could be applied to completely different cases when it comes to making many decisions in life. Starting with routine matters and ending with more serious questions: when to enter and exit a deal at the stock exchange? where to invest your money? what university to choose? what to study at this university? Because sometimes, with our minds, especially when we are young, we make very bad choices. And if artificial intelligence could have helped us do the right things at the past, it might have saved us a whole decade of our life. So the problem with AI and the deployment of all these technologies - is that here is a huge *temptation* of passing the rights of decision-making to AI by people. So the big question arises: how can we take advantage of the AI, extracting its possible benefits, without suffering harmful consequences?



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One more trouble is that right now we live in the situation, when simply disconnecting ourselves completely from all devices would mean losing competition to those who will *continue to use* such devices. Refusing to use technologies, either on an individual or a social level, will not work because then we will be missing out so many positive developments and perspectives.

In order to trace this *dialectic of progress*, we may simulate two scenarios. For example, right now, someone is wearing a ring, or a smart bracelet, or another gadget that is actually a biometric device, which measures bearer's heart rate, saturation level, blood pressure, various sleep states, blood glucose levels, and other parameters. And the person considers this gadget as a kind of *advantage*. By processing this data, an athlete can optimize his training, and an elderly person can maintain his/her health. This is an example of the *convergence* of information technology and biotechnology, which can affect the stability of our health, our quality of life, and our longevity.

But there is another crucial aspect: all this statistical information is just a part of the *big data* that is accumulated and stored on some server. Does the user of this gadget know *who exactly* is receiving the information this biometric device is collecting about him, and *what they are going to do* with that information? If, for instance, this kind of information is collected by a large corporation or some government, and we have no idea what they are going to do with it, in some cases it could have the darkest consequences.

Here is one of the gloomy scenarios: let's imagine that the action takes place not in an open democratic society, but in a totalitarian state, where these rings or bracelets are mass-produced, and every citizen is forced to wear these gadgets constantly, transmitting all information to a central database. Let's assume that while collecting all these indicators, this smart gadget is able to make an *interpretation* of all changes in person's physiological parameters: pulse, blood pressure, eye-pupils dilation or constriction, hormonal surges, including levels of dopamine, serotonin, endorphins, noradrenalin, cortisol - in other words, everything that tells complexly about some *emotional* state of an individual. He enters the room and sees the dictator's portrait on the wall, and the gadget on bearer's hand registers signs of anger, hatred, dissatisfaction, dislike towards the leader... The next stop is 'Gulag', or asylum, or prison... This is something like a pattern of anticipating the "enemies of the state" even *before* any action is taken. Not only before committing something, but even before you *think* of any real action being taken. It's a classical 'mindcrime', or 'thoughtcrime' (Orwell, 1941) made simply by spontaneous emotion.

If such a state observes enough of its citizens for an extended time period, it can easily build a typical profile of a rebel or dissident, and begin to "fix" their minds while they are still in kindergarten. Such a state does not need to wait for them to grow up - to pose any danger or inconvenience to the system. So if we want to dive into a dystopia, technology gives us a lot of options. We can only imagine what Stalin, or Mao, or Pol Pot would have done if they had such biometric technology back then. Artificial intelligence solves the problem of many dictators of the past: it used to be very difficult and expensive to keep surveillance on their citizens, just because you had to keep a large staff of wardens, secret police and other secret services. Now, *neural networks* can do this, quickly and relatively cheap. This is despite the fact that the current stage of technology is still in its early years, according to futurists. If the dystopian example, mentioned recently, begins to unfold, and such kind of societies turns out to be more technologically and militarily strong, this would mean *the end of humanism* as we understand it today.

Anyway, the newest technologies introduction will show a series of transformations (Harari, 2018). In terms of market forces, and the political landscape, and orientation in the world, and achieving career success, and earnings for a living, - all of this, apparently, will be changing. There are many issues that philosophers, psychologists, sociologists, lawyers, and economists will have to explore, including questions of *irrelevance* and *uselessness* arising from the technological revolution. If in the 20th century the main struggle was against *exploitation*, in the 21st century the main struggle may be against the "*irrelevance* of humans". People may find themselves simply *unnecessary*, and the struggle against irrelevance will be much more difficult than against exploitation.

We have no idea yet - what human life will look like - when *algorithms* make more and more decisions *on our behalf*. For thousands of years - religious, political, and artistic traditions have described life as a drama of decision-making. Whether it is a play by Shakespeare, a novel by Goethe, or Dostoevsky, or Márquez, a Hollywood comedy, or a book on theology, - they all tell of life as a kind of journey in which


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*we* make decisions at crossroads. We make simple and complex choices in our daily lives, choosing how to structure our day, what to eat for lunch, who to vote for, who to marry, what career to choose, who to fight against, etc. All this drama revolves around *making the right decision*. All previous history it has been the monopoly prerogative of a human. That was our *trouble*, and our *privilege* simultaneously.

At the same time, we are now entering an era in which the *automation gestalt* is developing at a crazy pace. And now there is a lot of talk about *jobs* and, probably in the near future, about *lost* jobs, but the problem is multilayered: it is socio-economic, geopolitical, psychological, and demographic. Let's take ChatGPT or its analogues. This technology is supposed to shut down a lot of current jobs, and leave a lot of people out of work, whose intellectual work can be automated.

Bu we need to look for examples in recent history. Do we recall what profession was very common and widespread in the pre-electric era? That was the job of torchmen, lamplighters, - people who were responsible for street lighting in the cities of Europe, later in America. And it was a *huge* business: sticks, tow (hemp fiber, or flax fiber, also called oakum), tinderbox (for making fire), oil, tar, later - kerosene, and kerosene containers. More than *three hundred thousand* people were employed in this torch-lighting industry, those who were in charge of the manual lighting and extinguishing of street torches, lamp-lights, lanterns in the evening and in the morning, and of course - those who were involved in the production of all the components. That is, there was a *torch-lighting* industry, and separately - a huge *candle* industry (Frederic Fournier's candle factory in Marseilles, at 1836, was the largest in the world).

But at some moment, in the late 19th century, Edison appeared in the United States with his improved incandescent light bulb. The invention of this type of electric lamps caused a devastating blow - both to the torch-lighting business, and to the candle industry. Within a few years, the majority of the torchmen lost their jobs, as their services were no longer needed in the maintenance of electric lanterns. But instead of *three hundred thousand* people employed in the city's torch-lighting business, there emerged an enormous electrical industry, which provided nearly *ten million* new jobs at the time. It wasn't just the production of light bulbs, but also electric wires, and building power plants, transformation units, power lines... it was not only electricians and installers, but also engineers, scientists, factory workers, and university professors who taught the sciences related to electricity.

The second example is even more illustrative: as we all know, about 150 years ago, the most important means of transportation was *horse-drawn* transport. And it was also a tremendous business: horses, carriages, chariots, phaetons and cabs, forges, horse fodder, stables and taverns, coachmen and cabmen, and so on. But horse-drawn journeys took too much time, so the evolution could not tolerate such slow movement in space. And then, 15% of the smartest coachmen realized that, with the coming of internal combustion engine, they should become *car drivers*. And so there was this kind of phase transition, leading to changes in related areas.

But perhaps it will not be like that *now*, because the *new technological transition* will happen too quickly, and will be many times more extensive? It would not be quite correct to extrapolate exactly from previous experiences to the near future, because technological progress is *not linear*. There is little we can say today for certain about the labor market in 2050, and how it will affect future generations. Of course, the most simplistic scenario is that robots will come soon, they will take all the jobs, and we will have nothing to do, except living on a so-called "unconditional basic income". And for *some* people in some countries that may be the case. In many countries today, the economy is primarily dependent on cheap manual labor from people working in workshops, at factories and plants with a low level of automation. And the economies of these countries may collapse or be seriously disrupted. At the same time, in other countries, such as the United States, South Korea, many jobs would disappear, but many *new ones* would arise.

The possible scenario has been brought up before, of textile manufacturing coming from Turkey, Mexico, or Bangladesh - back to technologically developed countries. Because now you may have 3D-printers and robots, whose labor is much cheaper than that of people in many developing countries. Now, conditional Bangladesh may appear in a big trouble, but in the U.S. you might even get *more* jobs (not in the field of handmade textiles). These new jobs might emerge in data processing or code writing, because the critical source in the nearest future textile industry development will be the personal data of customers, from the one side, and the software code used in manufacturing, from the other.



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After total automation of textile industry, producers will need a lot of *data* about their customers, and about what they want, i.e. their biometric parameters, their individual aesthetic preferences, their 'consumer portrait'. Then, producers will be able to create a shirt specifically for each particular customer's torso. You don't have to rely on mass production like in the days of the Industrial society. And you can "print" that individual piece of clothing somewhere in the United States, not far from your client or customer, and you don't have to bring it from Asia to USA in containers. But you really need well-trained people who deal with data - with *personal* data, and with *big* data. So there might be *new jobs* in the most technologically advanced countries. While the most serious socioeconomic problems caused by the loss of industries due to relocation will most likely occur in countries like Bangladesh. These are the places, which are most vulnerable to automation. And the profits from automation will go not to Dhaka, but to California, or Texas, or Vancouver!

The truth is that these jobs in developed countries will also gradually deal with automation and change very quickly. The situation in the global labor market will be extremely tense and unsteady. The automation revolution is unlikely to be a single major turning point, but will happen *in waves*, leading to the disappearance of many old type jobs and the emergence of many new ones. We will probably see a few years of turbulence, and then everything will come to a new equilibrium. And every 10 years or so, it will happen again. Because artificial intelligence is not even close to unlocking its full potential, - futurologists say. Recently conducted survey finds that scientists are concerned, as well as excited, by the increasing use of artificial-intelligence tools in their work (Van Noorden & Perkel, 2023).

So every 10 years we might lose our jobs, or our jobs will be completely transformed by a new wave of the latest advances in machine learning. And if we want to stay in the game, we have to *reinvent* ourselves repeatedly. As medicine advances and life expectancy increases, people will be retiring at older age from decade to decade. Thus, we might have to reinvent ourselves several times in the course of our life. Therefore, the idea of not only having *the same job for life*, but one *profession* for life, in most cases, is losing its former relevance.

Here we discover this relationship between *a human right to work*, a right to be engaged in productive employment, to achieve self-realization, on the one hand, and the *technological imperatives of the information civilization*, on the other, which requires much more sophisticated skills of adaptability, retraining, and qualification improvement, than it used to be. Some of possible measures for educational improvements were examined before (Borinshtein et al., 2022: 152).

Developmental psychology says: as you get older, your professional adaptability decreases. People from different generations have not similar abilities to adapt to technological change. Such features as endurance, adaptability, and emotional intelligence become overriding in ways we have never seen before, which brings into question our entire educational system. More and more often, across the globe, there are admissions that the education system has seriously eroded. It is not adapted to the realities of the 21st century. But we do not have a full-fledged alternative model; in fact, we need world-wide applicable solution.

Increasingly there is the following temptation: if *we* cannot improve it, let's take education out of the hands of humans, and put it in the hands of *algorithms*. But then we will have completely new problems. Some of them are still the legacy of human thinking, because people very often develop algorithms with their own human biases and prejudices embedded inside, and they don't even realize it.

There is a new concept named "algorithmic bias" (Baer, 2019), which may exist even when the algorithm developer has no intention of discrimination. Nevertheless, by carefully using extensive statistical data on the purchase of different kinds of services and goods by certain groups of users, the algorithm may end up recommending a particular product or service to a very homogenous group of consumers, and not recommending it to other groups (for example, recommending expensive colleges to potential white students, but not offering such a product to black, because statistically they are not considered solvent enough to buy the service like learning at expensive college). This *unintentional discrimination* stems from the analysis of big data, the effective processing of which allows to increase the average check, sales volume and conversion rate due to personalized offers that are created on the basis of knowledge about users.

In addition to the so-called "algorithmic bias," among the new type of problems is the fact that


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*the decision-making process* is becoming completely non-transparent to humans. And more and more power will be concentrated in non-human hands, in the hands of these algorithms. We are already seeing this happen, for instance, in the global financial markets, where so many transactions are made with algorithms by trading robots, i.e. artificial intelligence. And very often, even the best human experts cannot explain what is going on and *why* the algorithm offers this particular solution and not another.

We have considered only a fraction of those challenges, which humanity will face in the course of ongoing digitalization. But they are the most explicit and illustrative enough to help us realize the scale of possible problems, and the prospects for mitigating them. Perhaps these issues should become the subject of further research.

**Conclusions**

The 'digital age' has brought about numerous advancements, yet it has also introduced complex challenges into modern life. Contemporary *challenges* for human rights in the context of digitalization are mostly connected with data protection and security, privacy concerns, 'digital divide' and inequality, algorithmic bias and discrimination, unpredictable change of labour market, and excessive misuse of technological capabilities by authoritarian regimes.

Among the main *hazards* that digital technologies may bring, we suppose, several are the most probable. In particular, the collection, storage, and use of personal data by governments and corporations have raised reasonable concerns about the right to privacy. Technologies like facial recognition, biometric data collection, and pervasive surveillance threaten individual privacy rights. Balancing the right to freedom of expression with the need to regulate harmful content online poses another significant challenge. Cyber-security threats, data breaches, and the commoditization of personal data create vulnerabilities that can lead to violations of individuals' rights. Emotionally pre-trained neural networks could be used by non-democratic regimes to manipulate with individual consciousness and public opinion. 'Digital divide' finds its expression in unequal access to newest technologies, which exacerbates existing socioeconomic disparities between countries and inside them. Automated decision-making systems and algorithms can enshrine biases, leading to new types of discrimination in areas such as employment, education, housing, and access to services. We still have no comprehension of what will happen when the decision-making process overwhelmingly will be shaped by artificial intelligence algorithms, according to how algorithms understand the whole world. There's a risk of losing control over AI after a certain moment; so the danger is in the lack of transparency.

In order to mitigate these hazards mentioned above, some priority measures could be taken at government levels:

- countries, corporations, and international organizations should collaborate to establish common standards and regulations for digital technologies; it can facilitate a more consistent and effective global approach to reducing hazards associated with rapid evolution of this kind of technologies;
- governments should enact and enforce robust data protection laws that regulate the collection, storage, and use of personal data by both public and private entities;
- countries should invest in cybersecurity measures to be protected against cyber threats, data breaches, and unauthorized access; this includes regular security audits, encryption standards, and incident response plans to minimize the impact of cyberattacks (as for now, not AI itself, rather then 'bad human actors' are the menace to cybersecurity);
- ethical guidelines and standards for the development and deployment of artificial intelligence must be established;
- governments should encourage responsible AI use in public and private sectors; independent oversight and regulatory bodies must be established, to be responsible for monitoring the implementation of digital technology policies; these bodies should have the authority to investigate complaints, enforce regulations, and adapt policies to emerging challenges;
- algorithmic accountability must be ensured; society needs to introduce mechanisms that hold organizations accountable for the algorithms they use; this includes transparency requirements, audits to identify biases, and mechanisms for individuals to challenge decisions made by automated systems;
- governments have to allocate resources for research on the societal impacts of digital technologies, and invest in educational programs to increase public awareness; well-informed citizens are better equipped to


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understand the risks and benefits of technology, and participate in shaping regulatory frameworks;
- policies to reduce the 'digital divide' should be implemented, ensuring equitable access to technology and cyber-space; this may involve infrastructure development, subsidies for underprivileged communities, and initiatives to promote digital literacy.

Among the undoubted *benefits* of digitalization for human rights, we expect a comprehensive digital inclusion, protecting online freedoms, promoting digital literacy, fostering ethical and responsible technological innovation, and establishing robust legal frameworks that safeguard individuals' rights in the digital sphere. Mindful approach to AI deployment could provide us better life standards, education, healthcare and longevity.

The aim of every contemporary political system is to *comprehend* and *regulate* the explosive potential of technology, to provide *responsible governance* of technology. There is no any sense to talk about human rights and freedoms, unless there won't be designed safety protocols and some *reasonable limitations* for using AI-means and technologies until they're studied enough.

The implications of rapid digitalization for human rights, in particular, the impact of artificial intelligence on decision-making needs to become an object of a separate detailed study, which will continue our research on the phenomenon of digitalization.

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# The transformation of the training of preschool educators in the digital age

## Трансформація підготовки вихователів дошкільних закладів у цифрову епоху

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**Abstract**

Nowadays, the informatization of education, the purpose of which is the use of new information technologies in the global rationalization of intellectual activity, is considered as a mandatory and absolute condition for the creation of a new information society. Therefore, we have singled out the main ways of high-quality professional training of future teachers of preschool education institutions in the modern information society. The professional training of future teachers of preschool education institutions is considered as a multifactorial structure in the modern information society and its tasks and educational components are distinguished. Four stages are distinguished and two methods of integration of professional training of future educators are characterized (horizontal and vertical). The application of the personally oriented, competence-based, integrative, activity approaches discussed in the article will provide, by the requirements of employers, a high level of

**Анотація**

Сьогодні інформатизація освіти, мета якої полягає за рахунок використання нових інформаційних технологій в глобальній раціоналізації інтелектуальної діяльності, розглядається як обов'язкова й абсолютна умова створення0 нового інформаційного суспільства. Тому нами виокремлено основні шляхи якісної професійної підготовки майбутніх вихователів закладів дошкільної освіти у сучасному інформаційному суспільстві. Професійну підготовку майбутніх вихователів закладів дошкільної освіти розглянуто як багатофакторну структуру в сучасному інформаційному суспільстві та виокремлено її завдання та освітні компоненти. Виділено чотири етапи та схарактеризовано два способи інтеграції професійної підготовки майбутніх вихователів (горизонтальна та вертикальна). Застосування особистісно орієнтованого, компетентнісного, інтегративного, діяльнісного підходів, що

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training of a creative, competitive personality of the future specialist. The main technologies and factors that are effective in the modern information society are highlighted for high-quality professional training of future specialists. The importance of distance education, cloud technologies, and educational blogs is proven and the advantages of using them for the professional training of specialists are shown.

**Keywords:** professional training, future professionals, preschool education institutions, information society, informatization of education.

розглянуті у статті забезпечать, відповідно до вимог роботодавців, високий рівень підготовки творчої, конкурентоспроможної особистості майбутнього фахівця. Для якісної професійної підготовки майбутніх фахівців виділено головні технології та чинники, що є дієвими в сучасному інформаційному суспільстві. Доведено важливість дистанційної освіти, хмарних технологій, освітніх блогів та показано переваги використання їх для професійної підготовки фахівців.

**Ключові слова:** професійна підготовка, майбутні фахівці, заклади дошкільної освіти, інформаційне суспільство, інформатизація освіти.

## Introduction

The constant dynamics of the development of modern society, the increase of scientific and professional information, the intellectualization of work, the growth of the social role of the individual, and the rapid change of technologies and techniques require higher education institutions to ensure a new high-quality level of the educational process. The main modern direction that will help fulfill such a task is the effective and wide use of modern learning technologies and information tools, particularly information and communication. The 21st century is an information society, which is formed based on socio-economic factors, signs of scientific and technological progress, and information processes.

The processes of technologization and informatization of society directly affect the educational sphere, the modernization of which requires high-quality training of competitive specialists in the link of preschool education with a high level of information and communication culture. Future educators of preschool education institutions should master innovative modern information and communication technologies, which will provide an opportunity to enrich their professional experience, and their personal and professional improvement to qualitatively realize their potential in the education of the younger generation.

Each institution of higher education faces a multifactorial, complex task related to the development and formation of a modern informational educational environment that takes into account the requirements of the social perspective. The parameters of the informational educational environment of the institution of higher education are determined by the requirements for the students who are preparing for work in the conditions of fundamental changes in society (Tymofieieva, 2017).

In modern society, the role of the teacher-educator is growing, and education, from its first level – preschool, is gaining a high status. This poses the task of increasing the requirements for the quality of the educational space, for pedagogical activities, and for the training of future specialists in preschool education. In pedagogical activity, personal and professional aspects go hand in hand. Therefore, one cannot talk about a teacher's pedagogical competence without connecting it with personality development. Therefore, the main thing in the professional training of future teachers of preschool education institutions in the modern information society is the formation of personal qualities of future specialists, the development of professional abilities, and mastering a set of professional and general cultural competencies (Anishchuk, 2020).

## Literature review

In the conditions of Ukraine's entry into the European space of higher education, the problem of convergence of educational paradigms, fundamental principles, methodological approaches in the construction of content and implementation of organizational forms, innovative technologies to ensure the quality of training of future specialists in preschool education is important.

The relevance of the chosen topic is explained by the fact that the activity of a modern preschool education institution is impossible without highly organized methodical work. The



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organization of methodical work in preschool education institutions involves taking into account society's requirements for preschool education, changes in the content and technologies of development, education, and upbringing of preschool children, parents' requests, and children's needs. The study of the problems of methodical work is based on the study of historical origins, content, forms, and methods of its development.

In the domestic theory and practice of pedagogical education, a significant scientific fund has been developed, which serves as a basis for improving various aspects of professional training of educators of preschool children. Methodical advice was offered to O. Yemchyk (2022) and the prospects for the introduction of information technologies in preschool education were considered: lecture materials and the syllabus of the educational discipline were developed, and tasks and creative works for laboratory classes were presented. The possibilities are characterized, the theoretical foundations, means of using information, and computer technologies in the educational process of the preschool education institution are presented, and the algorithm for creating didactic materials using computer programs is shown.

The formation and development of various aspects of preschool education, its content, planning of the educational process, methods and forms of working with children are revealed in works N. Franchuk (2020), the peculiarities of the use of a new specific tool for the child's activity, the technical characteristics of the computer in the professional training of future teachers of preschool education institutions in the modern information society, and the ways of using educational software tools when working with children (developmental programs, didactic games, educational – game complexes, etc.); to organize the educational process of professional training of future teachers of preschool education institutions, ways of forming awareness among education seekers about the possibilities of effective use of information technologies for the use of educational tasks are shown.

Domestic scientists studied various aspects of the training of future teachers of preschool education institutions. The problems of the formation of professional training of future educators are highlighted in research by O. Lystopad, & I. Mardarova (2022). They revealed the essence of the concept of "readiness of educators to implement distance education tools in professional activity"; substantiated the components of the readiness of future educators of preschool education institutions to implement distance education tools in their professional activities; tested and developed a step-by-step method of forming the readiness of future teachers of preschool education institutions to use distance education tools in their professional activities.

The role of teachers in the development of the preschool education system, which influenced the organizational and content principles of methodical work in preschool education institutions, is revealed in research by O. Bida, A. Chychuk, & O. Kuchai (2019). They characterized in the works of domestic and foreign scientists the state of research on the problem of studying the development of giftedness and intelligence in preschool children, proving that the problem of teaching and raising a gifted preschool child in different historical periods was constantly studied by teachers and psychologists, but certain aspects of this multifaceted issue require a more detailed understanding despite the considerable practical and theoretical heritage, primarily at present, given the relevance of the development of a gifted child of preschool age; in the works of domestic and foreign scientists, the study of the problem of studying the development of giftedness and intelligence in preschool children has been clarified. O. Sulyma (2013) proved that the formation of the readiness of future educators of preschool education institutions to implement distance education tools in their professional activities is influenced by methodological approaches: personally oriented, systemic, sociocultural, and activity.

Many scientists have always paid due attention to the research training of future preschool teachers. The problem of the formation of its various components is reflected in the works of scientists O. Naboka, & M. Demchenko (2019). They devoted their research to the professional training of future preschool teachers using electronic educational resources. T. Telychko (2022) developed and tested a program for future teachers of preschool education institutions for their psychological and pedagogical training. The main theoretical methods were used: generalization of the obtained scientific data; descriptive and analytical methods of processing critical and theoretical resources and sources; generalization and synthesis of own experience of training future specialists. In the conditions of the modernization of the education system, the principles of working with the pedagogical staff of preschool education were considered in the


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format of changing the priorities of the implementation of professional training of educators. A. Anishchuk (2020), in the conditions of university education, the peculiarities of professional training of future preschool education specialists are shown. Different approaches and aspects of the development of professional and personal qualities of future specialists of the preschool education institution for professional training are highlighted. The list of competencies of the future specialist was presented, the analysis of state documents was carried out, the components of professional training were highlighted, and the principles of organizing the process of professional training of future teachers of preschool education institutions in the modern information society are substantiated.

In the scientific literature on preschool pedagogy, a significant amount has been accumulated experience that can serve as a basis for solving the research problem. O. Kovshar, N. Nedodatko, M. Baditsa, K. Suyatynova, A. Inshakov, I. Inshakova, K. Konovalova, & M. Chuloshnikova (2020) highlighted the scientific results of research into the theoretical and methodological problems of training future teachers of preschool education institutions in the modern information society using innovative, productive and interactive technologies. They showed the contribution of preschool education scientists-teachers to the development of theoretical and methodological approaches to the process of training preschool education specialists and to the results of studying childhood problems; and described ways of acquiring professional competencies by future educators. K. Shovsh, O. Bida, & A. Margitych (2022) found out the relevant professional training issues for future specialists in preschool education; showed the need for preschool education institutions for professional training of pedagogical workers; proposed the development of new approaches to the methods and technologies of professional training of future teachers of preschool education institutions in the modern information society.

Based on the analysis of the works of many scientists, we state that the state of scientific development of modern problems of preparing future teachers for the implementation of movement mode in preschool educational institutions cannot be considered satisfactory. The effort to improve the professional training of future specialists in preschool education, a thorough study and analysis of the readiness of future educators to implement the movement regime in preschool educational institutions will contribute to overcoming the shortcomings and contradictions between:

- increasing the requirements for the professional competencies of preschool teachers provided by the basic standard and the actual state of their professional training;
- the need to improve the quality of professional training of future educators and the insufficient amount of methodical support for the educational process;
- professional training of future teachers of preschool education for the formation of media culture in older preschool children and the need to develop a system of methods and forms of the learning process.

The training of future specialists in preschool education is considered as "a multifactorial structure, the main task of which is the acquisition by each student of a personal sense of activity, the formation of professional skills, an ever-growing interest in working with children and their parents, as well as in the development of success in activities." Ways of high-quality teacher training for an innovative preschool education institution are shown; intradisciplinary and interdisciplinary integration is characterized; implementation of systemic and personal-activity approaches. The components of the professional training of a future specialist in an educational institution and the main principles of training future educators of preschool education institutions in the modern information society are highlighted; the provisions of the following approaches are defined: personally oriented; interdisciplinary; axiological; humanistic; technological; competence; activity.

**Goal.** To single out the main ways of high-quality professional training of future teachers of preschool education institutions in the modern information society.

**Methodology**

An important methodological toolkit, the basis of which is a set of initial, target attitudes, conceptual ideas, psychological and technological means, methodical and psychodiagnostics, which provide a deep holistic understanding, and knowledge of the child's personality and, on its basis, harmonious development in the conditions of the education system.

To achieve the goal of the research, the following general scientific methods were used: definitive



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analysis - with the aim of clarifying and revealing the conceptual and terminological apparatus of the research; theoretical - analysis, synthesis, comparison, generalization - for the purpose of systematization of methodological and scientific achievements of foreign and domestic scientists, regulatory and legislative documents; interpretative-analytical - for the purpose of analyzing documentary and literary sources; empirical - for the analysis of scientific sources, observation, identification of constructive achievements of the educational field; comparative-pedagogical analysis - for the purpose of comparing, comparing, highlighting distinctive and common features of the development of professional training of future teachers of preschool education institutions in the modern information society; prognostic - in order to theoretically generalize the possibilities of using constructive ideas of experience in the professional training of future teachers of preschool education institutions in the modern information society; retrospective analysis - to study the development and formation of professional training of future educators of preschool education institutions and to identify the specifics of its influence in the modern information society on future specialists.

The experiment is characterized by the formation of experimental and control groups. The number of students in the control group is 39, the experimental group is 87. Intuitive selection of the research object and orientation to statistical methods of description of the research object, tools, and data analysis.

Comparative data on the composition of the experimental and control groups allow us to conclude that the homogeneous indicators in these groups at the initial stage of the experiment are quite close. This confirms the correctness of the grouping and ensures the necessary purity of the experiment, validity, reliability, scientific rigor, and reliability of the obtained data.

The results of the experiment clearly indicate a noticeable increase in the results in the experimental groups compared to the control level among students. Thus, in the experimental groups, the rate of growth of the level of ensuring quality training of future educators for the design of computer exercises, didactic games for working with preschoolers, the selection of the main ways of professionalism of future educators in the modern environment was on average 150% per semester, and in the control group - 123%. In the experimental groups, by the end of the 2nd semester, the number of students whose professionalism is at the reproductive and reproductive levels decreased by an average of 41%, and in the control group - by only 16%. On average, the number of students in the experimental groups who have a partial research level of professional development increased by 21% against 11% in the control group; the number of students engaged in professional activities at a creative level increased by 20%, while the control group practically did not change (increased by 4%).

Thus, in the experimental group, the number of students who are at a reproducible level of professionalism decreased by 65%, and in the control group - by only 35%. Before the end of the experiment, the creative level of professional training was characteristic of 47%, while only 12% of the control group. In the experimental group, the rate of increase in the level of professionalism on average per semester was 180% against 136% in the control group.

The construct validity of the study was established based on a comparison with the results. We standardized it based on a sample of the number of students.

The organization of the experiment determined the use of appropriate diagnostic tools. When choosing methods, their adequacy to the task and compliance with the criteria of validity and reliability were taken into account. Part of the methods was subject to modification, expansion of methods of processing, and interpretation of the received diagnostic material.

When creating control and experimental groups, we used varieties of the sampling method, which is a device for randomizing the elements of the experiment, it is this, taking into account unaccounted factors, that is important in ensuring the random order of research implementation. The introduction of such groups makes it possible to reduce the list of "threats" to external and internal validity and to conduct realistic measurements with the help of data collection and analysis tools over a long period of time in a natural environment (longitudinal experiments).

Qualitative and quantitative processing of the systematized collected information with the help of data collection and analysis tools was carried out using the methods of mathematical statistics. The results of the pedagogical experiment testify to the effectiveness of the pedagogical conditions and program of the experiment developed by us, which is confirmed by the positive results of the main quality indicators formed at the beginning


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and at the end of the experimental work. Therefore, the positive dynamics revealed during the research give reason to believe that the set goal has been achieved.

**Results and discussion**

Nowadays, the informatization of education, the purpose of which is the use of new information technologies in the global rationalization of intellectual activity, is considered as a mandatory and absolute condition for the creation of a new information society. Informatization of education is a factor that contributes to the implementation of professional training, in particular of future teachers of preschool education institutions, and state policy in the field of higher education. Information technologies have brought the impetus of innovations to the system of higher education and can be considered the main means of its innovative development (Shykula, 2013).

Considering the professional education of future teachers of preschool education institutions in the modern information society, we will highlight the application and development of information and communication technologies, and the organization of information processes, which include the following processes: organization, preservation, transfer, accumulation of data, automation, and formalization of knowledge (Bohinich, 2008).

The information space for a person's existence requires his competence in terms of formats and standards for the implementation of information programs, the information community, skills, and abilities to use information resources. In the process of this, pedagogical content and educational and developmental possibilities of semantic processing and assimilation of information are clearly revealed. However, the state of the software and technical means of higher education institutions do not always correspond to the level that satisfies the solution of the tasks facing future teachers of preschool education institutions in the modern information society (Kremen, 2003; 2005).

The implementation of information and communication technologies in the field of education is a necessary innovative process, if it allows to creation of additional opportunities and organizational and technical resources for future teachers of preschool education institutions. This means supporting active learning methods; access of future specialists to a visual form of presentation of material, a significant amount of information; support of information and communication technologies with appropriate instrumental software; the modular principle of construction, which allows replication of individual components of information and communication technologies (Tymofieieva, 2017).

The application of integrative, competence-based, activity-oriented, and person-oriented approaches will ensure, by the requirements of employers, a high level of preparation for the creative, competitive personality of the future specialist (Anishchuk, 2020).

Today, distance education is gaining great popularity due to the transparency of the educational process, saving time, and simplifying access to educational and methodological materials (Hurevych, 2014). Distance education is a system of open educational services provided to all segments of the population in a certain country and abroad with the help of an informational educational specialized environment based on network, TV technologies, multimedia, telecommunication technologies, etc., that is, on distance learning technologies and is pedagogical. To implement distance learning in practice, specialized information systems, learning management systems, LMS, or software-pedagogical systems are used. Such information systems use sets of modules that provide full-distance learning (Polishchuk et al., 2022).

The preparation of future teachers of preschool education institutions in the modern information society for the introduction of distance education tools in their professional activities should be based on the principles. Let's highlight the main ones that contribute to the quality training of specialists (Kravchenko et al., 2022): the principle of systematicity; the principle of joint activity; the principle of relying on subjective experience; the principle of independent learning; the principle of individualization of education (Lystopad & Mardarova, 2022).

We emphasize the necessity and importance of introducing cloud technologies into the professional training of future teachers of preschool education institutions in the modern information society, which provides control and monitoring of the educational achievements of education seekers, the implementation of many types of educational activities, the openness of the educational environment, online testing, saving the funds of the higher education institutions. Their use in the educational process makes it possible to ensure equal access for teachers and students of education to quality educational resources in classes and outside classroom time



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(Hurevych, 2014). "Cloud technologies" are considered to be a system of Internet resources that make it possible to use online educational libraries, media libraries, e-mail, and educational video conferences to obtain educational services; have access to educational data and materials without installing special applications on devices (Borova et al., 2021).

Let's dwell on the functions performed by the blog and which are the main ones for the professional training of future teachers of preschool education institutions in the modern information society (Shchyrbul et al., 2022).

According to S. Labudko (2013), these are the following functions: general cultural (intellectual), scientific and methodical, psychological, didactic, informational and communicative, social, and methodical. An educational blog is "a website that has a certain structure (pages) on which theoretical and practical information (articles, photo, and video materials, hyperlinks to other educational resources, presentations, surveys, assignments, etc.) are placed for teachers, students, teachers of educational institutions. The most common characteristics by which educational blogs are classified are frequency, authorship, presence of multimedia, content features, technical basis, and device type".

The advantages of using educational blogs for professional training are manifested in the following provisions:

- obtaining information does not depend on place and time – in any place where the Internet is available, the student has the opportunity to familiarize himself with the information;
- more opportunities to involve students in active interaction, which can continue during the period of study and after its completion;
- by expressing one's own opinions in writing, activating students' activities, substantiating and arguing, and defending a personal position on any problem (topic);
- involvement of teachers of preschool education institutions in the discussion of important and relevant problems (Naboka & Demchenko, 2019).

Let's highlight the main features of the key professional competencies of future educators of preschool education institutions in the modern information society. They are:

- multifunctionality: solving various problems in various spheres of social and personal life;
- multidimensionality: covering mental and intellectual processes, knowledge, creative discoveries, educational and practical skills, technologies, strategies, emotions, procedures, evaluations, etc.;
- interdisciplinarity and interdisciplinary: used in kindergarten, social sphere, family, etc.;
- sphere of personality development: development of creative, logical, critical thinking of students, self-determination, self-knowledge, self-education, and self-evaluation (Sulyma, 2013).

We conducted an experimental study to check the pedagogical conditions for training future educators to design computer exercises, and didactic games for working with preschool children, and to identify the main ways of high-quality professional training of future educators of preschool education institutions in the modern information society.

To achieve the goal of the research, the following general scientific methods were used: definitive analysis; theoretical; interpretative and analytical; empirical; comparative-pedagogical analysis; prognostic; and retrospective analysis.

Quantitative research. it is characterized by the formation of experimental and control groups, the intuitive choice of the object of research, and the orientation towards statistical methods of describing the object of research, tools, and data analysis. The introduction of such control groups makes it possible to reduce the list of "threats" to external and internal validity and to conduct realistic measurements using data collection and analysis tools over a long period of time in a natural environment (longitudinal experiments). When creating control and experimental groups, we used varieties of the sampling method, which is a device for randomizing the elements of the experiment, it is this, taking into account unaccounted factors, that is important in ensuring the random order of research implementation.

Qualitative and quantitative processing of the systematized collected information with the help of data collection and analysis tools was carried out using the methods of mathematical statistics. As a result of research and experimental work, in particular, processing the results of the study, we specified the significance of directions for increasing the effectiveness of training future educators for the design of computer exercises, didactic games for working with preschool children, highlighting the main ways of quality professional training of future educators of preschool education institutions in modern


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information society. The use of a complex methodology for researching the quality of training of future educators made it possible to obtain verbal data from the participants of the experimental work, to carry out their verification using other research methods.

When conducting procedures for checking the quality of professional training of future teachers of preschool education institutions in the modern information society, the problem of obtaining a system of generalized indicators that clearly characterize the sample arises.

The indicator as a component, a constituent part of the criterion serves as a typical and specific identification of the essence of the qualities of the phenomenon or process under investigation. At the same time, those indicators that characterize the manifestation of a certain quality are dominant.

We expressed the criterion as a general characteristic of a pedagogical phenomenon or object by the formula P = f (a, b, c, d, e..), where P is an objective quantitative measure of some phenomenon A or B; a, b, c, d, e.... - a selected number of indicators. We presented the criterion itself in the form: P(AB)= P(A)+P(B).

When developing the criteria, we took into account such factors as the purpose and scope of the criteria (the criteria should be developed taking into account the specific goals and tasks for which they are intended), semantic certainty (each criterion should be clearly defined and unambiguously understood by all experts who will use his) and constructiveness (the features that describe the criteria must be constructively described.

The analysis of perceptions and views on the criteria required the ranking, arrangement, and systematization of indicators that have a name, meaning, and designation. Therefore, qualitative (value–verbal, non-quantitative description of the degree of manifestation of a certain quality) and quantitative (value–numerical value) indicators were taken into account.

The probability of the results of the conducted experimental work and the reliability of the experimental data are determined using the non-parametric Pearson $\chi 2$ test, which allows you to find differences between two distributions and assess their reliability, as well as obtain the reliability of the results at 95% probability.

We suggested using cluster analysis and random sampling methods to form a sample population of research objects. Taking into account the representative sample, the random sampling method allowed us to conduct quantitative measurements of various phenomena, and pedagogical content, which are important for future teachers of preschool education institutions. This is primarily because the random sampling method allows for the selection of homogeneous groups, among which the problem under study should be investigated. The object of such conducted statistical substantiation is a set of elements characterized by uniformity, reliability, massiveness, integrity, the presence of variation (variability), and interdependence of the states of individual elements. One of the objects of study of the problem of statistical order is the contingent of graduates of institutions of higher education, namely, future teachers of preschool education institutions. The contingent of acquirers is the general population in terms of statistical analysis.

We took into account the fact that the general population differs in a significant amount, so we considered that it was inappropriate to consider the entire population and limited ourselves to the study of only part of it, but extended to the entire general population the obtained results regarding the pedagogical phenomenon of future teachers of preschool education institutions. We consider the obtained experimental data on a limited contingent of future teachers of preschool education institutions who participated in the proposed study to be a sample of the general population formed randomly since any future teacher of preschool education institutions can participate in the experiment at their own request.

The method of random selection of elements of the general population is an important method of mathematical statistics that guarantees the adequacy of a representative sample. Therefore, the representativeness of the samples is ensured by the nature of their acquisition.

In the sampling method, determining the size of the sample is the initial task, since any sample has a given size. With random sampling, there is a rule according to which each unit of the general population can fall into the sample with a certain probability. If this rule is followed, the main advantage of random sampling is realized: the elements of the general population are represented in the sample with probabilities that approach the distribution in the general population. The smaller the sign of dispersion in the general population and the larger the volume of the sample population, the smaller the error of



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representativeness. Such a result is a manifestation of the law of large numbers, which allows you to calculate the required volume of the sample population based on fixed characteristics, having determined in advance the permissible error of representativeness.

The sample population was formed by the method of quota sampling, which is based on some properties of the general population (age of future teachers of preschool education institutions, their education, availability of practical work experience, and initial level of training).

Determination of the number of applicants in the experimental and control groups was carried out by the well-known provision that the more statistically homogeneous the general population is, the smaller the sample size can be. The percentage distribution based on the results of calculations, which includes at least 18 respondents, turned out to be statistically reliable and valid. Thus, the share of the sample population is 5% of the general population of future teachers of preschool education institutions.

Comparative data on the composition of the experimental and control groups allow us to conclude that the homogeneous indicators in these groups at the initial stage of the experiment are quite close. This confirms the correctness of the grouping and ensures the necessary purity of the experiment, validity, reliability, scientific rigor, and reliability of the obtained data.

Research and results ( < (0.05) ) made it possible to accept the hypothesis that the level of readiness of future specialists for professional activities of the control and experimental groups does not differ.

The selective method allows you to transfer the results of selective processing to the entire general population. There is some error in this; the effectiveness of the sampling method in what allows it to be evaluated. The errors that arise when using sample data show how well the characteristics of the sample represent the corresponding characteristics of the general population and are therefore called errors of representativeness.

The magnitude of the sampling error is the difference between the population and the sample population. Sampling errors are different for each specific sample and can be generally characterized using the arithmetic average of all individual errors. In mathematical statistics, formulas have been obtained that allow you to approximately calculate the arithmetic mean of a sample, based on the data of only the available sample.

As a result of the study, we selected four stages and two methods of integration of professional training of future educators are characterized (horizontal and vertical). The application of the personally oriented, competence-based, integrative, activity approaches discussed in the article provides, by the requirements of employers, a high level of preparation for the creative, competitive personality of the future specialist. During the research, with the aim of quality professional training of future specialists, the main technologies and factors that are effective in the modern information society were highlighted. The importance of distance education, cloud technologies, and educational blogs is proven and the advantages of using them for professional training of specialists are shown.
During the experiment, the following basic pedagogical conditions for training future educators to design computer exercises and didactic games for working with preschool children were checked:

1) formation of positive motivation among students of higher education to use information technologies in their future professional activities;
2) relying on one's own life experience, skills, and knowledge acquired during methodical and technological training at a higher education institution;
3) development of methodical and information support for professional training of specialists for the ability to design exercises for children and computer didactic games.

To process the received data: non-parametric mathematical and statistical methods were used.

The confirmatory experiment was conducted at the initial stage of the research. As a result of its implementation, data were collected on the level of development of independence, motivation, self-organization, content-operational knowledge, abilities, and skills in the informatization of education. Further, the analysis of the obtained data made it possible to determine the ways of forming positive motivation among students of higher education for the use of information technologies in future professional activities; use of one's own life experience, and acquired knowledge during training in professional activities; design exercises for children and use computer didactic games when working with children.


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The formative experiment was comparative. Pedagogical conditions were evaluated:

- at the beginning of the pedagogical experiment (diagnostic section);
- during experimental work (intermediate section);
- upon completion of the research stage (final cut).

The formative experiment took place in two stages in the natural conditions of the educational process according to the variable type, which is characterized by purposeful variation in different groups with equalized initial conditions of individual parameters that are subject to experimental research, and comparison of the final learning results.

During the first stage of the formative experiment, the effectiveness of the influence of each of the pedagogical conditions of use selected by us was checked. According to the tasks of the first stage, experimental and control groups were formed.

The identification of the main: individual and small group (based on differentiation) forms of cognitive activity of students, with auxiliary collective and frontal forms, was studied in group E1. In the E2 group, students were involved in performing creative tasks built based on increasing complexity. In the E3 group, there was a consistent increase in the proportion of students' independence. In the control group C1, students were taught within the framework of traditional education.

In the second stage of the formative experiment, we checked the validity of the selected conditions in the complex. To implement the tasks, the following experimental group (E4) was formed, in which the check was carried out: the set of conditions we selected, and one control group (C2), in which the students were trained within the framework of traditional methods.

The similarity of the groups at the initial stage of work was ensured by the close frequency of variation and the average indicator of the student's independence levels, the same technical conditions. The quality control of increasing independence in the control groups was carried out using the same means as in the experimental ones. This made it possible to ensure the objectivity of control and exclude the possibility of an error in the measurement of indicators: due to the use of different assessment tools. The number of students in the control groups – was 39 people, and in the experimental – 87 people.

The results of the experimental work allow us to assess the correctness of the assumptions made based on the theoretical analysis of the problem that is interesting to us and ensure the verification of pedagogical conditions regarding their expediency in the training of specialists.

The analysis of the results confirms the assumption that the level of professionalism in training future educators to design computer exercises, and didactic games for working with preschool children, identifying the main ways of qualitative professional training of future educators in preschool education institutions in the modern information society closely depends on motivational, meaningful – operational and self-organizing factors. A directly proportional dependence is observed in this, i.e.: a low level of professional training corresponds to low values of motivation, self-organization, and content-operational values, and vice versa, a high level of professional training corresponds to high values of motivation, self-organization, content-operational values.

During the formative experiment, we evaluated the following parameters:

- level of professional training of each student of the group;
- relative indicator of the share of students of a given level of professional training in the group;
- the average indicator of the level of professional training of the group;
- growth rates – a relative indicator characterizing the dynamics of change.

The above indicators of the evaluation of the results of the formative experiment allow us to judge the effectiveness of the process of formation of positive motivation among students of higher education for the use of information technologies in their future professional activities; use one's own life experience and acquired knowledge during training in professional activities; design exercises for children and use computer didactic games when working with children only if there is a fairly pronounced ratio of quantitative (percentage) transition of students from one level of activity to another.

The results of the first stage of the formative experiment clearly show a noticeable increase in the results in the experimental groups compared to the control level among students. Thus, in the experimental groups, the rate of increase in the level of ensuring quality training of future educators for designing computer exercises, and



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didactic games for working with preschool children, highlighting the main ways of professionalism of future educators of preschool education institutions in the modern information society averaged 150% per semester, at 123% in the control group. In the experimental groups, by the end of the 2nd semester, the number of students whose professionalism is at the reproductive and reproductive levels decreased by an average of 41%, while in the control group, it changed by only 16%. On average, the number of students in the experimental groups who have a partial research level of professional development increased by 21%, compared to 11% in the control group; by 20% increased the number of students who carry out professional activities at the creative level, while in the control group, it practically did not change (increased by 4%).

Analyzing the results of the second stage of the experiment, it should be noted that positive changes in the level of professionalism of students occurred both in the experimental and control groups. This means that even within the framework of the traditional system of independent work of students, the development of professional training is taking place through the introduction of pedagogical conditions as they accumulate professional knowledge and experience in the organization of ways of forming positive motivation for students of higher education to use information technologies in their future professional activities; use one's own life experience and acquired knowledge during training in professional activities; design exercises for children and use computer didactic games when working with children.

However, this process proceeds less intensively in the control than in the experimental groups, where special conditions have been introduced that contribute to the formation of positive motivation among students for the use of information technologies in their future professional activities; use one's own life experience and acquired knowledge during training in professional activities; design exercises for children and use computer didactic games when working with children. Thus, in the experimental group, the number of students who are at a reproducible level of professionalism decreased by 65%, while in the control group, it decreased by only 35%. Before the end of the experiment, the creative level of professional training was typical for 47%, while in the control group only 12%. In the experimental group, the rate of increase in the level of professionalism averaged 180% per semester, against 136% in the control group.

Their analysis of the results shows a difference in the levels of professionalism between the students of the experimental and control groups.

So, the experimental verification of pedagogical conditions in the system of professional training of students made it possible to draw the following conclusions.

1. The research methodology included ascertaining and formative experiments.
2. As a result of conducting a confirmatory experimental study, the existence of a close relationship between the level of professionalism of students and the values of motivational, content-operational, and self-organizational indicators was established.

The formative experiment confirmed the opinion that for the effective formation of higher education students have positive motivation to use information technologies in their future professional activities; use one's own life experience and acquired knowledge during training in professional activities; design exercises for children and use computer didactic games when working with children in the system of professional training of students requires consideration of the listed pedagogical conditions. As the experiment showed, the conditions work to increase the level of professionalism of students, but a statistically significant effect is achieved only when the entire complex of selected conditions is implemented. Therefore, we recommend the proposed pedagogical conditions for use in institutions of higher education when training future educators.

**Conclusions**

Nowadays, the informatization of education, the purpose of which is the use of new information technologies in the global rationalization of intellectual activity, is considered as a mandatory and absolute condition for the creation of a new information society. Therefore, we have singled out the main ways of high-quality professional training of future teachers of preschool education institutions in the modern information society.

The professional training of future teachers of preschool education institutions is considered as a multifactorial structure in the modern information society and its tasks and educational components are distinguished. Four stages are distinguished and two methods of integration of professional training of future educators are characterized (horizontal and vertical).


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The application of personally oriented, competence-based, integrative, activity approaches, which are considered in the article, will ensure, by the requirements of employers, a high level of training of a creative, competitive personality of the future specialist.

The main technologies and factors that are effective in the modern information society are highlighted for high-quality professional training of future specialists.

The importance of distance education has been proven. The preparation of future teachers of preschool education institutions in the modern information society for the introduction of distance education tools in their professional activities should be based on the principles disclosed in the article.

Necessary and important in the professional training of future teachers of preschool education institutions in the modern information society are cloud technologies that provide control and monitoring of the educational achievements of education seekers, the implementation of many types of educational activities, the openness of the educational environment, online testing, and the saving of funds of higher educational institutions.

The advantages of using blogs in education compared to other electronic resources are shown. The key professional competencies of future educators of preschool education institutions in the modern information society are identified by their main characteristics.

The basic pedagogical conditions for training future educators to design computer exercises and didactic games for working with preschool children are outlined.

An experimental study was conducted to check the pedagogical conditions for training future educators to design computer exercises, and didactic games for working with preschool children, identifying the main ways of qualitative professional training of future educators of preschool education institutions in the modern information society made it possible to propose recommendations based on the results of the obtained in the conducted research.

For high-quality training of future educators to design computer exercises, and didactic games for working with preschool children, it is necessary:

1. formation of positive motivation among students to apply information technologies in their future professional activities;
2. relying on one's own life experience, skills, and knowledge acquired during methodical and technological training at a higher education institution;
3. development of methodical and information support for professional training of specialists for the ability to design exercises for children and computer didactic games.

The results of the pedagogical experiment testify to the effectiveness of the pedagogical conditions and program of the experiment developed by us, which is confirmed by the positive results of the main quality indicators formed at the beginning and at the end of the experimental work. Therefore, the positive dynamics revealed during the research give reason to believe that the set goal has been achieved.

Research and experimental work showed that to improve the professional training of future teachers of preschool education institutions, several tasks must be solved and many problems must be investigated, such as improving the qualification culture of specialists in this field.

Further research will be aimed at the possibilities of using cloud technologies, which ensure the quality and openness of the educational environment.

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# Environmental culture in ecologists: keys to their professional training

## Екологічна культура екологів: ключі до їх професійної підготовки

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**Abstract**

The article reveals the pedagogical conditions for the formation of the environmental culture of ecologists in the process of preparation for professional activity. An important component of the environmental culture of ecologists is the creation of the desired structure or order in nature and the education of high humanistic life values and guidelines in human life. The components that are important in the formation of the environmental culture of ecologists are singled out. The main functions required by environmental education, which must be taken into account when training ecologists, are highlighted. Based on the analysis of the environmental culture of the individual, the article defines its integrative essence, the content of environmental education, and pedagogical conditions for its successful implementation. Having analyzed the ecological culture of the individual, revealing its integrative essence and the content of environmental education, we conducted an experimental study to confirm the applicability, optimality, and effectiveness of the proposed pedagogical conditions for the formation of the environmental culture of an ecologist. The results

**Анотація**

У статті розкрито педагогічні умови формування екологічної культури екологів у процесі підготовки до професійної діяльності. Важливою складовою екологічної культури екологів є створення бажаного устрою чи ладу в природі і виховання високих гуманістичних життєвих цінностей та орієнтирів у людському житті. Виокремлено компоненти, які є важливими у формуванні екологічної культури екологів. Висвітлено основні функції, яких вимагає екологічна освіта, які необхідно враховувати при підготовці фахівців-екологів.На основі аналізу екологічної культури особистості у статті визначено її інтегративну сутність, зміст екологічної освіти та педагогічні умови її успішної реалізації. Проаналізувавши екологічну культуру особистості, виявивши її інтегративну сутність та зміст екологічної освіти, ми провели експериментальне дослідження з метою підтвердження застосовності, оптимальності та ефективності запропонованих педагогічних умов формування екологічної культури еколога в процес професійної підготовки. Експеримент включав такі етапи: підготовчий, констатуючий

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of the experimental study confirmed the applicability, optimality, and effectiveness of the proposed pedagogical conditions for the formation of the environmental culture of an ecologist in the process of professional training.

**Keywords:** environmental culture, pedagogical conditions, ecologists, professional activity, ecological education.

та формувальний. Результати експериментального дослідження підтвердили застосовність, оптимальність та ефективність запропонованих педагогічних умов формування екологічної культури еколога в процесі професійної підготовки.

**Ключові слова:** екологічна культура, педагогічні умови, екологи, професійна діяльність, екологічна освіта.

## Introduction

Nowadays, not only the flora and fauna, but all natural resources are on the verge of exhaustion. According to the World Wildlife Fund, 30-40 years ago, only one species of animal disappeared every day on Earth, and now one species disappears in just 1 hour. In the conditions of such a situation, which can be called a crisis, it is important to raise the environmental education of the entire population of the planet to a high level, to activate the spread of ecological knowledge, to form an environmental culture among the population, and in particular, first of all, the environmental culture of student youth. So, we see the threat to life and human civilization posed by the global problems of today, which cause the need for environmental education and become quite relevant in the modern information society (Diachenko-Bohun et al., 2019). Environmental education for the entire population of the planet must be actively implemented in the practice of preschool and school life of each individual and continue throughout the life of a person. But, as experience shows, many teachers are not ready to organize and carry out ecological and pedagogical activities in educational institutions. This leads to the fact that the environmental knowledge of education seekers is formed at a low level (Stetsula & Orshanskyi, 2023).

Therefore, high-quality natural education for future ecologists, and biology teachers, able to interest students in education, familiarize them with the methods of scientific research (description, experiment, observation, synthesis, analysis, explanation, classification, etc.), arouse their interest in ecological and biological research, to encourage cognitive, educational and research activity by one's own example) (Rudyshyn et al., 2023).

The search for ways of interaction between harmonious nature and society leads to the formation of the theory and practice of environmental education, an intensive process of environmentalization of the general culture of mankind, and in this matter, the preparation of ecologists for professional activities and their activities to improve the stability of environmental education for the entire population of the planet is important.

There is a contradiction between the insufficient development of this problem in the educational field and the general recognition of the need for environmental education. Therefore, the purposeful process of the formation of ecological knowledge and the formation of the environmental culture of ecologists during the professional and practical training of a modern specialist is one of the main ones today. Therefore, we analyze the literature that reveals research on the preparation of ecologists for professional activities and ways of forming the environmental culture of ecologists.

The training of competent specialists for environmental activities in the professional sphere, and the formation of environmental culture in them is one of the main levers in solving the environmental problems of Ukraine, the urgent issue is the training of citizens with a high level of environmental awareness and culture.

However, the problem of forming the ecological culture of future specialists in the field of ecology remains insufficiently studied. In particular, the problem of the formation of the environmental culture of ecologists has not been studied until now.

The topicality of the problem, its insufficient theoretical and practical development, and the need to resolve certain contradictions led to the choice of the topic of our article.

In the context of environmental education, the following aspects are highlighted in the article: the components that are important in the formation of environmental culture of ecologists are characterized; the main functions of


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environmental education, which must be taken into account when training specialists in ecology, are defined; the formation of environmental culture of ecologists during preparation for professional activity is characterized; computer multimedia educational programs used for the formation of environmental culture of ecologists during preparation for professional activities in the educational process of a higher educational institution are selected; student interviews of the group are highlighted; the integrative essence, the content of environmental education and the pedagogical conditions for its successful implementation are determined; the general tasks of the experiment and the implementation of pedagogical conditions for the formation of ecological culture of ecologists are disclosed.

**Literature review**

For natural science pedagogical education, one of the leading directions for the realization of its humanistic goals is to acquaint students with the global problems of the modern world, which are solved through the unity of natural and humanitarian knowledge. Hence, the task of the higher school arises, which should ensure the formation of environmental competence and readiness of future specialists to implement the educational principles of sustainable development of society.

The theoretical and methodological foundations of the substantiation of the principles and approaches to the construction of a system of continuous environmental education in educational institutions of various levels were implemented by T. Safranov (2021), he analyzes the state of higher environmental education, defines the socio-economic foundations of society, and describes the environmental component of education, which is a basic component of state environmental policy.

Also, T. Saienko, & S. Boichenko (2013) raise questions regarding the relevance and development of the system of environmental higher education on the example of technical universities. Scientists have shown the determining factors of the formation of a nature-harmonious, harmonious, eco-safe society and revealed the components of education for balanced sustainable development of society; it is proved on the actual material that in times of global ecological crisis, the spread of eco-pedagogy is a necessary condition in the direction of noosphere genesis and is a basic component of the process of transformation of society.

The process of developing the environmental competence of students is considered through the prism of the formation of a cognitive component, environmental values, and motives for behavior in the environment, which are determined by external educational and educational influences, the level of development of environmental self-awareness and culture of the individual and its activities. The formation of environmental culture, consciousness, and worldview of students of higher education institutions was studied by N. Stetsula, & L. Orshanskyi (2023), they used the example of pedagogical institutions of higher education, talk about the need for modern ecological training of teachers of natural sciences.

The formation of environmental competence at various stages of personality ontogenesis has been the subject of scientific research S. Rudyshyn, O. Lutsenko, A. Kmets, & V. Konenko (2023) give concrete examples of the importance of educational and research activities of future biology teachers and ecologists in the practice and theory of their professional training; The possibilities and role of the school's ecological and biological office are shown.

In turn, the scientists of Ibero-American countries consider the problem of environmentalization of education and pay attention to the importance of environmental knowledge in the process of forming the ecological culture of the individual. Such scientists as D. Ludwig, & L. Poliseli (2018), in the article, describe the current debates about the integration of traditional and academic ecological knowledge (TEK and AEK) struggle with a dilemma of division and assimilation. R. González Salas, M. Vidal del Río, I. Pimienta Concepción, & C. Lizcano Chapeta (2021), conduct research to form an environmental culture in the student body. Y. Pérez, N. Y. Bravo, & I. Valdés, (2017) define a new definition of ecological culture based on research conducted at the University of Cienfuegos, which aims to consider it as a process and the result of formative environmental influences that allow a university professor to understand, explain and guide the cognitive activity, practical, axiological (or evaluative) and communicative, oriented to the preservation of the environment of his students. The authors, based on the formulated concept of the models, determine the process results, indicators, criteria for evaluation, and tools that will be presented to professors, managers, and specialists of the university to practically confirm the development achieved by


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the teachers of the environmental culture of universities.

According to the scientists of Ibero-American countries, there is an emphasis on the need to green the entire educational process, which will enable the formation of a high environmental culture in the world's youth. The formation of the ecological culture of ecologists requires, first of all, a high level of ecological culture of the teacher, and his ecological and methodological literacy.

So, the results of the analysis of scientific and methodological literature allow us to see the analysis of the formation of the current state and prospects of higher environmental education, which scientists consider the central link of the entire continuous system. The analysis conducted by scientists of the current state of environmental education in institutions of higher education, and the analysis of curricula and educational programs of many non-ecological and ecological specialties, notes the absence or insufficiency of the ecological component, that is, in the training of specialists, due attention is not paid to the environmentalization of higher education.

The analysis of pedagogical, educational, and methodological literature on the topic of the study allows us to outline the contradictions that prove the need to improve the process of forming the ecological culture of ecologists, in particular, between:

- modern requirements for the level of ecological and professional training of future ecologists and the actual state of their training in educational institutions;
- the public need for highly qualified specialists in the field of ecology, competitive in the labor market, and the real level of formation of their environmental culture;
- the need for end-to-end environmentalization of the content of the educational process and the need for educational programs of professional training that will contribute to the improvement of the quality of professional environmental education and culture;
- the expediency of future specialists' formation of ecological knowledge and skills regarding the preservation and improvement of the environment and the inadequacy of scientifically based modern pedagogical technologies, the implementation of which ensures the effectiveness of this process.

Since in recent years, there has been insufficient public interest in the training of ecologists, it is therefore advisable to investigate what measures are worthwhile for the formation of the environmental culture of ecologists in preparation for professional activities.

**Goal:** to propose and verify the effectiveness of pedagogical conditions for the formation of the environmental culture of ecologists in preparation for professional activity.

**Methodology**

Logical basis of the research is the philosophical propositions of the scientific theory of knowledge of social phenomena: about the unity of activity, consciousness, and mental neoplasms; about harmonious and integral development of the personality, interrelationship, and interdependence of axiological and anthropometric approaches in the socialization of the personality, development of his spiritual cultures The specific methodology of the research was based on the ideas of the theory of the activity essence of a person and his creative activity, educational concepts of integrity as a principle of social phenomena and processes, a systemic approach with a multi-level and comprehensive analysis of objects pedagogical activity.

The practical significance of the research lies in the introduction of pedagogical conditions into the educational process of educational institutions (the development of the general culture of the individual as a prerequisite for the formation of the environmental culture of ecologists, the purposeful design of an informational and ecological educational environment, ensuring the positive motivation of future ecologists for the formation of an ecological culture, fostering the need for constant professional self-improvement in future ecologists, the inclusion of future ecologists in environmental protection activities).

To achieve the goal, the methods of scientific knowledge, which are generally scientific, were used:

- theoretical – study and analysis of psychological-pedagogical, philosophical, methodical literature, scientific work of scientists on the problem of the formation of the environmental culture of ecologists in preparation for professional activity – to



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outline the conceptual boundaries of the researched problem;

- modeling – to develop ways of forming the environmental culture of ecologists in preparation for professional activity; comparison of the obtained data – to clarify dependencies and cause-and-effect relationships;
- analogy, logical-systemic analysis, classification, deduction, induction, and generalization of practical and scientific-theoretical data – to determine the pedagogical conditions for the formation of the environmental culture of ecologists in preparation for professional activity;
- empirical – observations, questionnaires, tests, and methods – to find out ways of implementing pedagogical conditions and checking their effectiveness for the formation of the environmental culture of ecologists in preparation for professional activity;
- pedagogical experiment (declarative, formative) – to check the effectiveness of the specified pedagogical conditions for the formation of the environmental culture of ecologists in preparation for professional activity.

Having analyzed the environmental culture of the individual, revealing its integrative essence and the content of environmental education, we conducted an experimental study to confirm the applicability, optimality, and effectiveness of the proposed pedagogical conditions for the formation of the environmental culture of an ecologist in the process of professional training.

During the empirical research, the activities of all subjects of professional training were studied. As part of the empirical research, the documentation was studied, the classes and activities conducted by teachers to form the environmental culture of higher education students, the organization of scientific and methodical work, the activities of teachers in the training of ecologists, the role of the administration's management activities in the formation of the environmental culture of ecologists were analyzed. More than 800 people participated in the empirical study.

The purpose of the experiment: to check the effectiveness of the pedagogical conditions identified by us on the formation of the environmental culture of ecologists.

The implementation of the pedagogical experiment was carried out in three stages: preparatory, main, and final.

At the preparatory stage, the purpose and tasks of the research were determined, the experimental plan was developed, methods of measurement and processing of results were selected, control and experimental groups were selected, and their homogeneity was checked.

At the main stage, an experiment was conducted.

At the final stage, the results of the experiment were analyzed, their reliability was confirmed, and conclusions were drawn about the pedagogical effect of the experiment.

The following research methods were used in the experiment: observation, conversation, and testing. The conducted analysis allows us to conclude that at the ascertainment stage of the experiment, most ecologists do not have sufficiently formed knowledge and skills of the ecological element.

The reliability and validity of the obtained results, and the objectivity of their assessment were ensured by the methodological soundness of the initial positions and the qualitative mechanism for evaluating the quality under study, the use of a complex of complementary research methods, and the involvement of a group of respondents from a higher educational institution in the analysis of its results.

To assess the homogeneity of experimental and control data, statistical processing was performed using MS Excel and SPSS (Statistical Package for Social Science).

The results of the experimental study confirmed the applicability, optimality, and effectiveness of the proposed pedagogical conditions for the formation of the environmental culture of an ecologist in the process of professional training.

**Results and discusión**

Environmental education is a holistic cultural phenomenon, a combination of the processes of education, training, and personality development. Nowadays, all the countries of the world community are faced with solving the environmental and acute socio-economic problems of the planet. The international regulatory and legal educational base of the last decade emphasizes the need for effective environmental education for all mankind. It is this that determines the need for environmental culture and consciousness, which correspond to and are based on new criteria for assessing the relationship between nature and human society


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and contribute to the preparation of citizens with a high level of ecological knowledge and, first of all, the formation of the environmental culture of ecologists (Rubel, 2013).

## 1. Components that are important in the formation of the environmental culture of ecologists

In the context of environmental education, scientists single out the following components that are important in the formation of the environmental culture of ecologists:

- scientific knowledge about connections and relationships in the system "man – society – nature" (a system of concepts, ideas, and regularities that represent the reflection of moral, technical, philosophical, and legal aspects of ecology in their development);
- knowledge about appropriate methods of individual activity and its environmental culture in the natural environment;
- the experience of the emotional and value attitude of humanity to the formation of the environmental culture of the individual and nature, which includes value orientations, feelings, beliefs, motives based on which the environmental culture of a person is formed and the readiness for practical activities and awareness of a person's place in the world;
- experience in practical, creative environmental activities to form the environmental culture of the individual.

All forms and types of human activity related to the rational solution of the environmental problem are included in such activities for all social activity and environmentalization of social production; an environmental culture is formed, which covers various types of human activity: both in the ideal and in the material spheres related to the development, knowledge, preservation, and transformation of the environment (Stefankiv & Maksymovych, 2012). Such components are important in the formation of the environmental culture of ecologists. It should be noted that the professional training of ecologists is an important and necessary component of the ecological education of mankind. After all, the professional staff of environmental protection and the field of protection are specialists whose training ensures successful activity in all-natural diversity, helps to solve problems, and fulfills the tasks set for the ecological sphere at the modern stage (Starovoit, 2005).

Among the strategic main directions of the modern development of environmental education is the development of cooperation in the field of science of international relations, environmental education, environmental protection, preservation of the biosphere and civilization, and rational use of natural resources. This strategic direction, in our opinion, is especially important in the formation of the environmental culture of ecologists, in their professional training, because the peculiarity of the future professional activity of an ecologist is the solution to professional issues in a global dimension not only within the borders of one country but also far beyond its borders (González et al., 2021). As the most important means of professional communication for future ecologists in the conditions of constant expansion of international contacts and development, perfect knowledge of a foreign language enables the formation of an environmental culture in preparation for the professional activities of ecologists and the entire community and causes increased motivation in language learning (Sura, 2005).

The general goal of the formation of environmental culture of ecologists during foreign language professional training of future ecologists is to ensure their readiness in the academic and professional environment for effective communication, that is, their behavior in real situations of professional and academic life. Communication in a foreign language will allow the future specialist to secure a worthy place not only in the domestic but also in the global labor market (Rubel, 2013).

## 2. The main functions of environmental education, which must be taken into account when training specialists in ecology

Let us name the main functions required by environmental education, which must be taken into account when training specialists in ecology:

1) formation of ecologically adequate ideas about relationships in nature itself and the system "Man – Nature – Society". This enables the individual to learn how and what is happening in the natural world, between nature and society, between man and nature, and how, from the point of view of ecological expediency, it is worth acting;
2) formation of a system of skills, abilities, and strategies of interactions with nature;
3) forming an attitude towards the natural world. Ecological knowledge guarantees



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ecologically appropriate behavior of the individual under the condition of an appropriate attitude towards nature;

4) performance of an important informative function, since ecology provides a person with extensive information about natural resources that provide the material basis for the existence of an individual, about the natural environment, clarifies the place of a person in nature, reveals his connections with the universe and it;
5) the development of communicative effective interaction of professional communication in a foreign language environment, regardless of the educational and social status of a person, the communicative capabilities of the individual through the clarification of concepts that serve as an important component of the modern communicative minimum of each individual;
6) environmental education and culture form the personality of a person and citizen, developing their psycho-emotional and intellectual spheres, providing an opportunity to think logically in preparation for professional activity and throughout life, forming an attitude towards nature as the world of their existence, form in ecologists the ability to predict the consequences of their behavior in society and nature, to realize the destiny of the earth as one's own, and one's destiny as the destiny of the earth (Diachenko-Bohun et al., 2019).

Innovative technologies in education are a mandatory element of the formation of the environmental culture of ecologists in preparation for professional activities to achieve high-quality education, i.e. competitive education, which would be capable of providing each environmental specialist with creative self-assertion in various social spheres, contributed to the creation of conditions for independent achievement of any goal by the environmental specialist (Silva & Ramos, 2023).

## 3. Formation of ecological culture of ecologists during preparation for professional activity

The formation of the environmental culture of ecologists during preparation for professional activity is characterized by the following:

– empirical orientation – conducting innovative classes developed by teachers in various areas of environmental education;
– theoretical orientation – improvement of the created integrated and innovative courses of environmental direction, combining numerous subjects provided by the curricula.

Innovative technologies show students of higher education "the world as a whole", overcoming the disciplinary diversity of the scientific presentation of the material. Freed up due to such an approach to education, the educational time is used to implement full-fledged profile differentiation in the educational process. After all, 98% of students in higher education consider the computer a work tool. And only a small proportion of students consider it necessary for entertainment and as an opportunity to communicate with friends.

## 4. Computer multimedia educational programs are used for the formation of the environmental culture of ecologists during preparation for professional activities in the educational process of a higher educational institution

Computer multimedia educational programs used for the formation of the environmental culture of ecologists during preparation for professional activities in the educational process of a higher education institution allow:

– to convey a larger volume of educational material in a minimum time than when working from a textbook;
– timely and quickly replenish theoretical information with new events and environmental facts (Dovhopola, 2019).

During the formation of the environmental culture of ecologists during preparation for professional activities, video clips, and voice accompaniment, bright pictures on the topic cause great interest, which contributes to a more effective discussion during the discussion of a certain topic. A more pronounced individual approach is facilitated by the use of computer technology. The use of computer multimedia programs increases the effectiveness of education and takes into account the individual characteristics of the student (Omonov & Nomozov, 2022).

An important aspect of the intellectual development of the individual in the process of forming the environmental culture of ecologists is the development of figurative thinking, which ensures in the process of cognition the selection of spatial relations and properties in the phenomena and objects of reality, the creation of


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three-dimensional images on this basis and operation in the process of solving environmental problems with them (Bida et al., 2021).

An important component of any creative activity is imaginative thinking, which is based on the use of flexible associations of moving tasks of ecological content. The effectiveness of assimilation of the material during its study has a special influence on the level of development of figurative thinking, which constantly requires not only the operation of images but also the creation of images during the formation of the environmental culture of ecologists (Diachenko-Bohun et al., 2019).

The quasi-professional activity of ecologists in preparation for professional activity is organized with the help of the specifics of the real educational process of teaching biology and ecology in educational institutions, the relationship between the teacher and students of education, modeling in laboratory-practical classes the conditions of environmentalization of education (Zavelevsky et al., 2022).

Specific situations-tasks were modeled by us in the "Methodology of teaching ecology" classes. As an example, the following tasks were proposed for the formation of the environmental culture of ecologists in preparation for professional activity: demonstrate an experiment to confirm a certain physiological process, organize a thematic survey, simulate fragments of various types of classes using an excursion into nature, interactive teaching methods, organize an ecological game, observation on the pre-school educational and research plot, in a corner of living nature and directly in nature, which allowed students to feel like a practical specialist.

Within the framework of a modern classroom lesson on environmental disciplines, special attention should be directed by the teacher to the planning of cognitive, educational, and independent activities of students (Stetsula & Orshanskyi, 2023).

For the formation of the environmental culture of ecologists during preparation for professional activity, professional practice is important, and interactive forms of organization of training of higher education students are mandatory (Ivanchuk et al., 2023).

Industrial practice is an essential period for a student to work as an ecologist. Failures that occur during pedagogical practice. Due to the lack of formation of the environmental culture of specialists, they push students away from the future profession and reduce the desire to work, internal and external positive motivation is usually transformed into an external negative one. Therefore, students need the help of methodologists and teachers. The above contributes to the successful entry of the future specialist into the professional environment, which in turn ensures the professional development of an ecologist and is a prevention of maladaptation. Student interview groups were created for interns to avoid difficulties that arose in the process of practice, they were allowed to receive daily individual consultations from methodologists and ecologists.

## 5. Student group interviews

Student interview groups, which were created for:

- understanding, systematized vision, analysis of one's own professional behavior and professional actions, as well as awareness of professional mistakes;
- mutual cooperation in the process of pedagogical practice and professional cooperation of trainee students, which provided them with the necessary knowledge;
- self-development and reflection;
- effective analysis of the quality and appropriateness of the technologies and methods of the educational process used by them during practice, adaptation to the future profession, exchange of experience, formation of professional skills, and practical and theoretical process during professional development;
- involvement of all participants of the intervention group in the group solution of problematic professional situations.

Interviews were aimed at solving difficulties from the general organization of the educational process and from a specific topic. The proposed interactive technology for the formation of the environmental culture of ecologists in preparation for professional activities involves a certain stage: the creation of an intervention group (5-6 people); choosing a group moderator; definition of group work rules; individual announcement of each of the participants of a personal problem that arose during practice; the choice for everyone of an actual problem for further mutual discussion (Dovhopola, 2019).



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Group work, research activities, and work in pairs on projects with the use of modern equipment are of great importance for the formation of the environmental culture of ecologists in preparation for professional activity.

Due to the combination of modern information communication and pedagogical technologies, it is possible to improve the quality of professional training of future ecologists, to form an environmental culture. Web quests are an example of such effective integration. Based on the use of information technologies, we will implement project-based training. Therefore, it is effective to conduct a web quest from the "Ecology" course based on the Google Blogger service with a detailed description of the process of completing all tasks. The formed educational and research skills of students, future ecologists, are improved during laboratory and practical classes, and their professional skills are improved during the implementation of research tasks of field practice in ecology, zoology, genetics, etc. The digital measuring complex is widely used in these classes. The devices of the complex make it possible to study the reaction of plants to the degree of illumination, pH of the environment, etc (Bondar et al., 2015).

Educational excursions are an integral part of the formation of educational and research abilities and skills and contribute to the formation of the environmental culture of ecologists. Students, in natural conditions during educational excursions: collect material, investigate objects, perform scientific works, and get involved in the creation of an ecological trail (Rudyshyn et al., 2023).

## 6. Integrative nature, content of environmental education, and pedagogical conditions for its successful implementation

Based on the analysis of the environmental culture of the individual, its integrative essence, the content of environmental education, and the pedagogical conditions for its successful implementation were determined:

1) creation of an innovative material and technical base in institutions of higher education, with the help of which, through independent educational and research activities and cognitive activity, the searching and creative abilities of future ecologists are developed;
2) innovative technologies in education are a mandatory element of the formation of the environmental culture of ecologists in preparation for professional activity;
3) a high and perfect level of proficiency in a professionally oriented foreign language, which leads to the reorganization of the process of modern training of future ecologists for the formation of an environmental culture of ecologists;
4) the development of figurative thinking, which ensures in the process of cognition the selection of the reality of spatial relations and properties in phenomena and objects, the creation of three-dimensional images;
5) based on the contextual approach of applying quasi-professional activities, which is implemented by modeling future professional activities;
6) professional practice with the use of interactive forms of organization of training of higher education seekers;
7) introduction of group work, research activities, and work in pairs on projects using modern equipment for the formation of the environmental culture of ecologists.

Having analyzed the environmental culture of the individual, revealing its integrative essence and the content of environmental education, we conducted an experimental study to confirm the applicability, optimality, and effectiveness of the proposed pedagogical conditions for the formation of the environmental culture of an ecologist in the process of professional training.

During the empirical research, the activities of all subjects of professional training were studied. As part of the empirical research, the documentation was studied, the classes and activities conducted by teachers to form the environmental culture of higher education students, the organization of scientific and methodical work, the activities of teachers in the training of ecologists, the role of the administration's management activities in the formation of the environmental culture of ecologists were analyzed. More than 800 people participated in the empirical study.

We will present in detail the experimental part regarding the verification of the effectiveness of the pedagogical conditions for the formation of the environmental culture of ecologists that we have identified.

The purpose of the experiment: to check the effectiveness of the pedagogical conditions identified by us on the formation of the environmental culture of ecologists.


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## 7. General tasks of the experiment and the implementation of pedagogical conditions for the formation of environmental culture of ecologists

General tasks of the experiment:

- Implement pedagogical conditions for the formation of the environmental culture of ecologists.
- Obtain quantitative and qualitative data to verify the reliability of the experimental results.

Methods of data acquisition: observation, testing, and study of the products of scientific and methodical work in the preparation of ecologists.

The experiment included the following stages: preparatory, ascertaining, and formative.

The main goals of the preparatory stage: working out individual substantive and procedural means, and preparation of experimental material necessary for the next stages of the experiment. The realization of the set goals required the definition of tasks:

1) on the development of nomenclature of goals and educational tasks of all types and organizational forms of scientific and methodical work;
2) regarding the adjustment of the plans of scientific and methodical work of educational institutions, which, according to the goals of the study, are included in the experiment;
3) regarding the selection of interactive forms and methods of organizing scientific and methodological work;
4) selection and development of diagnostic questionnaires and tests.

The purpose of the ascertainment stage of the experiment was to identify the initial level of formation of components, elements, and levels. The results of the ascertaining stage of the experiment were also used as motivators to intensify the participation of ecologists in scientific and methodological work to form the environmental culture of ecologists. The main tasks of the ascertainment stage of the experiment were as follows:

1) measure the level of formation of the environmental culture of ecologists and its individual components;
2) interpret the received data.

The following research methods were used: observation, conversation, and testing.

The conducted analysis allows us to conclude that at the ascertainment stage of the experiment, most ecologists do not have sufficiently formed knowledge and skills of the ecological element.

We had experimental groups "A", "B", "C", and control – group "D".

As the research shows, ecologists of groups "A" and "B" have formed an environmental culture at a high level, the ability to manage the processes of self-learning, self-development, and self-education (50.0; 48.3%). The high-level indicator is lower in groups "C" – 35.8; "D" – 32.8%. It should be noted that in group "D" the result of the formation of environmental culture was found at the lowest level. We attribute this to the need to more effectively stimulate the processes of forming an environmental culture in a higher educational institution. Ecologists of all groups showed a stable average level in the formation of environmental culture (53.6; 58.3; 50.0; 67.2%). Thus, all aspects of the functional element are sufficiently developed.

Ecologists of the "B" group found indicators of an average level: 55.0% of respondents know the content of some ecological functions. An additional study using the questionnaire "Formation of environmental culture of ecologists", conducted in this group, confirmed this result. Data on the formation of the operational component correlate with the results of the development of the informational component of this level of environmental culture formation. The analysis of the scaling data showed that the respondents do not realize the importance of implementing pedagogical conditions for the formation of the environmental culture of ecologists.

The teachers of groups "A", "C" and "D" demonstrated the predominance of low (28.6; 30.4; 25.9%) and medium (46.4; 50; 65.5%) levels of formation of this indicator. Teachers of group "B" showed a high (30.0%) and average (63.4%) level.

The formation of the components of the functional element of environmental culture only at the level of co-management has lower indicators. The majority of respondents of groups "A", "B" and "D" are poorly familiar with the content of environmental culture (60.7; 82.1; 79.3%), and 45.1% of respondents of group "B" know only parts of such functions of the


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formation of environmental culture and the need to improve the practical component in the formation of environmental culture.

Respondents can recognize only some aspects of the environmentalist's activity style (50.0; 63.4; 48.2; 67.2%) and environmental culture (60.7; 51.7; 53.5; 70.8%). Moreover, some respondents showed zero (7.1; 0; 3.6; 1.7%) and low (17.9; 16.6; 30.4; 17.2%) levels. The respondents are fully aware of the need to introduce pedagogical conditions for the formation of environmental culture in the educational process (71.4; 60.0; 57.1; 50.0%), but they do not fully understand their significance for successful career activities. The conducted analysis made it possible to reveal weak theoretical training in the field of environmental culture formation of future specialists, which does not make it possible to carry out high-quality professional activities of ecologists, combining theory and practice, which confirms the need for the application of pedagogical conditions for the formation of environmental culture of ecologists.

The results of scaling allow us to conclude the level of possession of environmental knowledge, skills, and value orientations of education seekers.

In all groups, except group "B", there is no prevailing level of formation of the ecological element of the students' culture, since the results are divided approximately equally between low, medium, and high levels (approximately 30-35% at each level). A small number of respondents showed a zero level of the studied element. In group "B" the predominant levels are high (44.3%) and medium (34.1%).

The results of the level of self-governance of the ecological element show that 53.6 have a high level of knowledge of their personal characteristics of environmental culture; 36.7; 28.6; 29.3% of respondents. At the same time, the low level is shown at 28.6; 6.7; 26.8; 44.8% of respondents, believing that they are clearly aware of only their intellectual features. This fact is explained by the weak formation of the respondents' abilities to apply self-knowledge methods (28.6; 3.3; 25.0; 25.9%) to form an environmental culture. The surveyed respondents also have knowledge of ecological mechanisms of self-adaptation at low (42.9; 35.0; 37.5; 37.9%) and medium (42.9; 43.3; 46.4; 44.8%) levels.

Summarizing the analysis of the culture scaling results, we can come to the disappointing conclusion that in the ascertainment stage of the experiment, the level of environmental culture of the ecologist is approximately the same among the respondents of the control and experimental groups. It is necessary to emphasize the correlation of the presented results of different groups with each other, which allows us to conclude the representativeness of the obtained data from the point of view of determining the leading trends in the formation of environmental culture.

**Table 1.**
*Distribution of respondents by levels of environmental culture formation*

| Group | Levels of formation of environmental culture among respondents | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Control "D" | 5 | 16 | 20 | 17 |
| Experimental "A" | 4 | 7 | 10 | 7 |
| Experimental "B" | 3 | 12 | 23 | 22 |
| Experimental "C" | 5 | 16 | 18 | 17 |

In general, the following conclusions can be drawn from the experiment:

- the respondents do not have the necessary level of environmental culture, and their activities and scientific-methodical work in the institution of higher education in itself do not ensure its formation properly;
- the level of formation of knowledge and skills in the formation of environmental culture of all components among all participants of the experiment is low.

During the formative stage of the experiment, the target, substantive, and procedural components of the environmental culture of specialists were implemented and the effectiveness of the pedagogical conditions for the formation of environmental culture that we identified were verified.

For the respondents of the experimental groups, we have developed scenarios of various organizational forms of scientific and methodical work using interactive methods for the implementation of pedagogical conditions for the


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formation of the environmental culture of ecologists:

1) creation of an innovative material and technical base in institutions of higher education, with the help of which, through independent educational and research activities and cognitive activity, the searching and creative abilities of future ecologists are developed;
2) innovative technologies in education are a mandatory element of the formation of the environmental culture of ecologists in preparation for professional activity;
3) a high and perfect level of proficiency in a professionally oriented foreign language, which leads to the reorganization of the process of modern training of future ecologists for the formation of an environmental culture of ecologists;
4) the development of figurative thinking, which ensures in the process of cognition the selection of the reality of spatial relations and properties in phenomena and objects, the creation of three-dimensional images;
5) based on the contextual approach of applying quasi-professional activities, which is implemented by modeling future professional activities;
6) professional practice with the use of interactive forms of organization of training of higher education seekers;
7) introduction of group work, research activities, and work in pairs on projects using modern equipment for the formation of the environmental culture of ecologists.

As a result of the experiment, a continuous purposeful pedagogical observation of the activities of the students of higher education was carried out. The obtained data showed that the respondents of groups "A" and "C" welcomed the use of pedagogical conditions. The members of the "B" group took a more relaxed approach to this but agreed with the need for their implementation. In general, the participation of respondents in scientific and methodological work on the formation of environmental culture has significantly increased.

Conversations with respondents at the end of the formative stage of the experiment showed the understanding of the respondents themselves in the need to increase the dynamics of the formation of management culture and the need to introduce pedagogical conditions. They emphasized that many pedagogical conditions are already applied by them in professional activities and emphasized the need for further improvement of the formation of environmental culture.

Respondents acquired knowledge about the environmentalization of society, and the content of their functions through the use of an innovative material and technical base, with the help of which, through independent educational and research activities and cognitive activity, the searching and creative abilities of future ecologists are developed (35.7; 60.0; 41.1%).

In the experimental groups, an increase in the level of formation of environmental culture with the help of innovative technologies in education was noted, which is a mandatory element of the formation of environmental culture in the preparation of specialists for professional activity, the ability to recognize the style of the manager's activity (67.9; 56.7; 55.4%), and improving the level of proficiency in a professionally oriented foreign language (46.4; 53.3; 41.1%).

To a greater extent than at the beginning of the experiment, teachers are aware of the need for the development of figurative thinking, which ensures in the process of cognition the selection of the reality of spatial relations and properties in phenomena and objects, the creation of three-dimensional images; application of quasi-professional activity, implemented by modeling future professional activity; implementation of interactive forms of organization of training of higher education applicants; introduction of group work, research activities, work in pairs on projects for the formation of environmental culture of ecologists and for career and creative growth (in experimental groups, the dynamics was 14.3; 11.7; 12.5%.).

So, the results of the experimental study confirmed the applicability, optimality, and effectiveness of the proposed pedagogical conditions for the formation of the environmental culture of an ecologist in the process of professional training.

**Conclusions**

In the context of environmental education, the components that are important in the formation of the environmental culture of ecologists are singled out. The main functions required by environmental education, which must be taken into account when training specialists in ecology, are named.

The content is considered and the essence of



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the environmental culture of students is shown. Based on the analysis of the environmental culture of the individual, its integrative essence, the content of environmental education, and the pedagogical conditions for its successful implementation were determined.

When determining the sample of subjects, the general specificity of the subject of the study was taken into account. The total volume of the sample is 800 subjects, among whom are environmental students. When forming the sample, the criteria of meaningfulness, representativeness, and equivalence were taken into account. The sample was formed by random selection using the technical procedure for calculating the selection step.

The practical significance of the study was the introduction of pedagogical conditions into the educational process of educational institutions (the development of the general culture of the individual as a prerequisite for the formation of the environmental culture of ecologists, the purposeful design of an informational and ecological educational environment, ensuring the positive motivation of future ecologists for the formation of ecological culture, fostering the need for constant professional self-improvement in future ecologists, the inclusion of future ecologists in environmental protection activities); updating the content of the cycle of practical and professional training disciplines. It is appropriate to use the research materials in the field of project training of future ecologists.

During the experiment, the target, substantive, and procedural components of the ecological culture of specialists were implemented, and the effectiveness of the pedagogical conditions for the formation of ecological culture identified by us was verified.

For respondents of experimental groups, we have developed scenarios of various organizational forms of scientific and methodical work using interactive methods of implementing pedagogical conditions for the formation of the environmental culture of ecologists.

The results of the experimental study confirmed the applicability, optimality, and effectiveness of the proposed pedagogical conditions for the formation of the environmental culture of an ecologist in the process of professional training.

Prospects for further research will be consideration of the stages of quasi-professional activity, which is implemented by modeling the future professional activity of specialists.

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# Philosophical and legal interpretations of modern theory of public administration in Ukraine

## Філософсько-правові інтерпретації сучасної теорії публічного адміністрування в Україні

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**Abstract**

The aim of the article is to systematize the research results on the definition of the public administration concept and its characteristics. Providing such an opportunity is combining general theoretical and special legal methodology of conducting scientific research. Research results. The authors studied the issues of its organizational and implementation components to form a common vision regarding the evolution of the public administration paradigm in general, as well as its features at the current stage of Ukraine's development as an independent democratic state that is in armed confrontation with an aggressor country. Practical implementation. Since the declaration of Ukraine's independence, an attempt has been made to optimize the institutional aspect of socio-economic and political reforms, but we may assert that the path chosen at that time was wrong, because it would be more appropriate to conduct administrative reform in a different direction. In this regard, there is still a tendency to constantly optimize domestic legislation and adapt it to the basic principles of public administration which have proven their

**Анотація**

Метою статті є систематизація результатів дослідження щодо визначення поняття публічного адміністрування та його характеристик. Забезпечення такої можливості поєднує загальнотеоретичну та спеціально-юридичну методику здійснення наукових пошуків. Результати досліджень. Автори дослідили питання його організаційної та імплементаційної складових для формування спільного бачення щодо еволюції парадигми публічного адміністрування загалом, а також її особливостей на сучасному етапі розвитку України як незалежної демократичної держави, що перебуває у збройному протистоянні з країною-агресором, зокрема. Практична реалізація. Із часів проголошення незалежності України була зроблена спроба оптимізувати інституційний аспект соціально-економічних і політичних реформ, але можна стверджувати, що обраний тоді шлях був хибним, оскільки адміністративну реформу доцільніше було б проводити в іншому напрямку. У зв'язку з цим залишається тенденція до постійної оптимізації вітчизняного законодавства та адаптації його до базових принципів публічного

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effectiveness abroad. Value/originality. It is argued that the world community reached a consensus on the expediency of re-orienting all state mechanisms, processes, and relations with the private sector to a person-centred approach, where the individual is postulated as the highest social value, the center of the entire social system and structure.

**Keywords:** theory of public administration, State administration, administrative policy, military administration, State apparatus, crisis of Ukrainian society.

адміністрування, які довели свою ефективність за кордоном. Цінність/оригінальність. Стверджується, що досягнення світовою спільнотою консенсусу щодо доцільності переорієнтації всіх державних механізмів, процесів і відносин з приватним сектором на особистісно орієнтований підхід, коли особистість постулюється як найвища соціальна цінність, центр всієї соціальної системи і структури.

**Ключові слова:** теорія публічного адміністрування, публічне адміністрування, адміністративна політика, військове управління, державний апарат, криза українського суспільства.

## Introduction

In 1998, the former President of Ukraine, Leonid Kuchma, having declared the need for radical restructuring of the State apparatus, emphasized in the Decree of the President of Ukraine No. 810/98 (1998) that the creation of modern and effective system of State administration is an important factor in overcoming the transformational crisis of Ukrainian society. This will secure Ukraine's formation as highly developed, law-governed, civilized European state with a high standard of living, social stability, culture, and democracy and will allow it to become influential in Europe and worldwide. Equally, the public administration should be close to people's needs and requests, and the main priority of its activity should be serving the citizens and national interests. This system of public administration should be under the people's control, transparent, effective, and established on scientific principles. At the same time, the management personnel costs should be adequate to the financial and economic state of the country.

This ambitious goal was announced 25 years ago. But the national legislation on proper organization of the public sector is still not fully consistent with the European legislation and lacks normative grounds for the further development, and the level of the society participance in solving matters of public importance is unsatisfactory.

This problem became more acute during Ukraine's armed confrontation with the aggressor country. The latter, while seeking to seize power in certain territories of Ukraine, caused unprecedented violation of all possible codified and conventional rules of the co-existence of people and nations and put the most important social values of Ukraine not only at risk, but also made them a direct object of criminal encroachment.

As it turned out, the regulatory capabilities and resources of the public administration at various levels are not enough to fully protect and help the victims. Committed systemic errors nullify the main social purpose of public administration. Therefore, it is extremely necessary to promptly find the ways to solve this difficult situation.

Thus, the urgency of reforming the public sector of Ukraine is obvious. In view of this, the object of research in this context is the public sector of Ukraine, specifically the need its reformation.

The aim of the article is to systematize the research results on the definition of the public administration concept and its characteristics. It will contribute to create scientific and methodological basis, which will become the basis for public discussion and result in forming the list of expedient and relevant ways of implementing administrative reform in Ukraine.

## Methodology

This research is based on a pluralistic methodological approach, which combines various methods and techniques to obtain a complete understanding of the object of study. This is a qualitative research that uses the following methods:

Structural analysis of the system: It was used to present the hierarchical structure of administrative processes in Ukraine, examine approaches to the concept of public administration and define the characteristics of



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public interest as a category of administrative law.

Synergistic approach: It was used to analyze the legal nature of the State's administrative policy and study the duality of its purpose.

Hermeneutic approach: It was used for the interpretation of legal theories and legal texts.

Logical method: It was used to reveal the substance and essence of military administration in Ukraine and to formulate the concept of administrative policy of the state.

The study sample was made up of experts in public administration, administrative law and political science. Data was collected through in-depth interviews and documentary analysis.

**Literature review**

It should be clarified that the majority of administrative scientists support the idea of non-use the category "State administration" in the Ukrainian legal doctrine, perceiving it either as an outdated analogue of the category "public administration" or as an independent legal phenomenon that has exhausted its social significance.

As an example, according to O. Mytiai (2018, p. 124), "State administration" is one of the most complex institutions and categories of administrative law in connection with the complex nature, specificity of actors and objects of State administration and the relationships between them. The transformational processes taking place in Ukraine and the society along with the ongoing administrative reform led to the scientific search for new approaches to understanding the essence of public administration and the possibilities of its renewal, which was expressed in increased attention to such a category as "public administration".

In this regard, P. Petrovsky (2017, p. 21) notes that, according to the views of most scientists, State administration is being reformed into the public administration.

According to another approach, State administration is the organization of the State sector, where there is no variation in the behaviour model or organizational structure of the object of administration, which represents the establishment and implementation of imperative norms in the exceptional areas of the State interest. Such areas are those that cannot be public in whole or in part a priori (internal security, State secret, territorial division of administrative units, economic aspects of ensuring the competitiveness of the State, international relations) (Danylenko, 2019, p. 2).

With this in mind, public administration is proposed to be understood as follows:

the mechanism that ensures, on one hand, the provision of legislation-related services to the society, and on the other one – the implementation of the chosen type of policy by civil servants who were delegated authority during the manifestation of the people's will at the elections both within the country and abroad in all its forms (Semenchuk, 2013, p. 388);
mutual influence of the management actor and the power holder on social processes and relations in accordance with socially significant functions and powers, which can be viewed as follows:

1) professional activity by civil servants, which includes all types of actions aimed at introducing government decisions, as well as studying, developing and implementing the State policy directions;
2) management system represented by administrative institutions within the adopted power structure (Amosov & Gavkalova, 2013, p. 7); activity of the public administration to satisfy general public interests (Kuzmenko, 2009, p. 24); the main directions of the purposeful activity of the public authorities on the fulfilment of administrative obligations (Kolesnikova, 2013, p. 114; Kolpakov et al., 2018, p. 214); socio-political power, the main types of which are the following: a) people's power as direct power, direct democracy (elections, referendums); b) State power – legislative, executive, judicial; c) local self-government – local, public power exercised, in particular, by territorial communities, representative bodies of local self-government (councils), and executive bodies – heads of villages, settlements, cities etc. (in this sense, the term "public power" is analogous to the terms "people's rule" or governance) (Beh, 2000; Maksymeniuk, 2015, p. 208); a component of public governance and the procedure for implementing decisions made in the public administration system (Kolesnikova, 2013, p. 117); the activity of the entire system of administrative institutions with a hierarchy of State power and local self-government as


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a coordinated group action on public matters aimed at solving them (Lazor, 2015, p. 114); the type of activity representing the performance of the State functions, lies in of social orientation of public power exercise and involves the variation in the behaviour model or organizational structure of the administration object, which is carried out by ensuring, securing, and protecting a certain circle of social relations, which constitute both individual and public interest and demand support and regulation by the State in the course of their dynamic development (Danylenko, 2019: 25).

Thus, there are various scientific views on the definition of this process. The differences are caused both by the lack of its agreed interpretation in the law which still operates the term "State administration" (including in the official translations of European acts) and by a complete misunderstanding of stages and procedures of the evolution of the paradigmatic aspects of its development in Ukraine. This generally indicates that there is no unified vision of the system of state management processes in the country.

**Results and discussion**

As a rule, the hierarchical structure of management processes in the country is determined using the "separation of powers" criterion. It is logical to distinguish legislative, executive, judicial power, and local self-government. It distributes power to different levels with an exclusive list of functional duties, starting from those that solve national issues, going down to solving issues of the local administrative units' functionality.

Undoubtedly, the legislative power manages social processes, but in a very specific way – by establishing general rules, foundations, procedures and principles of their development. The executive function directly represents the management process, which implements the main postulates of balanced development. In turn, the judicial power, exerting influence on actual social relations, ensures that they remain legitimate.

However, it is important to understand that the abovementioned system is generalised. It reveals a one-sided vision of how the State apparatus is formed and what place is given to the public settlement of issues of national importance.

We support the previously highlighted opinion that there are four variations of the schematic definition of the hierarchical structure of management processes in Ukraine (Danylenko, 2020, p. 37):

**Variation 1**

European governance (after Ukraine formally becomes EU member, this will take place as an integral component) → national governance (establishment, procurement, implementation, and protection in the form of administrative policy of the State) → (1) public administration: (a) of the State sector (State administration); (b) of the public sector (classic domestic understanding of public administration) and (2) self-regulatory activity (self-regulatory organisations).

**Variation 2**

European governance → national governance → (1) public administration: (a) activities of the authorized entities (public administration); (b) self-regulatory activities (of self-regulatory organizations) and (2) State administration.

**Variation 3**

Administrative and legal support → public administration: (1) activity of executive authorities; (2) activity of local authorities and (3) activity of entities with delegated powers.

**Variation 4**

European governance → national governance: (1) public administration: (a) administrative and legal support; (b) administrative and legal security; (c) administrative and legal protection; and (2) State administration.

The proposed variations have one unifying factor: Ukraine has its own way of forming the step-by-step development of paradigmatic knowledge about public administration. It is persistently percepted as a part of the State executive function, but despite this perception it is impossible to state for sure that it is the only form of its implementation, because State administration exists as an independent type along with it. It is more acceptable to believe that in 1998, for unknown reasons, the State leaders did not abandon the Soviet experience of State-building and did not clearly differentiate between the spheres of "State" and "public" or did not abandon the concept of "State administration" in general.



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Currently, the modern paradigm of public administration in Ukraine is characterized by the following key aspects: 1) it is an integral part of national governance, which implies the need to form a balanced and clear administrative policy of the State; 2) transformational aspects of the main postulates of person-centered approach caused by the military conflict (speaking about the emergence of its specific variation in the form of military administration).

**The legal nature of the State administrative policy**

Under current conditions, there are no developments in defining the concept and essence of the administrative policy of Ukraine; it is difficult to find analogous in the laws of other countries as well. Most commonly, the category of administrative policy is understood as a set of established rules for the implementation of a certain action, the distribution of roles in a certain activity.

Turning to the foreign experience: as an example, the administration of the US President (the White House) has its own administrative policy. In particular, the Office of Management and Budget, which functions as part of the Executive Office of the President of the United States, formally communicates the Administration's views on the reasons for objecting the legislative changes or application of the veto through the Statements of Administration Policy. It is a communication tool (written statement) that indicates whether a parliamentary decision (legislative act) will be approved by the President. The reason why this tool exists is because in parallel with legislative activity in Congress, the executive branch takes actions to determine whether such legislative activity is expedient (including the comparison with the President's promises to the voters) (Stuessy, 2016).

Another example of administrative policy is a set of rules of conduct in a certain organizational system. The developers of this policy periodically review and monitor its accuracy, efficiency, and effectiveness.

As a system-wide phenomenon, administrative policy should do the following: 1) promote the mission of the organizational system; or 2) serve as a procedure for the implementation of certain activities, including the observance or implementation of legislative or departmental acts; and 3) meet one or more of the following criteria: a) eliminate a significant risk to the institution that cannot be adequately addressed otherwise; b) have a significant effect, including, but not limited to, on people's conduct, as well as the level and number of risk factors involved; c) promote work efficiency and effectiveness (Office of Institutional Compliance, 2023).

Speaking about administrative policy of a certain orientation (not in a form of a system-wide phenomenon), it is important to consider the duality of its purpose. For example, in the field of business processes, it informs employees about organizational rules, expectations and business values, as well as about issues related to personnel, including their rights, responsibilities, health and social insurance etc. In general, it ensures that the organization's administration and employees work on the same page, understand each other, and agree on how they should interact, because being a regulatory act the administrative policy represents what a company expects from the employees and what the employees expect from the company (Smyth, 2023).

Similarly, administrative policy can be a part of a certain authority's activity, which establishes its principles, and in this way informs the others about the existence of administrative rules of conduct.

Thus, administrative policy in general can be considered through its dual legal nature, in particular: 1) as a set of rules for the implementation of established standards (procedural aspect); 2) as an independent tool for establishing the rules of conduct necessary to achieve predetermined goals (functional aspect).

Regarding the possibility of applying this legal phenomenon in the context of the State efficiency, we can speak about two conceptual directions of the implementation of the State functions: through the mechanisms of State and public policy, the difference between them is the exclusive possibility of solving extremely complex tasks by authorities (State policy) or with the assistance and active participation of civil society institutions, which at the same time assume obligations and responsibility for the decisions made and the effectiveness of their implementation (public policy) (Zubko, 2023).

At the same time, any policy is related to certain values, on which it is based. For administrative policy in the context of the country, such values are public interests.


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It should be noted that defining public interest is quite controversial. The authors define the its features as a category of administrative law: 1) it is a set of certain needs (values) (Sever, 2021, p. 2); 2) there may be needs of the entire society, as well as its groups or individual citizens (Soroka & Sokiran, 2019); 3) it is formed at the initiative of a directly interested actor of the State administration (Soroka, 2020); 4) these interests are legally recognized by the State (Kalyuzhny, 2006); 5) it is aimed at ensuring human rights and freedoms (Kaganovska et al., 2022); 6) it is one of the constituent parts in the definition and formation of administrative relations, which are resolved in the administrative order (Sever, 2021).

Therefore, the substance of public interest as an administrative and legal category derives from the essence of general interest and is individualized by the substance of administrative and legal relations. Public interest is defined as a set of certain needs (values) of a person or society aimed at ensuring and protecting the public good.

Thus, it is logical to say that the primary task of the State is to outline public interests. The latter are formed through the public policy in various spheres of life (national security, health care, environment, economy, etc.) (Pečarič et al., 2015, p. 49). In this case, the State is considered as a source of regulating the ratio of public and private interests (Raimov & Pasichnyk 2022).

In 2019, the Supreme Court of Ukraine determined "public interest" as the needs important for a significant number of individuals and legal entities, which are provided for by the public administration according to the legally established competence. That is, public interest is nothing more than a certain set of private interests. It also contains a clarification that the concept of "public administration" in administrative law should be understood as the system of State and local self-government executive bodies, enterprises, institutions, organizations and other entities endowed with administrative and management functions, which act with the aim of ensuring the interests of the State and society as a whole, as well as the totality of these administrative and management actions and measures established by law (Case No. 810/2763/17, 2019).

Based on the above, we can conclude that the state administrative policy can be considered as a set of rules of conduct and procedures for the activities of actors endowed with administrative and management functions. However, in this case, its functional impact is limited exclusively to the sphere of the executive function of the State.

In our opinion, it can also be considered as follows: 1) as a set of strategic and operational measures to influence the established system of exercising State power through a pre-agreed mechanism for introducing amendments to the current legislation, which aims to form a set of rules for the proper management of State and public affairs; 2) as a set of procedural provisions for building relations between authorities to ensure their interaction, cooperation and distribution of the main spheres of responsibility, as well as building stable relations with civil society.

**Substance and essence of military administration in Ukraine**

During the last 50 years, military operations around the world have been conducted quite regularly. Global military operations in Iraq, Kuwait, the United Arab Emirates, Somalia, Afghanistan, Kosovo, Bosnia comprise only a small part of the overall number. On a daily basis, these global military operations are managed by the largest bureaucracy in history – the Ministry of Defence. As the authors of the "Handbook of Military Administration" correctly pointed out "although the conduct of war is the subject matter of a great number of scientific works, administrative aspects of military operations are often lacking. After all, who can become excited about human resource management, budgeting and finance, procurement, and training and development, when one has the lure and challenge of defeat and victory in combat? Yet, the seemingly mundane and boring administrative tasks are what makes it possible to field an effective fighting force" (Weber & Eliasson, 2008).

According to the general concept, under military operations (conflicts), the public affairs management is assumed by the military administration. Thus, 25 regional military administrations were formed throughout Ukraine by the Decree of the President of Ukraine No. 68/2022 (2022). In connection with the formation of regional military administrations, regional and Kyiv city state administrations and the heads of these administrations acquired the status of corresponding military administrations and heads of these military administrations. Besides, the district military administrations were formed based on the existing district State



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administrations, and their heads became the heads of those military administrations.

Such actions were carried out to implement the provisions of the Law of Ukraine "On the Legal Regime of Martial Law" (Law of Ukraine No. 389-VIII, 2015). Its provisions establish that in the territories where martial law has been introduced, the temporary state authorities – military administrations – can be formed to ensure the operation of the Constitution and laws of Ukraine, introduction and implementation of measures of the legal regime of martial law, defence, civil protection, public safety and order, protection of critical infrastructure, rights, freedoms and legitimate interests of citizens together with the military command. Moreover, it is clarified that the military administrations of the localities are formed from servicemen of military formations in accordance with the laws of Ukraine, members of the rank and file and higher officers of law enforcement agencies, civil protection services, who are sent to them in accordance with the law to perform tasks in the interests of the State defence and its security while remaining in military service, service in law enforcement agencies, civil defence bodies and units without exclusion from personnel lists, as well as employees who have entered into an employment contract with regional military administrations (in case of their formation) or with the General Staff of the Armed Forces of Ukraine (if a regional military administration has not been formed in the relevant region). The list of positions in the military administrations of the localities, which are subject to replacement by military personnel from military formations, members of the rank and file and higher officers of law enforcement agencies, as well as the list of positions that can be filled by military personnel from military formations, members of the rank and file and higher officers of law enforcement agencies in the district, regional military administration, are approved by the President of Ukraine at the request of the Commander-in-Chief of the Armed Forces of Ukraine.

It is noteworthy that the responsibilities for direction, coordination and control over the activities of military administrations are distributed between the General Staff of the Armed Forces of Ukraine and the Cabinet of Ministers of Ukraine within their powers.

Separately, we note that in addition to military administrations, current Ukrainian legislation provides for the possibility to form military-civilian administrations. The Law of Ukraine "On military-civilian administrations" (Law of Ukraine No. 141-VIII, 2015) establishes that military-civilian administrations are formed as a temporary forced measure with elements of a military management organization to ensure safety and normalization of people's life in the area of repelling armed aggression of the Russian Federation, in particular in the area of the anti-terrorist operation, which does not aim to change and/or cancel the constitutionally enshrined right of territorial communities to local self-government.

The provisions of this Law caused discussions. In particular, the termination of the powers of representative and executive bodies of local self-government, their apparatuses and officials, the entire body of deputies of local councils deprives the territorial communities of the right to local self-government, which seems unacceptable from the standpoint of constitutional prescriptions and the requirements of the European Charter of Local Self-Government, compliance with which is one of Ukraine's key international obligations. In addition, the unconditional dismissal of all employees of executive bodies and apparatuses of the Council can be considered as a groundless violation of their labour rights.

Therefore, in 2017, the Draft Law of Ukraine No. 7090 "On Military-Civil Administration" (2017) was submitted to the Verkhovna Rada of Ukraine. This Law specified that military-civil administration includes a set of temporary forced measures with the elements of State administration and lies in the exercise of powers by the district, regional State administration and the military-civilian administrator of the localities on ensuring law and order, safety and life of the population and/or the exercise of powers of the relevant district, regional, village, settlement, city councils and heads of villages, settlements, and cities, as well as in the specifics of local self-government in the relevant territory.

In particular, this legal act provided that if the military-civilian administration is introduced on the territory of the district or region exclusively for the exercise of powers in the spheres of ensuring law and order, security and life of the population, the relevant district, regional council, its executive apparatus, officials of local self-government, council deputies continue to exercise their powers to the extent provided for by the Constitution and laws of Ukraine. However, this draft law was withdrawn.


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We can conclude that both military administrations and military-civilian administrations must ensure the balance of security and defense management in a certain administrative-territorial unit. But there is one important difference between them: military administrations aim to ensure the operation of the Constitution and laws of Ukraine, the introduction and implementation of measures of the legal regime of martial law, defense, civil protection, public safety and order, protection of the rights, freedoms and legitimate interests of citizens in the relevant territory of Ukraine along with the military command, while military-civilian administrations aim to fulfil the powers of local executive bodies authorities, local self-government bodies in the area of the anti-terrorist operation. In particular, regional and district military administrations are formed on the basis of local State administrations, as well as military-civilian administrations in Donetsk and Luhansk regions; military administrations of specific localities are formed when local self-government bodies do not exercise or are unable to exercise their powers according to the Law of Ukraine "On the Legal Regime of Martial Law." However, on the day of validation of the act of the President of Ukraine on the formation of district, regional military administrations, military administrations of localities on the territory of Ukraine, where military-civilian administrations functioned, the powers of the respective district, regional military-civilian administrations and military-civilian administrations of settlements shall be terminated. In general, military administrations of settlements, district, regional military administrations exercise their powers during the period of martial law and 30 days after its termination or cancellation (Chepel, 2022).

Therefore, temporary actors of public administration are formed in the period of war or state of emergency. Their main activity is to replace the key powers of public administration on the ground to ensure effective management of civil and military spheres.

The presented evolution model of paradigmatic knowledge about public administration in Ukraine demonstrates that the scientific and normative discourse developed in parallel, having united only after the introduction of the legal regime of martial law in Ukraine.

Thus, the scientific discourse provides that from the moment of Ukraine's independence declaration, the concept of "State administration" was joined with (or replaced by) the concept of public administration as a dualistic combination of a linear organizational and functional type of regulation of social relations within the territorial jurisdiction of the country, which provides for an organic co-existence of groups of administrative actions that are opposite in their methods, nature, and scope, aimed on the one hand at organizing power in the country, and on the other one – at ensuring the well-being of its community. At the same time, the adjective "public" in this context implies "common" and is not a synonym for the word "transparent". State administration cannot be public in the classical sense; however, according to international experts and the European Commission in particular, it is part of this process. This conclusion derives from the standpoint of the systemic and structural composition of the recommendation documents which focus on the problems of exercising power in Ukraine. As an example, the report "Public Administration in EU Eastern Partners: Comparative Report 2014" (Ibrahimova et al., 2014, p. 74) speaks about certain success of public administration in Ukraine in the recent years – the implementation of reforms, primarily in the field of fighting corruption and creating an impartial civil service. These components apply to both State and public sectors, but they both are part of the "public administration" (Danylenko, 2020, pp. 37-38).

In turn, the normative discourse indicates that public administration combines the postulate of "serving people" with its conceptual content; that is, represented by the model of the service organization of the State, which strives to provide citizens with systematic, high-quality services necessary to their collective and individual needs.

Consequently, public administration is not so much the governing influence of the state as a social partnership in the "citizen-State" format, which causes publicity and openness not only of state bodies and organizations, but also state affairs for public discussion, which is an important resource for developing optimal (effective and efficient) political and managerial decisions.

Public administration is the practical, organizing, and regulatory influence of the State on the social life of people to order, preserve or transform it, based on power that limits effective social control as the main factor of the rule of law in the society.

The complex mechanism of public administration is presented as such:



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1) Economical (banking, monetary, innovative, investment, credit, tax, insurance activities);
2) Motivating (combination of command, administrative and socio-economic incentives for high performance);
3) Organisational (objects, actors, their targets, tasks, functions, administration methods, organisational structures, results of operation);
4) Political (mechanism of economic, social, financial, production policy);
5) Legal (regulatory support)

Respectively, these two parallels are combined within the institution of military administration, where unified scientific and normative discourse represent the classic monopolistic position of the State within the regulatory influence on all social relationships functioning within the threats to public, economic, environmental, military, informational security of Ukraine.

**Conclusions**

Public administration as a method (form) of managing public and State affairs is constantly evolving. The dynamics of the changes is monitored due to the State's need to maintain a balance in ensuring public and the private interest.

Currently, the world community has reached a consensus on the expediency of re-orienting all State mechanisms, processes, and relations with the private sector to a person-centred approach, where individual is postulated as the highest social value, the center of the entire social system and structure.

Since the declaration of Ukraine's independence, an attempt has been made to optimize the institutional aspect of socio-economic and political reforms, but we may assert that the path chosen at that time was wrong, because it would be more appropriate to conduct administrative reform in a different direction. In this regard, there is still a tendency to constantly optimize domestic legislation and adapt it to the basic principles of public administration which have proven their effectiveness abroad.

It makes sense to argue that there is a unique system of establishing transparent and accessible regulation in Ukraine, which is carried out by the public administration represented by the wide actors' composition. However, the following matters are still relevant: minimization of government influence on social relations, reduction of unnecessary and duplicative functions of public administration actors and decentralization of their powers, legislative recognition of conditions for the functioning of self-regulatory organizations in various spheres (not just in specific ones) and revision of the educational system.

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# Features of the actors ensuring national security of Ukraine

## Ознаки суб'єктів забезпечення національної безпеки України

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**Abstract**

The article aims to elucidate the key features of the actors ensuring the national security of Ukraine. Methodology. The methodological basis for the research is a set of modern general and specific methods and techniques of scientific knowledge, such as logical and semantic, dogmatic, analytical, documentary analysis, classification and systematization, modeling and forecasting methods. Research results. It was stated that these actors possess a specific set of minimal characteristics, which qualifies them as integral components within the structure of entities responsible for ensuring national security. In their activities, they pursue specific goals, thus implementing the function of ensuring national security. Thus, the corresponding circle of actors perform actions that are characterized by a special content, which is based on the rules of current legislation. Practical implementation. A notable feature of the entities under consideration is the performance of an important public meta function – the function of ensuring national security. This function is realized through the

**Анотація**

Стаття присвячена з'ясуванню ключових ознак суб'єктів забезпечення національної безпеки України. Методологія. Методологічною основою дослідження є сукупність сучасних загальних і спеціальних методів і прийомів наукового пізнання, таких як логіко-семантичний, догматичний, аналітичний, документальний аналіз, методи класифікації та систематизації, моделювання та прогнозування..Результати дослідження. Встановлено, що для суб'єктів забезпечення національної безпеки характерним є набір певних мінімальних ознак, наявність яких дозволяють таким суб'єктам відноситись до структури суб'єктів забезпечення національної безпеки. У своїй діяльності такі суб'єкти переслідують конкретну мету, реалізуючи таким чином функцію забезпечення національної безпеки. Таким чином, відповідне коло суб'єктів здійснюють діяльність, яка характеризується особливим змістом, а також ґрунтується на нормах чинного законодавства. Практичне значення. Особливою рисою суб'єктів забезпечення національної безпеки

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implementation of a set of target functions aimed at ensuring the conditions of national security. These target functions include law-making, protective, security, defense, control, coordination, ideological, and educational functions. It is also important to keep in mind that the studied actors are engaged in activities consistent with the principles of ensuring national security and comply with the requirements of current legislation. Value/originality. It is concluded that under current national security doctrine of Ukraine the actors ensuring it appear as subjects of administrative law, which are characterized by certain key features.

**Keywords:** national security, professional public service, actors of administrative law, subjects of national security, ensuring national security.

слід вважати те, що вони виконують важливу публічну метафункцію – функцію забезпечення національної безпеки, яка об'єктивується за рахунок реалізації комплексу цільових функцій забезпечення стану національної безпеки (зокрема, правотворчої, захисної, охоронної, оборонної, контрольної, координаційної, ідейно-просвітницької). Також важливо мати на увазі, що суб'єкти забезпечення національної безпеки виконують діяльність, узгоджену із принципами забезпечення національної безпеки та таку, що відповідає вимогам чинного законодавства (є підзаконною). Цінність/оригінальність. Зроблено висновок, що згідно чинної доктрини національної безпеки України суб'єкти її забезпечення виступають в якості суб'єктів адміністративного права, які характеризуються певними ключовими ознаками.

**Ключові слова:** національна безпека, професійна публічна служба, суб'єкти адміністративного права, суб'єкти забезпечення національної безпеки, забезпечення національної безпеки.

## Introduction

National security is a state of the functioning of the State, the existence of the individual and society under conditions of acceptable risks. It is achieved through specific security activities of different types of national security actors, aimed at preventing national security risks, safeguarding and protecting national security, as well as restoring the appropriate national security state. Ensuring the national security of Ukraine is traditionally understood as an important task, the implementation of which allows the state to be truly independent, democratic, legal and social.

Thus, national security is a complex of conditions of the actors' existence in objective reality, which: firstly, allow them to fully exist, develop, accumulate their socio-economic and other kind of potential; secondly, exist only when they are supplied by appropriate actors.

Ensuring national security of Ukraine is traditionally understood as an important task, the implementation of which allows the State to be truly independent, as well as democratic, legal and social, moving in its development in the direction of European and Euro-Atlantic integration. In particular, E.V. Kobko (2023, p. 100) correctly points out that "ensuring national security is one of the key problems that must be solved by the national legislator on the way to the formation of Ukraine as an independent, democratic, economically and politically independent European country that will be reckoned with by the world community".

Hovewer, in the current context of crisis in Ukraine, which negatively affects the state of national security, the need arises to form real scientific thinking about the entities that provide national security, and mainly, their key characteristics. This article aims to identify the key characteristics of the actors ensuring the national security of Ukraine. The first section presents a review of the literature on national security and the entities that guarantee it. The second section describes the methodology used in the study. The third section presents the main findings of the study. In the fourth section, the results of the study are discussed and the conclusions are presented. We hope that this article contributes to the understanding of entities ensuring the national security of Ukraine and to the formulation of public policies to strengthen the country's national security.

## Literature review

Security and national security are topics of great interest to scientists and lawyers, both in Ukraine and abroad. The literature review in this article presents a selection of relevant research on these topics, including studies on the definition of



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security (Abedi, Zeleznikow & Brien, 2019; Baldwin, 2018; Hoijtink, Mühlenhoff & Welfens, 2023) and national security (Cohen & Romm, 1993; Cizre, 2003; Hellman, 2019).

In addition to defining security and national security, several authors have also addressed the question of how to ensure national security. Lemak (2016), Lipkan (2003), Reznikova (2015) and Shevchenko (2014) have highlighted the importance of security actions to achieve this goal. Kobko (2023) criticizes the current state of national security research, arguing that most studies are outdated, ignore practical reality, or focus on specific aspects of national security.

An additional problem is the fragmentation of scientific opinion on national security actors. Although some authors have begun to explore the characteristics of these actors (Kobko, 2022; Mykhailova, 2017; Nesterenko, 2020; Shteba, 2019), much remains to be investigated. This is because these works are, firstly, morally outdated and do not meet the current challenges; secondly, they ignore practical reality, focusing mainly on theoretical issues of this activity; thirdly, reveal individual components of national security (informational, financial, economic ones, etc.).

Thus, literature review has indicated that there is a need for more in-depth research on the characteristics of national security actors. The present study aims to clarify the main features of the latter. Achieving this goal requires solving the following tasks: 1) to justify the existence of a list of basic features of entities ensuring the national security of Ukraine; 2) to outline key features of the actors of ensuring the national security of Ukraine, as well as to analyze their content; 3) to summarize the research results.

**Methodology**

The methodological basis for the research is a set of modern general and specific methods and techniques of scientific knowledge, which were chosen according to the posed research question, its main idea, hypothesis. First of all, it was determined:

whether the selected methods provided an opportunity to clarify the essence of the problem;
conditions for their application in practice;
which of the methods allowed obtaining the most reliable results.

Thus, with the help of the logical and semantic method, the concepts of security and national security of the state as an object of administrative-legal protection were defined, their meaning was revealed; the categories “administrative and legal regime in the sphere of ensuring national security” and “principles of ensuring national security” were clarified.

Dogmatic method provided an opportunity to estimate the state of research of the problems under consideration by examining the works by domestic and foreign scientists on this issue.

The application of analytical method made it possible to establish the purpose of the activity of the entities in the field of ensuring national security, to provide a description of the public meta function implemented by the actors ensuring national security of the state, to characterize legal principles of ensuring national security and identify the place of administrative and legal regulation in this process.

The method of documentary analysis helped to examine legal instruments governing the activities of the circle of entities ensuring national security (e.g. Law of Ukraine No. 2469-VIII “On the National Security of Ukraine” (2018); Law of Ukraine No. 964-IV “On the Fundamentals of National Security of Ukraine” (2003), etc.).

The methods of classification and systematization were used to systematize the actors ensuring national security, to present their system, to structure the legal framework for the activities of these subjects of ensuring the national security of Ukraine.

Modeling and forecasting methods were applied to establish the features of the actors ensuring national security, to outline promising directions for further research into the administrative and legal status of these entities.

**Results and discussion**

The view that a certain list of basic features is characteristic of the actors of national security of Ukraine is based on the position that they belong to the structure of the system of national security actors (subsystem of the national security system), they have a general administrative and legal status of the relevant type of entities. At the same time, it should be remembered that the Law of Ukraine "On the National Security of Ukraine" (Law No. 2469-VIII, 2018) does not indicate the existence of a system of national security actors but refers to the security and defense sector. However, the corresponding approach of the legislator is not based on the denial of the


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existence of the system of national security actors, and this system itself (until it is translated into legislation) is a purely theoretical construction, which has important practical significance in the matter of ensuring the state of national security, and the objective existence of which will be further revealed.

Thus, considering the views of scientists on the essence of national security and its provision, as well as the legal status of the actors of ensuring national security of Ukraine, we conclude that these subjects are characterized by the following key features:

1. Actors of ensuring national security are part of the security management system. Ensuring national security is a complete system, the basis of which "consists of bodies, forces and means of ensuring national security" (Lipkan 2003, p. 58). The above is quite natural, because, as correctly Yu.O. Mykhailova (2017, p. 152) pointed out "national security requires a system of its provision", and at the same time, the key element of this system must be considered "relevant actors whose activity lies in the implementation of a number of legal, organizational, personnel, material and technical, socio-economic and other measures aimed at on timely prevention, detection and overcoming of real and potential internal and external threats, ensuring the appropriate level of protection of the vital interests of the person and favorable conditions for the development of the country as a whole".

Thus, the actors of ensuring national security are the basis of the relevant system, taking into account the fact that "the national security of the state cannot be considered as some isolated phenomenon, separated from public life" (Ponomaryov, 2018, p. 1), as well as a phenomenon that exists by itself, without the activities of administrative law actors agreed upon for a specific purpose and objectives, resulting in the formation of conditions for the functioning of the State, the existence of society and individual, characterized by an appropriate security measure. That is, national security of Ukraine cannot exist only in view of the operation of strategies for ensuring national security, effective legislation, namely without subjective element of such system, which is created and operate in accordance with the legislation and shall be provided with adequate numbers and quality of professional staff.

2. Actors of ensuring national security are a subjective element of the system of ensuring national security, the structure of which is derived from doctrinal concepts and legal norms. To ensure legal certainty (a constituent element of the rule of law), the legislator defines a list of entities that, by virtue of their legal status, are considered actors ensuring national security. Thus, Art. 4 of the currently invalid Law of Ukraine No. 964-IV (2003), the legislator considers the relevant subjects to be: the Head of State; Parliament; Government; National Security and Defense Council of Ukraine; ministries and other central bodies of executive power; National Bank of Ukraine; courts of general jurisdiction, as well as the Prosecutor's Office of Ukraine; National Anti-Corruption Bureau of Ukraine; local state administrations and local self-government; The Armed Forces of Ukraine, the Security Service of Ukraine, the Foreign Intelligence Service of Ukraine, the State Border Service of Ukraine and other military formations formed in accordance with the laws of Ukraine; bodies and units of civil protection; citizens of Ukraine, as well as associations of citizens. The new legislation on national legislation takes a somewhat similar approach. Thus, the Law No. 2469-VIII (2018) reveals the list of entities ensuring national security through the category of security and defense sector of Ukraine. Having critically analyzed this rule of the current legislation, we concluded that the actors of ensuring national security of Ukraine are divided into two groups:

1) the security and defense sector, which includes: the Ministry of Defense of Ukraine, the Armed Forces of Ukraine, the State Special Transport Service, the Ministry of Internal Affairs of Ukraine, the National Guard of Ukraine, the National Police of Ukraine, the State Border Service of Ukraine, the State Migration Service of Ukraine, the State Emergency Service of Ukraine, the Security Service of Ukraine, Anti-Terrorist Center under the Security Service of Ukraine, Judicial Protection Service, State Protection Department of Ukraine, the State Service for Special Communications and Information Protection of Ukraine, the Apparatus of the National Security and Defense Council of Ukraine, intelligence agencies of Ukraine, central executive body, ensuring formation and implementation of the State military and industrial policy;



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2) entities (other State agencies and local self-government) ensuring national security in cooperation with public service bodies assigned to the security and defense sector.

As one can see, the lists of national security actors outlined by the legislator in Law No. 964-IV (2003) and in the Law of Ukraine No. 2469-VIII (2018), do not match. To date, Part 2, Art. 12 of the latter normative act does not indicate that the composition of the security and defense sector also includes citizens and public organizations, which does not correspond to the level of democratization of the administrative and legal regime for ensuring national security. At the same time, Part 1, Art. 12 of the said Law enshrines those one of the four interrelated components of the security and defense sector of Ukraine is "citizens and public associations that voluntarily participate in ensuring national security." Thus, we can talk about the existence of the third group of actors – civil society actors (individual and collective), ensuring national security in cooperation with the relevant public service bodies (from the security and defense sector), or without such cooperation, carrying out enforcement actions in the direction of ensuring national security of the State.

Additionally, we can notice that Art. 12 of the Law No. 2469-VIII (2018) does not indicate the President of Ukraine among the actors ensuring national security, even though he is the Head of State, and most importantly in this matter – the Supreme Commander-in-Chief of the Army. Along with that, he specified legislative act, namely Art. 13, indicates that the President of Ukraine exercises leadership in the spheres of national security and defense of Ukraine. That is, in the context of the study of the structure of national security entities, the fourth type of entities – the Head of State – should also be considered. O.V. Nesterenko (2020, pp. 37-38) also draws attention to this fact; he concluded that the system of actors ensuring national security and defense of Ukraine consists of: firstly, the governing sub-system (the President of Ukraine); secondly, the managed sub-system, which includes: security forces; defense forces; defense industrial complex; citizens and public associations; thirdly, auxiliaries (which include the judiciary, the Government, the Parliament, as well as international institutions, etc.).

In general, agreeing with the view by the abovementioned author, we note that citizens and civil society actors are not well suited to be classified as "subsystem" managed by the President of Ukraine, taking into account the very meaning of the concept of "management". Besides, mixing international institutions and actors of national law within the one group – "subsystem" – is somewhat controversial. Thus, taking into account the proposal by the author, the rules of the current legislation, as well as the outlined reservations regarding the understanding of its content in terms of defining the considered circle of actors, we will make the following conclusions:

firstly, Art. 12 of the Law of Ukraine "On the National Security of Ukraine" does not identify the list of subjects of national security, but only the security and defense sector, which is an important element of this system of actors.

Secondly, the subjects of ensuring national security actually constitute a complex system that: a) covers two levels – international and national ones; b) at the national level, it encompases: the administering entity (Head of State); managed subsystem – subjects that are part of the security and defense sector in accordance with Part 2, Art. 12 of the abovementioned Law; auxiliary sub-system; civil society actors (individual and collective).

To ensure legal certainty, the relevant system of national security actors should also be reflected also at the legislative level.

3. National security actors are included by the legal and administrative regime of ensuring national security. Under the concept of administrative and legal regime in the sphere of ensuring national security V.M. Levkivska (2022, p. 87) understands normatively established and organizationally ensured procedure for regulating the behavior of citizens and the activities of State and non-state organizations, their officials, aimed at clear regulation of social relations in the area of ensuring national security, prevention of wrongful activities, which may prejudice national security, as well as provides for the possibility of applying special regime measures, other special forms and methods of authorized bodies activities, the nature of which is due to the need to adequately counter actual and potential threats to national security.

Analyzing the definition of the specified administrative and legal regime proposed by the administrative lawyer, it becomes quite clear that the actors of ensuring national security are an integral element of the specified regime, being


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the subjects (all of them) not only complying with its requirements, but also those shaping it, providing it in a legal and regulatory manner (those with law-making powers or involved in the process of national security legal regulation) or in other ways.

4. The actors of ensuring national security pursue a specific goal in their activities, thereby realizing the function of its ensuring. This work is an extremely complex administrative and legal activity both in the context of the forms of expression and its structure (conceptual and factual organizational, practical procedural content). In this regard, E.V. Kobko (2023, p. 69) correctly notes that this process is as a complex activity with its own goal, which achievement requires solving a number of important tasks. At the same time, it should be emphasized that the goal and task of ensuring national security and the aim and mission of the actors are identical (in general; if the types of actors are defined, the objectives and tasks can be specified).

According to V.M. Pozdniakov and Yu.S. Chabanenko (2020, p. 22) "the purpose of the activity of all institutions in the field of ensuring national security is to protect the interests of the individual, society and the State from internal and external threats". At the same time, it is not possible to fully agree with the above, because these activities are not only focused on "protection of interests" and not only appear to be the antithesis of various threats to these interests.

We consider the approach to understanding the goal of ensuring the national security of Ukraine by E.V. Kobko (2022, p. 190) to be more correct; he believes that it is expressed in the direction of protecting and defending: firstly, human and citizen's rights, freedoms and interests; secondly, State sovereignty, territorial integrity, as well as the country's interests in the international arena. At the same time, it should be noted that the activities of the national security actors are generally connected with the creation, protection and defense of conditions of a safe life of man, society and the State. In fact, the same opinion is held by M.P. Savchuk (2010, p. 132), indicating that the main goal of ensuring national security should be considered establishing balanced State policy and effective implementation of a set of coordinated measures to protect national interests in the political, economic, social, military, environmental, scientific and technological, informational and other spheres. This approach to understanding the goal of ensuring national security can be considered sufficiently balanced, because it stems from the following important circumstances:

firstly, proper state of national security is achieved within decision-making and implementing a set of actions based on legal rules and justified at the strategic level by the State policy in the national security area;
secondly, practical significance of an effective national security policy formation is reduced if it is not accompanied by the functioning of the administrative and legal mechanism for the implementation of this policy, which is achieved in the context of the activities of national security entities.

At the same time, it should also be recognized that the presented approach is debatable, because: firstly, it does not take into account the fact that national security is not identical to national security, and therefore is based on a democratic balance of national and human interests (through the prism of humanocentrism, as well as from the «balance» of the interests of an individual, society and the State, which will serve the integrity of this system (Lipkan 2003, p. 58)); secondly, it is unnecessarily broad, yet without any indication of how exactly the formation of a «balanced State policy» as well as «effective implementation of a set of agreed measures» to ensure the national security should be done (that is, whether such actions are concentrated only to protect public interests, or to prevent, protect, restore, ensure the sustainable development of society as well, etc.).

We consider these remarks to be important since ensuring national security in the context of the development of Ukraine as a legal, democratic and social state with European integration aspirations requires a change in the methodology of national security policy. Regarding the updated methodology, Iskiv (2023, p. 204) notes that it should consistently move away from the security imperative, built on the principle of protection of the individual, society and the State from external and internal threats to policies to ensure their security through sustainable socio-economic development, connected with a pragmatic strategy for preventing hazards and threats".

Therefore, comprehensively approaching the issue under consideration, we note that the activity of ensuring national security: firstly, permits the continuation of threats to the interests of the individual, society and the State if they are


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permissible, controlled or cannot be eliminated; secondly, it provides not only protection and restoration of conditions for the safe existence of a person, society and the state, but also creates conditions for this being to be constantly improved, there was predictability of the future, as well as a gradual increase in their resource capacity and in the capacity to address specific threats to national security (primarily, by ensuring sustainable development of society); thirdly, it forms the conditions for preventing and strengthening threats to national security, etc. In this regard, the optimal approach to determining the goal of ensuring national security can be considered the one proposed by O.V. Nesterenko (2018, p. 208), associating this aim with creating all necessary conditions for achieving (or restoring) and maintaining a state of protection of the State sovereignty, territorial integrity, democratic constitutional system, the right to freedom of an individual and a citizen, and other national interests of Ukraine from real and potential threats, eliminating or minimizing their destructive impact on the spheres of military, foreign policy, economic, information, environmental security, cyber security of Ukraine, etc.

At the same time, the most comprehensive purpose of the activities of national security actors (in accordance with the modern methodology of ensuring national security of Ukraine) is set out in the analytical report of the National Institute of Strategic Studies «Conceptual framework for the development of the national security system of Ukraine» (Reznikova, 2015). In this report, the specified goal is associated with "the organization of the threat and risk management process, under which state and non-state institutions and individuals guarantee the preservation and strengthening of national values, protection and progressive development of national interests through timely detection, prevention, localization, neutralization, overcoming internal and external threats, as well as ensuring efficient functioning of the national security system itself and its components.

5. National security entities carry out activities characterized by specific content (directly or indirectly related to the establishment, protection and defense of the national security), and based on the rules of the current legislation. With regard to the content of the activities of national security actors, it is identical to the content of ensuring this type of security, and therefore, it is the basis for the development and legal consolidation of the system of state agencies and public organizations, whose operation is aimed at implementing the tasks of ensuring national security; determining the competence of state bodies and public organizations in the security area; establishing the procedure and conditions for the application of relevant countermeasures against identified threats, as well as the settlement of other problems related to ensuring national security (Shteba, 2019, p. 418).

At the same time, I.M. Bazarko (2019, p. 119) believes that the main content of ensuring national security lies in maintaining legal and institutional mechanisms, as well as the resource capabilities of the State and society at a level that corresponds to the national interests of Ukraine. In turn, administrative lawyer Yu.O. Mykhailova (2017, p. 153) claims that in terms of its content, the activity of ensuring national security is limited to creating and maintaining the readiness of forces and means of ensuring national security, developing doctrines, concepts, strategies and programs in the field of national security, planning and implementing specific measures to counter and neutralize threats the national interests of Ukraine, forming legal framework for the effective functioning of the national security system, improving its organizational structure, performing planned and operational activities to ensure national security, etc.

Having analyzed various approaches to understanding the content of national security activities, we can conclude that it is most fully outlined by the abovementioned author, because she listed a number of tasks for its ensuring, which actually determine the content of such work. Thus, in our opinion, the content of the activities of the national security actors as a whole corresponds to the content of its tasks. At the same time, the content of the activity of specific subjects' operation corresponds to at least one or several tasks of ensuring national security.

Consequently, through the prism of the requirements of the Main Law of Ukraine, these tasks should be reflected in legislation (at the same time, national security tasks performed by citizens civil society actors on a voluntary basis may stem from moral standards, sense of patriotism, etc.).

To date, scientists have already paid attention to outlining the list of key tasks of ensuring the


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national security of Ukraine, although in some cases the views of individual scholars in this regard reflect a long-term trend of considering these objectives exclusively from the standpoint of involving the force component and mainly in the context of countering external threats (Iskiv, 2023, p. 204).

6. National security actors perform an important public meta function – ensuring national security, which is objectified through the implementation of a set of target functions. Ukrainian scientist V.M. Levkivska (2022, p. 87) notes in this regard that administrative and legal provision of national security is aimed at implementing one of the most important functions of the modern state – the function of ensuring national security. According to O.V. Lemak (2016, p. 67), the function of the state to ensure national security is inseparable from the main directions of state activity and lies in ensuring security of the relevant national interests (values) in the military, environmental, economic, political, informational spheres or objects of protection in territorial, ecological, economic, political and informational areas, provided that there are negative tendencies to create potential or real threats to national interests.

This should be accepted with the reservation that the function of ensuring national security appears as a special public meta function that should be implemented by all subjects of law, guided (in addition to patriotic beliefs) by aspiration to self-preservation, based on the fundamental prospective (perspective) legal responsibility, as well as national solidarity. That is why it is advisable to interpret this function as a special public meta function. Meanwhile, the above should not be interpreted as an argument for diluting State responsibility for ensuring national security – it is the State that owns the resources, by implementing which the state of national security can be comprehensively formed and protected.

By implementing the indicated public meta function, the actors of ensuring national security perform the target functions of its implementation, which are consistent with the directions of ensuring national security. Taking into account the views of scientists regarding the content and structure of these functions (Shevchenko, 2014), we come to the conclusion that their implementation is typical for the national security actors: law-making, protective, guarding, defense, control, coordination, ideological and educational (propaganda).

7. National security actors carry out the activities that are consistent with the principles of ensuring national security and meet the requirements of current legislation (are subordinate to the law). As is known, the system of ensuring national security of Ukraine is created and developed in accordance with the Constitution of Ukraine and other legal instruments regulating public relations in the sphere of national security (Lipkan, 2003, p. 58), and therefore is a subordinate activity. This means that the relevant circle of administrative law actors should be constrained in the implementation of their functions by the regulatory and legal support of their activities. Thus, considering the regulatory framework for national security actors, we can currently talk about such groups of normative legal acts at the national level (except, clearly, the codified laws of Ukraine on criminal responsibility, on administrative responsibility, and other codes containing norms, the implementation of which provides for ensuring national security of Ukraine):

– firstly, the rules of the Constitution of Ukraine;
– secondly, the rules of legislative acts determining:

1) principles of ensuring national security and special legal regimes of ensuring national security;
2) administrative and legal status of the national security actors, as well as the forms, methods and means of its implementation;
3) regimes directly or indirectly related to ensuring national security of Ukraine;

– thirdly, by-laws specifying the provisions of legislative acts on ensuring national security, contributing to their effective implementation. Such acts should include the results of the rule-making activities of various types of entities ensuring national security of Ukraine, in particular decrees of the President of Ukraine, Decisions of the National Security and Defense Council of Ukraine, resolutions and orders of the Cabinet of Ministers of Ukraine, orders of the Ministry of Defense of Ukraine, orders of the Security Council of Ukraine, resolutions of the Central Election Commission, etc.


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Besides the fact that the national security actors are subject to the influence of the administrative and legal regime of national security to the extent that their activities should be subordinate to the law, it should also be emphasized that this regime, as an important element of the legal order, also requires that these entities act in conformity with the law (did not undermine law and order, contribute to the rule of law). This fact helps to ensure that the whole mechanism of activities of these actors is a harmonious element of law and order. This means that creation and operation of the relevant entities circle should be based on the requirements of the principles of ensuring the national security of Ukraine.

For example, O.O. Vovok (2013, p. 14) believes that, in a narrow sense, the principles of ensuring national security are fundamental and most weighty ideas characterized by universality and imperativeness, aimed at the fulfillment of national goals and socio-political tasks. In turn, E.V. Kobko (2023, p. 321) states that the principles of ensuring the national security of Ukraine are original points, starting ideas, which create the basis for the legal regulation of the relevant activity. The specified principles form not just the ideological basis of this provision, but vectors of the state policy development in the corresponding direction.

Based on this, we note that a set of principles to ensure the national security of Ukraine are:

firstly, general legal principles, namely the principle of the rule of law, the principle of legality, the principle of anthropocentrism, the principle of equality, the principle of justice;
secondly, the sectoral principles of administrative law applied to public servants (to a certain extent to those national security actors who do not have the status of civil servants), in particular, the principle of patriotism, the principle of integrity, the principle of efficiency, the principle of equal access to professional public service, the principle of political impartiality, the principle of transparency, the principle of stability;
thirdly, specific principles of the administrative and legal regime of ensuring national security, first of all, the principle of competence separation, the principle of timeliness and promptness (anticipation of threats to national security), the principle of political responsibility of the national security actors, the principle of using the mechanisms of international collective security.

**Conclusions**

To date, the national security actors in the context of the current development of the national security doctrine of Ukraine appear as subjects of administrative law, which are characterized by certain key features. Firstly, the indicated circle of entities constitutes a subjective subsystem (subjective element) of the system of ensuring national security, being, in this context, a relatively autonomous network consisting of actors, for which general administrative and legal status of the security provider is inherent. Secondly, the structure of this scheme, as a (so far) theoretical administrative and legal construction of real practical importance, follows from the norms of the current legislation. Thirdly, national security actors are covered by the administrative and legal regime in force in Ukraine. Fourthly, the circle of entities, characterized by the presence of a common (general) administrative and legal status of national security actors, pursue specific objectives, thus fulfilling national security function. Fifthly, national security subjects perform activities with specific content (directly or indirectly refers to the establishment, protection and defense of the state of national security), and therefore (based on the requirements of Article 19 of the Basic Law of Ukraine) should be based on the rules of the current legislation. Sixthly, these actors perform an important public meta function – the function of ensuring national security, which is actually manifested through the implementation of a set of target functions. Seventhly, these entities perform activities that are sub-legal and harmonized with general legal, sectoral (administrative) and specialized (basic ideas of the administrative and legal regime of ensuring national security) principles.

Consequently, it was found that, firstly, national security actors are part of the security management system, and that their existence is fundamental to guarantee the security of the State. The importance of having a well-defined and articulated system of actors, with an adequate legal framework that regulates its operation, is highlighted.

Secondly, four types of national security actors were identified:

The Head of State – the President of Ukraine, who exercises leadership in the spheres of national security and defense.


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The security and defense sector: the security and defense forces, the defense industrial complex, and citizens and public associations that voluntarily participate in national security.

The auxiliary subsystem: the judiciary, the Government, Parliament, and international institutions.

Therefore, national security actors are a complex issue that requires further, in-depth and comprehensive research. Thus, promising in this sense arise the following issues requiring detailed scientific research: the concept and content of the administrative and legal status of subjects of national security; prospects for the systematization of national security entities; legal and organizational principles of activities of national security entities; directions, tasks and functions of their activities; regulatory and legal support for their, etc.

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# The role of phraseologisms in shaping stylistic peculiarities of scientific texts

## Роль фразеологізмів у формуванні стилістичних особливостей наукових текстів

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**Abstract**

The aim of the study was to analyse the role of phraseology in shaping stylistic peculiarities of scientific texts using the Ukrainian language as an example. Quantitative, descriptive, statistical, comparative, hermeneutic, contextual analysis and close reading methods were used in the analysis. The specifics of the study is the focus on scientific texts in the field of literary studies, which enables a broader vision of the functions performed by phraseological units in the studies. Phraseological units are classified into 5 main groups according to lexico-semantic function and notional words: indicative, related to career and social connections, related to religion, related to philosophy and culture, and related to time and space The results demonstrate the indicative function of the phraseological units in the text — conveying information to the readers and focusing their attention on the key points of the study. The academic novelty of the research is the use of the texts on the Humanities due to

**Анотація**

Метою дослідження став аналіз ролі використання фразеологізмів у формуванні стилістичних особливостей наукових текстів (на прикладі української мови). В аналізі використано кількісний, описовий, статистичний, компаративний, герменевтичний, метод контекстуального аналізу та close reading. Специфіка дослідження полягає у фокусуванні уваги на наукових текстах у галузі літературознавства, що уможливлює ширше бачення функцій, виконуваних фразеологізмами у наукових працях. Фразеологізми класифіковано на 5 основних груп за лексико-семантичною функцією та смисловими словами: індикативні, пов'язані з кар'єрою та соціальними зв'язками, пов'язані з релігією, пов'язані з філософією та культурою та пов'язані з часом та простором. Результати дають підстави зробити висновок щодо реалізації індикативної функції

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the appeal to images that are universal for the readers' minds as examples of the use of phraseological units in a scientific style. Prospects: Further studies may diversify the sample of materials for the analysis of the use of phraseological units in scientific style in general, and in interdisciplinary studies on the Humanities in particular.

**Keywords:** phraseological units, notional word, lexico-semantic groups, interdisciplinarity, linguistics, literary studies.

фразеологічними одиницями в тексті – донесення до читача інформації та фокусування його уваги на ключових моментах дослідження. Наукова новизна дослідження полягає у використанні як прикладів вживання фразеологізмів у науковому стилі, текстів, присвячених саме гуманітарним дослідженням завдяки апелюванню до образів, універсальних для свідомості читачів. Перспективи: Майбутні дослідження зможуть урізноманітнити вибірку матеріалів для аналізу використання фразеологізмів в науковому стилі загалом, і в міждисциплінарних гуманітарних дослідженнях – зокрема.

**Ключові слова:** фразеологізми, фразеологічні одиниці, смислове слово, лексико-семантичні групи, інтердисциплінарність, мовознавство, літературознавство.

## Introduction

### *Relevance*

The relevance of the research is determined by the need to analyse the lexico-semantic load and stylistic functions of phraseological units in scientific texts on Literary Studies. This study is aimed at contributing to the understanding of the nature and functions of phraseological units in interdisciplinary research in a scientific style.

There is an essential need to define phraseological units. In the article on the concept of phraseological units, Masimova singles out the following universal features of this type of lexemes: 1. Unmotivated word-groups; 2. Cannot be invented independently in speech; 3. Reproduced as ready units; 4. Structurally stable; 5. Demonstrate the stability of lexical components; 6. Reproduced as indivisible unchanging phrases (Masimova, 2018, p. 11-12). However, a distinctive feature of different phraseological units is interchangeability of their parts. The central one is the notional word, the dependent parts may or may not be interchangeable. Figurative phraseological units are idioms — "linguistic expressions, the meaning of which is not equal to the sum of the meanings that form their components" (Masimova, 2018, p. 12). Nominative phraseological units are idioms centered around a meaningful word, which can be a noun, adjective, adverb, or verb. Communicative phraseological units used in proverbs and aphorisms can be singled out among them. At the same time, phraseological units are neutral, and idioms have a more aphoristic shade.

Gobbo (2019) defines phraseological units from the perspective of constructive linguistics. Social convention contributes to the categorization of linguistic constructions that can be formed into phraseological units. "For this reason, human languages can be described as collections of constructions" (Gobbo, 2019, p. 79). Constructive linguistics considers constant combinations of words in several aspects, in particular, as a result of: 1. Grammaticalization – the syntactic process of organizing lexical elements of the language; 2. Lexicalization – the formation of stable sayings, idioms, as well as other types of phraseological units, "language game, portmanteaus (words, the meaning and phonetic sound of which combine the meaning and phonetic sound of several words), dynamic metaphors and, in general, creative language use" (Gobbo, 2019, p. 79).

Idioms have a clichéd nature, because phraseological units are phrases, the elements of which can change, provided preservation of the key meaning of the original phrase. For this purpose, Gobbo (2019) describes the so-called "trees of phraseological unity", variations of phrases in which changes may occur according to mathematical modelling. "In the field of semantics and pragmatics, CxAdGrams have been applied to discourse analysis of therapeutic conversations, through the representation of Searle's speech act theory of social world construction from the perspective of pragmatic customers" (Gobbo, 2019, p. 80). The relations between the elements of phraseological units are not equal and are characterized by asymmetry, because there are also disproportionate relations


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between the main and dependent parts in phraseological units similar to the structure of a word combination, where there are main and dependent words.

In a practical aspect, the researcher demonstrates the use of constructive linguistics and phraseological units in it using Esperanto as an example — an artificial language created for international communication, which is referred to as the so-called "planned languages" — languages whose fundamental structures arose before their introduction into use (another example is Latin) (Smolnytska, 2016). As a result of the ideology of ethical neutrality — the attempt to universalize artificial language to the general standards of most languages of the world, the formation of tokens in a figurative sense, in particular, phraseological units in it is the result of choosing those figurative meanings of tokens that are common in most countries of the world. "On the other hand, many of the phraseological expressions found in spoken Esperanto are derived from Europeanisms — unities that are commonly present in most European languages" (Gobbo, 2019, p. 84). In this context, we can mention the work of Lakoff and Johnson (1980), which emphasizes that idiomatic expressions in European countries are usually universalized due to the common understanding of various life values by Western European people. "The view that we have access to absolute and unconditional truths about the world is a cornerstone of the Western tradition" (Lakoff & Johnson, 1980, p. 195).

Bouherar (2020) uses a communicative approach in defining phraseological units. A researcher compares statistics provided by students before and after taking language courses. As a result of the fact that not only the lexical and logical (idiom meaning and contexts of word use), but also encyclopaedic levels (associative series that arise in the perceiver in connection with a particular idiom individually) are essential for the study of idioms, it is extremely important to learn the language of the target culture (the culture that is the subject of study for foreigners) on the same level as learning the language of the native culture (home culture). The example of interviews with members of a student group from Algeria was used to demonstrate that appealing to examples from the target culture during classes aimed at studying idioms contributed to a better understanding of the meanings of idioms, because the commonality of the context in which the explanation is carried out is essential for learning the material. "This suggests that indigenous cultural assumptions can contribute to a better understanding of idioms when integrated into the classes" (Bouherar, 2020, p. 45). Therefore, the communicative approach in the institutional study of linguistics, in particular, idioms, contributes to the establishment of a dialogue between cultures.

The specifics of the scientific style are accuracy and avoidance of figurative language. However, phraseological units, especially phraseological units and phraseological combinations are an integral part of any style of the expression of thoughts. This is determined by the need to investigate their influence on the stylistics and lexical load of the texts.

***Unexplored Issues***

The need to analyse which groups of phraseological units are used most often in the scientific style and to outline the indicative function they perform in the texts currently require research and thorough study. Accordingly, the academic novelty of the work consists in the selection for the analysis of phraseological units in the scientific style of studies from the field of the Humanities — Literary Studies. The underlying reason is that researchers usually choose only texts in the field of exact sciences as an illustration for the analysis of lexical phenomena in a scientific style.

***Aim***

The aim of the study is to analyse the role of the use of phraseological units in shaping stylistic peculiarities of scientific texts using the Ukrainian language as an example.

***Questions/Objectives***

The aim involved the fulfilment of the following research objectives.

1. Analyse the corpus of scientific texts: articles published in Ukrainian literary publications.
2. Classify selected phraseological units according to lexico-semantic groups and a key notional word.
3. Analyse the frequency of use of certain phraseological units in the selected corpus.
4. Describe the lexico-semantic load, stylistic and semantic functions of phraseological units in the selected corpus.



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**Literature Review**

Masimova (2018) concludes about emotional expressiveness as the most characteristic feature of phraseological units, and about the greatest correspondence of phraseological units to journalistic style.

Gobbo (2019) considers the application of computational linguistics to the analysis of phraseological units with the conjunctions in artificial languages created for universal human communication, mainly in the field of technical sciences. The researcher defines constructive linguistics as a field of science that studies knowledge in the field of the Humanities based on stable constructions, paradigms of language use (Gobbo, 2019, p. 78). The idea of this direction is to perceive language as a purely utilitarian mechanism in terms of obtaining information. Accordingly, constructive linguistics combines the approaches of mathematics and linguistics. Cognitive science emphasizes the study and conceptualization of patterns of human behaviour that are reflected in speech and texts of different genres and are repeated since human socialization itself takes place on the basis of learning and repeating linguistic constructions after other individuals.

Bouherar (2020) continued the topic related to the study of idioms of the assimilator culture in the process of linguistic globalization. In his study, he proves the high effectiveness of studying idioms for cross-cultural communication using quantitative and qualitative research.

Sułkowska (2023) analyses contrastive linguistics and applied phraseology, outlining phrase didactics and phrase translation as new progressive areas of research that can be applied to the analysis of phraseological units. Singleton and Leśniewska (2021a) also work in the direction of interdisciplinary research. Their article Phraseology: Where Lexical and Syntax Conjoin deals with the interpretation of phraseology as a science where various linguistic layers are united thanks to the presence of notional words and clear patterns in phraseology.

Computer linguistics is used to directly analyse idioms in works of scientific style. The article by Hubers et al. (2020) shows the basic principles and principles of learning idioms at the L2 level in a CALL environment and traces the principles of learning fixed expressions in a cross-lingual environment.

Attention is also paid to the stylistics of the scientific text when using certain phraseological units. Larsson et al. (2022) analyse the frequency of use of idioms in scientific texts, the function of which is to draw readers' attention to a certain process or phenomenon.

Ramonda (2019) investigates foreign language learning by analysing understanding of idioms of other languages by native speakers of English through comparing information about the meaning of certain idioms obtained through reading encyclopaedia texts and their meanings in practice. Zheng et al. (2022) analyse the understanding of Chinese idioms and non-idiomatic formulaic sequences by foreigners. In particular, the researchers consider the process of replacing some idioms with other idioms or with words from everyday use by foreigners in oral speech.

Wang and Kaatari (2021) study the specifics of using formulaic sequences in scientific texts. Such factors as type of text, academic subject, personal preferences were taken into account when choosing certain formulaic sequences.

**Methods**

***Research Design***

Research materials are scientific articles published in Ukrainian literary publications - Academic Notes of NaUKMA, Literary Studies and Ukrainian Literary Studies (Ivan Franko National University of Lviv) for 2016-2023. These materials are written in a scientific style, but, taking into account the specifics of the field of research, they also contain elements of artistic, journalistic, and memoir (in quotations used to illustrate biographies of writers) styles. Those scientific articles were selected due to their potential for a demonstration of the use of the phraseological units for different academic purposes in the scientific texts - from the indicative function to the intertextual appeal to the cultural and literary sources.

Phraseological units selected from the corpus of texts are grouped according to notional (key) words and their meaning. This classification takes into account both the functions of the phraseological units in the texts and the sources of their origin. So, thne criteria given to differentiate the phraseological units and catalogue them are quite universal. Accordingly, phraseological units are categorized according to semantic groups and the function they perform in a scientific text (e.g. establishing an indicative


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function, expressing an antithesis, appealing to universal archetypes). Quotations with phraseological units used in the context of the study are also given. The limitations of this research include a representativeness of the selected corpus of texts and possible biases in the identification and classification of phraseological units.

***Methods***

The descriptive method (grouping and systematization of the analysed lexical units) and contextual analysis (the study of phraseological units in the context of their use in scientific articles) are basic in the analysis. In addition, elements of statistical analysis are used (counting the frequency of use of phraseological units with certain notional words classified by lexico-semantic groups). A comparative method was also used (comparison of the semantic features of the use of phraseological units in scientific articles). In view of the specifics of articles on Literary Studies, the hermeneutic method (the analysis, which involves a perception of the text as a compex unity, and also analysis the dialogue of the author with the readers) and the method of close reading (a detailed analysis of the given quotation in different contexts) are involved in order to trace the influence of phraseological units on the nature of the scientific style and to give the texts more expressiveness. The outlined methods imply attention to "specific textual examples" and direct observation of textual elements. Attention is paid directly to the analysis of texts and the meanings acquired by phraseological units in the proposed contexts.

The *choice* of the outlined methodology and materials is determined by the interdisciplinary nature of the research, which involves the analysis of the influence of phraseology on the specifics of the scientific style. The journals of two higher educational institutions were selected for a more thorough understanding and a more accurate representation of which phraseological units and idioms are most often repeated in scientific texts on Literary Studies.

***Ethical Criteria***

All sources were analysed in accordance with the principles of academic integrity and the absence of plagiarism. The citation complies with the copyright of all authors of the analysed sources and literature. The irreplaceability of the cited sources was observed during the research. The journals are publicly available on the websites of higher educational institutions, and therefore, no programmes that violate the copyright were used when reading the texts.

As a result of the application of these methods, phraseological units used in literary articles in the journals Academic Notes of NaUKMA and Ukrainian Literary Studies (Ivan Franko National University of Lviv) for 2016-2023 are grouped by lexico-semantic meanings. In general, phraseological units are classified into 5 groups according to meaningful words and lexico-semantic load: 1). Phraseologisms performing an indicative function; 2). Phraseologisms related to career; 3) Phraseologisms related to religious discourse; 4). Phraseologisms related to the philosophical and cultural world; 5). Phraseologisms to indicate temporality.

**Results**

The first important group of phraseological units are phraseological units that perform an indicative function - they draw our attention to a certain phenomenon, in fact, to the object of observation. This group of phraseological units is characteristic of the scientific style, which involves the analysis of phenomena based on consideration of the research topic. In texts on Literary Studies, we observe a significant number (10 in the given sample) of phraseological units with the notional word *увага*/attention: *увагу зосереджено*/attention is focused (Panforova, 2022, p. 108), *звертає докладну увагу*/pays detailed attention (Panforova, 2022, p. 110), *багато уваги дослідниця приділяє*/the researcher pays a lot of attention (Panforova, 2022, p. 111), *більшу авторську увагу*/more authorial attention (Ageyeva, 2022, p. 26), *не хотів брати до уваги*/did not want to take into account (Ageyeva, 2022, p. 30), *основну увагу приділено*/main attention was paid (Snizhynska, 2020, p. 117), *акцентував увагу*/focused attention (Horblianskyi, 2020, p. 6), *приділяє особливу увагу*/pays special attention (Panforova, 2022, p. 112), *заслуговують на увагу*/deserve attention (Horblianskyi, 2020, p. 10), *скеровують увагу*/direct attention (Drozdovskyi, 2017, p. 110); *рамки*/limits: *донедавна обмеженої певними етнічними рамцями*/until recently confined by certain ethnic limits (Lysyi, 2020, p. 59), *скованими жорсткими рамками*/bound by rigid limits (Lysyi, 2020, p. 61), *звільнення з «жорстких рамок»*/release from rigid limits (Lysyi, 2020, p. 61), *роль*/role: *неабияку роль у романі М. Пруста відіграє мистецтво*/art plays a considerable role in M. Proust's novel (Snizhynska, 2020, p. 117), *роль для історії*/a



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role for history (Drozdovskyi, 2017, p. 113). The phraseological units *мати рацію*/to be right (Grabowski & Pezik, 2023, p. 10), *відточувати формули й твердження*/to perfect formulas and statements (Ageyeva, 2022, p. 29), *царство розуму й чіткого розрахунку*/kingdom of reason and clear calculation (Ageyeva, 2022, p. 29) are also used.

Furthermore, a significant number of phraseological units related to career and social connections are used in the analysed scientific texts. In case of careers and types of human activity, the characteristics of people based on their profession or social class are most frequently used: *службової ґвинтикової ролі в суспільному механізмі*/official cog role in the social mechanism (Ageyeva, 2022, p. 30), *людина-ґвинтик*/cog person (Ageyeva, 2022, p. 31), *робочої сили*/labour force (Drozdovskyi, 2017, p. 110). The phraseological units used to indicate the dynamic process of career development are also common: *підйом по щаблях соціальної драбини*/climbing the social ladder (Ageyeva, 2022, p. 28). Finally, in this semantic group we can see phraseological units related to a person's attitude to financial well-being and accumulation: *забезпечив собі фінансову незалежність*/secured financial independence (Ageyeva, 2022, p. 33), *культ грошей*/the cult of money (Borysiuk, 2022, p. 37). In addition to the perception of a person based on his/her material position only, lexemes are also used to denote power *здобувають над Сванном повну владу*/they gain full power over Swann (Snizhynska, 2020, p. 117), *системи контролю над владою і знаннями*/systems of control over power and knowledge (Drozdovskyi, 2017, p. 108), *перебуває при владі*/is in power (Drozdovskyi, 2017, p. 112), *влади, яку мають*/power they have (Drozdovskyi, 2017, p. 113), *прагнення влади*/striving for power (Drozdovskyi, 2017, p. 114), *розвиток капіталістичного споживацтва та стосунки зі структурами влади*/the development of capitalist consumerism and relations with government agencies (Drozdovskyi, 2017, p. 114) and social dynamics (the notional word is *гра*/game: *інтелектуальні ігри*/intellectual games (Lysyi, 2020, p. 60), *іграшки зовнішніх сил*/games of external forces (Ageyeva, 2022, p. 32), *зіграло з нею злий жарт*/played an evil joke on her (Ageyeva, 2022, p. 30), etc.

A special place is occupied by phraseological units related to religious discourse, in particular, to Abrahamic religions, which are used in the text on Literary Studies to illustrate the disclosure of the motives of the actions of the main characters and transformations in their lives. The appeal to the Bible as a universal source of archetypes of a representative of Western culture makes it possible to understand the inner evolution of the heroes (*скуштувати плодів із дерева пізнання*/tasting the fruits of the tree of knowledge (Ageyeva, 2022, p. 28), *наріжними каменями*/cornerstones (Ageyeva, 2022, p. 30), *хліба насущного*/daily bread (Ageyeva, 2022, p. 34). We observe the use of constant expressions as from the Old, as well as from the New Testament. «Проте *наріжним каменем* протистояння між старою та новою естетикою є не так зображення селянства…, як передусім опозиція самодостатності/утилітарності мистецтва, що її виокремлюють чи не всі дослідники цього літературного періоду»/However, the *cornerstone* of the confrontation between old and new aesthetics is not so much the image of the peasantry... as primarily the opposition of self-sufficiency/utilitarianism of art, which is singled out by almost all researchers of this literary period (Borysiuk, 2022, p. 36); Ідеальне послуговується для свого вираження *особливою формульною мовою, здатною не так описати світ, як сотворити його заново – в іпостасі втраченого раю*/The ideal uses a special formulaic language for its expression, capable not so much of describing the world as of creating it anew — in the guise of a lost paradise. (Borysiuk, 2022, p. 36); Є. Маланюкові судився його *хрест, якого він нестиме* усе життя позаукраїнським Вавилоном, але з Україною в серці./Ye. Malaniuk was bound to his cross, which he will carry throughout his life in non-Ukrainian Babylon, but with Ukraine in his heart (Vasylyshyn, 2016, p. 42). It is also interesting to use the symbolism of numbers in phraseological units, in which it is difficult, at first glance, to trace biblical borrowings: Пані Вердюрен посадила Сванна біля Одетти на час прослуховування гри піаніста, і коли всі навколо почали ототожнювати сонату Вантейля зі Сванном та Одеттою, усвідомлення *єдності цієї символічної трійці* прийшло і до Сванна…/Mme. Verdurin sat Swann next to Odette while listening to the pianist play, and when everyone around began to identify Vantheil's sonata with Swann and Odette, the awareness of the unity of this the symbolic trinity came to Swann as well... (Snizhynska, 2020, p. 118). The concept of the святої трійці/holy trinity (God the father, God the son, and God the holy spirit) is replaced by the concept of the символічної трійці/symbolic


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trinity, because religious mythologems are integrated into most discourses.

Scientific texts also have phraseological units that are related to the philosophical and cultural world and are allusions to the approaches and concepts of thinkers. The notional word культура/culture unites 14 phraseological units (phraseological fusions, unities, conjunctions, aphorisms, etc.) listed in the articles: *культурного світу*/the cultural world (Lysyi, 2020, p. 53), *людину культури*, *ідею культури*/the person of culture, the idea of culture (Lysyi, 2020, p. 55), *безпам'ятство безкорінної глобальної культури*/the memorylessness of the rootless global culture (Lysyi, 2020, p. 55), *культурну пам'ять*/cultural memory (Lysyi, 2020, p. 55), *мандри індивіда культурами*/the journey of an individual through cultures (Lysyi, 2020, p. 57), способом транскультурного *буття на перехрестях культур*/the way of transcultural existence at the crossroads of cultures (Lysyi, 2020, p. 58), *переходи з культури до культури*/transitions from culture to culture (Lysyi, 2020, p. 58), *мозаїкою відвідуваних ними культурних світів*/a mosaic of cultural worlds visited by them (Lysyi, 2020, p. 59), *культурну когорту*/cultural cohort (Lysyi, 2020, p. 59), *культурної орієнтації*/cultural orientation (Lysyi, 2020, p. 60), чим досконаліше *володіє людина рідною мовою*, *тим вищі стіни в'язниці-культури*, які вона для себе споруджує/the more perfect a person is in his native language, the higher the walls of the prison culture that he builds for himself (Lysyi, 2020, p. 61), *визволення з обіймів культури*/liberation from the embrace of culture (Lysyi, 2020, p. 62), *культурні установки*/cultural attitudes (Borysiuk, 2022, p. 38).

Another multi-meaning word is *світ*/world, which in phraseology usually means the inclusion of a person in a particular culture. In the analysed articles, there are 28 phraseological units with this key component: *громадянином всесвіту*/a citizen of the world (Lysyi, 2020, p. 54), *світовому громадянстві*/world citizenship (Lysyi, 2020, p. 56-57), *світ реального і світ уявного*/the world of the real and the world of the imaginary (Borysiuk, 2022, p. 36), *модерністську віру у здатність мистецтва змінити світ утрачено*/the modernist faith in the ability of art to change the world has been lost (Ageyeva, 2022, p. 29), *координатами світу є безкінечність і вічність*/the coordinates of the world are infinity and eternity (Ageyeva, 2022, p. 32), *появи на світ, не із нашого «світу»* came into the world, not from our "world" (Snizhynska, 2020, p. 118), *автор за допомогою художніх образів словесності створює музичне полотно світу*/the author creates a musical canvas of the world with the help of artistic images of literature (Snizhynska, 2020, p. 120), *увібрала в себе тонке світовідчуття*/took up a subtle sense of the world (Snizhynska, 2020, p. 120), *створює світ, просякнутий мистецтвом*/creates a world saturated with art (Snizhynska, 2020, p. 118), *художньо-поетичний світ* Є. Маланюка/the artistic and poetic world of Ye. Malaniuk (Vasylyshyn, 2016, p. 37), *поринути у світ майбутнього*/plunge into the world of the future (Vasylyshyn, 2016, p. 38), *світ проблем і своє індивідуальне обличчя* в афоризмах/the world of problems and one's individual face in aphorisms (Horblianskyi, 2020, p. 7), *поезія – у сполуках слів, старих, як світ*/poetry - in word combinations, old as the world (Horblianskyi, 2020, p. 9), *картину всесвітньої катастрофи*, *цілий світ фактів і спостережень*/a picture of a global catastrophe, a whole world of facts and observations (Kravets, 2022, p. 45), *наштовхне світ на повторення*/will lead the world to repeat itself (Drozdovskyi, 2017, p. 110), etc.

Phraseological units related to philosophy, in particular, to existentialism, are also used: Виокремлюючи чотири найважливіші події свого життя, першою називає сам акт народження, наголошуючи цілковиту випадковість цієї *закинутости в існування*, закинутости, яку інтерпретує як насильство інших/Singling out the four most important events in his life, he names the act of birth itself as the first, emphasizing the complete randomness of this abandonment in existence, abandonment, which he interprets as the violence of others (Ageyeva, 2022, p. 32). Отже, його вибір – добровільне припинення страждань, те *філософське самогубство*, на яке з різними мотиваціями зважувалися кілька персонажів української літератури/Therefore, his choice is the voluntary cessation of suffering, that philosophical suicide, which several characters of Ukrainian literature attempted with different motivations (Ageyeva, 2022, p. 32) is a category of A. Camus's philosophy, which means one of the ways to cope with the absurdity of the surrounding existence, along with historical and metaphysical rebellion. We can also observe the use of phraseological units of ancient origin: Він вважав себе лише ремісником, *затисненим у прокрустове ложе газетним поденником*, який відгукується на злобу політичного дня, ні на мить не забуваючи, що пише перш за все



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для цензора/He considered himself only a craftsman, trapped in a Procrustean bed by a daily newspaper, who responds to the malice of the political day, not forgetting for a moment that he writes primarily for the censor. (Ageyeva, 2022, p. 31). Finally, we see literary allusions to fixed sayings from famous works of art (e.g. *мефістофелівсько-іронічного темпераменту*/Mephistophelian-ironic temperament (Horblianskyi, 2020, p. 10).

The fifth important lexico-semantic category is phraseological units to indicate temporality — the relationship between time and space. Typically, time-related phraseological units indicate a linear vision of history and the possibility of social or individual change between past, present, and future. For example: *минуле нероздільно поєдналося з теперішнім*/the past is inseparably combined with the present: (Snizhynska, 2020, p. 118), *розпалює минуле в теперішньому*/ignites the past in the present (Drozdovskyi, 2017, p. 110), *вносити зміни в хід історії*/to make changes in the course of history (Drozdovskyi, 2017, p. 114), *втраченого часу і втраченої пам'яти*/lost time and lost memory (Ageyeva, 2022, p. 27). Phraseological units related to space also indicate phenomena at the junction of different realities. Альтернативним сценарієм є такий, у якому «повернення» (через пам'ять) до минулого може *впливати на теперішнє та майбутнє, детермінуючи їхнє розгортання одразу за кількома можливими сценаріями*/An alternative scenario is one in which the "return" (via memory) to the past can affect the present and the future, determining their launch at once in several possible scenarios. (Drozdovskyi, 2017, p. 110). *Спогади стирають реальність… Спогади накладаються, заплутуючи час*/Memories erase reality... Memories overlap, confusing time (Snizhynska, 2020, p. 118).

**Table 1.**
*The most used phraseological units in the analysed articles written in a scientific style by lexico-semantic meaning*

| Lexico-semantic meaning | Notional world | Occurrence in the analysed material |
|---|---|---|
| Indicative | attention | 10 |
| | limits | 3 |
| Career and social connections | power | 6 |
| | game | 3 |
| Religion | - | 6 |
| Philosophy and culture | culture | 14 |
| | world | 28 |
| Time and space | past | 4 |
| | present | 3 |
| | future | 5 |

The tabled material gives grounds to draw a conclusion regarding the variety of functions performed by phraseological units in texts on the Humanities. The semantic load of phraseological units used in texts performs a significant number of tasks — from the basic indicative function to an appeal to cultural archetypes in the readers' minds.

**Discussion**

As a result of the research, the phraseological units used in scientific articles were categorized by lexico-semantic groups. What this article has in common with the latest studies of phraseology in a scientific style is, first of all, the categorization of phraseology by groups and subgroups.

Similarly to the methodology of this study, Pichette and Gagné (2022), Bouherar (2020) and Gobbo (2019) use quantitative methods to visualize data on the frequency of use of certain phraseological combinations and the effectiveness of studying phraseological units in the educational process. Besides, in the earlier research, Pichette et al. (2019) analyse the phraseological units in the specific communicational context - in a connection with the gender issues. As in this study, Masimova (2018, p. 12) groups phrasal conjunctions into categories. Although, in contrast to this article, the author of the study groups phraseological units not by semantic load, but by parts of speech –substantive, adjectival, adverbial, verbal (Mardanova, 2023). Similarly, Sułkowska (2018) also classifies phraseological units by groups. However, the main classifications she refers to are word-forming (derivative) features


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of phraseological units and their translatability in cross-lingual communication. Larsson et al. (2022) also distinguish 5 semantic groups of fixed conjunctions that perform an indicative function: *it is * to* (*it is interesting to*), *it is * that* (*it is clear that*), *the * of the* (*the importance of the*), *the * that* (*the fact that*), and *one of the** (*one of the major*).

Hubers et al. (2020) and Díaz (2022) focus more attention on the use of the comparative method, characterizing the use of idioms in the context of language learning (using the examples of Danish and German). Zheng et al. (2022) similarly focus their analysis on the Chinese language and the learning Chinese idioms by foreigners. Ramonda (2019) also focuses on learning certain idioms by foreigners in the study. However, the methodology is different from that used in this article, because the author applies statistical analysis by forming a sample through student surveys. In our analysis, the experimental part is based on the study of written texts.

Singleton and Leśniewska (2021b) and Estival et al. (2023) analyse the impact of idioms on the lexical level of language from various perspectives: grammatical, lexical, and lexico-grammatical, which has something in common with this study, where attention is paid to the transformation of the lexical level of language in a scientific text with the help of phraseological units.

Finally, Kaatari et al. (2022) investigate the use of formula sequences in scientific text. Similar to this article, attention is paid to the analysis of the semantic load of phraseological units.

As we can see, the key common feature of this article with similar studies is the use of a quantitative method to categorize phraseological units according to their functions. However, the difference between the studies is the perspectives used and the criteria for categorizing phraseological units into groups according to language levels.

*The limitations* of this research are the size of the sample of the proposed sources, as well as the style of literary history research determined by their interdisciplinary nature. The choice of the studies on the Humanities as a source of analysis of the use of phraseology in a scientific style implies the risk of shifting the focus from a purely scientific style to the interdisciplinary and cross-stylistic research.

*Recommendations:* in order to avoid the limitations of this article, it is recommended to study the scientific texts not only on the Humanities, but also on the exact sciences. This will make it possible to form a wider sample and more general conclusions regarding the peculiarities of the use of phraseological units and the diversification of their semantic groups in a scientific style.

## Conclusions

*The relevance* of the work is in the analysis of the lexico-semantic meaning of phraseological units in scientific texts on the Humanities and the focus of the research on interdisciplinary analysis. *Research findings*: the phraseological units used in scientific texts in the journals Academic Notes of NaUKMA, Literary Studies and Ukrainian Literary Studies (Ivan Franko National University of Lviv) were classified into groups by meaning and stylistic functions in the text. *Applications*. The results of the study will contribute to a broader vision of the lexico-semantic load of phraseological units in scientific texts, because the study focuses specifically on idioms in the texts on the Humanities, in contrast to the traditional use of examples from texts on the exact sciences in other studies of a similar topic. *Prospects for further research*. Further studies can focus on the analysis of not only lexico-semantic and stylistic, but also syntactic, word-forming, phonetic features of the use of phraseological units in scientific texts on the Humanities. Comparisons of the use of phraseological units in Ukrainian texts on the Humanities with texts in other languages can also be made.

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# Comparative evaluation of grammatical phenomena among the different specialty students

## Порівняльна оцінка граматичних явищ серед студентів різних спеціальностей

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**Abstract**

The article considers the results of a survey of technical and humanitarian specialty students in one of the non-linguistic universities in Ukraine with the following goal: to determine how the systems for assessing grammatical phenomena differ/coincide among students whose specialties are different in nature – technical and humanitarian: engineering specialties (electrical engineering and radio-electronic) 60 students; humanitarian specialties (psychology and sociology) 26 students. Such a selection will further indicate the differences in methodological approaches when presenting grammatical material to students of both technical and humanitarian specialties. The chosen grammatical topic is "Degrees of comparison of English adjectives." The examples, used in the survey, occur in a text corpus of one of the areas of scientific and technical discourse – "Electrical Engineering". The text corpus was compiled on the basis of articles taken from UK and US scientific journals on this field of technology. The presence of a text

**Анотація**

Стаття розглядає результати опитування студентів технічних та гуманітарних спеціальностей в одному з немовних вузів України з наступною метою: визначити, наскільки різняться/збігаються системи оцінки граматичних явищ у студентів, спеціальності яких відрізняються за своїм характером – технічні та гуманітарні: технічні спеціальності (електротехніка та радіоелектроніка) 60 студентів; гуманітарні спеціальності (психологія та соціологія) 26 студентів. Такий відбір дозволить надалі сформувати відмінності у методичних підходах під час викладу граматичного матеріалу студентам як технічних, так і гуманітарних спеціальностей. Вибрана граматична тема – «Ступені порівняння англійських прикметників». Матеріалом, на підставі якого були представлені приклади, що використовуються у процесі опитування, є текстовий корпус однієї з галузей науково-технічного дискурсу – «Електротехніка». Текстовий корпус було складено на підставі статей, взятих із наукових

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corpus made it possible to compile a frequency list of adjectives that were used in the texts not only in accordance with grammatical rules, but also in violation of the rules explained in classical English grammar books. The methods applied in the article were as follows: statistical, quantitative, contextual, expert assessment methods. The performed survey showed which elements in training methodology should be used for students both engineering and humanitarian to understand and accumulate the grammatical information.

**Keywords:** adjective form, grammar rule, frequency, text corpus, token.

журналів Великобританії та США з цієї галузі техніки. Наявність текстового корпусу дозволило скласти частотний список прикметників, які функціонували в текстах не тільки відповідно до граматичних правил, а й з порушенням правил, викладених у підручниках з класичній англійській граматиці. Методи в статті були наступними: статистичні, кількісні, контекстуальні, методи експертної оцінки. Проведене опитування показало, які елементи у майбутній методиці навчання необхідно використовувати студентам як інженерних, так і гуманітарних спеціальностей для розуміння та накопичення граматичної інформації.

**Ключові слова:** форми прикметників, текстовий корпус, слововживання, граматичні правила, частотність.

## Introduction

One of the most important and necessary procedures for educational process is testing or questioning the students. Based on them, appropriate recommendations are then presented for the further creation of methodological base in order to train the necessary material.

This article offers the description and results of such a procedure carried out in a higher technical Institution “Odessa Polytechnic” which was named an engineering centre of the City of Odessa (Ukraine). Nowadays “Odessa Polytechnic” is characterized by the presence of not only technical Institutes but also humanitarian ones. This made it possible to involve students of various specialties in the experiment to get original results.

The goal of the article is as follows: to determine to what extent the systems for assessing the grammatical phenomena differ/coincide among students whose specialties are completely different in nature – technical and humanitarian, in order to identify the differences in methodological approaches when presenting them the grammatical material.

The grammatical topic chosen was “Degrees of comparison of English adjectives”. We should note that we are not the only ones who consider it necessary to study this part of speech for further use in discursive practice (Rodríguez-Gonzalo, & Zayas, 2017). The topic itself is not something new or unknown for the students, and the theoretical description of the English adjectives can be found in any book on theoretical English Grammar. In addition this grammatical topic is widely covered in the school curriculum. The only facts which students need to remember is the division of adjectives into those capable of forming the degrees of comparison (qualitative) and the ones which cannot do it (relative) as well as the semantic dependence of these features on the nouns they (adjectives) are combined with.

The goal set provided the following tasks:

1) to conduct a procedure in the form ‘a survey’ during which the students could simultaneously express their own opinions and independently come to certain conclusions in doing the tasks, and participate in the discussion;
2) to select the students of both technical and humanitarian specialties as the participants in the survey and to place them in separate rooms in order to determine the possible fundamental differences in the type of logical thinking and ability to perceive;
3) to perform the survey in four stages: the first two stages – with a gradual increase in the complexity of the examples for indicating the level of English knowledge; the third and fourth stages – for identifying the difference in logical level and type of thinking of the students.

In the process of presenting the mentioned grammatical topic, as well as the subsequent questioning, the students should find out:

1) clearly distinguish between the adjectives that are capable of forming and adjectives



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that do not form degrees of comparison, so that in their professional and scientific activities they can do it unmistakably;

2) in cases of using relative adjectives in the forms of degrees of comparison, the students should be able to explain this phenomenon so that in the future they themselves, if necessary, can apply such a technique;
3) in cases of using forms of degrees of comparison of the adjectives in violation of the rules specified in classical English grammar, also be able to explain such facts so that in their further activities connected with the English language they can use them reasonably and with full understanding.

**Literature Review**

A review of the literature considering student (teacher) testing and surveys has demonstrated a wide variety of topics related to this issue.

S. Canto & K. Jauregi Ondarra (2017) analyzed to what extent the computer mediated communication (CMC) tools impact on the development of the intercultural and communicative competence in some students' groups.

M. L. Liaw (2019) conducted the survey among the English learners and obtained the data from multiple sources: surveys, video-recordings, and oral reports; the participants positively accepted the open social virtual reality spaces as a help in intercultural communication learning.

N. Araújo-Vila, L. Cardoso, D. Toubes, & J. Fraiz-Brea (2020) tried to understand with the help of survey how often digital skills were used by Spanish higher education (bachelor's and master's degree) students.

M. Bond, K. Buntins, S. Bedenlier, O. Zawacki-Richter, & M. Kerres (2020) strived to determine the interaction of technology and the level of undergraduate student engagement in digital technology use.

Sallnäs (2005) presented the results of conference participant testing which demonstrated that both the collaborative virtual environment and Web video condition are preferred by people but in different situations.

Shandra et al., (2022) preferred to work without Digital tools applying the method of analysis, synthesis, research and comparative generalizing method for forming the English-language lexical competence under the conditions of globalization.

Lu et al., (2021) presented the results of the pre- and post-introduction survey of smart classroom environment, which provides improving the peer interaction and learning motivation among the students.

R. Pekrun, A. Elliot, & M. Maier (2009) offered the data of psychological testing of the achievement goals and achievement emotions to academic performance in a prospective study with undergraduates using exam-specific assessments of both goals and emotions as predictors of exam performance in an introductory-level psychology course.

E. Smith (2017) analysed the data of semi-structured interviews and an online survey to find why and to what extend the social media technologies influence the undergraduates during their university learning.

T. Dunn, & M. Kennedy (2019) in their study assessed the emotional, cognitive, behavioural engagement impact of Technology Enhanced Learning on students' grades.

E. Grodska, A. Machulianska, & L. Shapa (2020) described the results of the undergraduate student testing and their progress not only in the Spanish language learning but also in Spanish culture on the basis of Spanish idioms.

L. Czerwionka, T. Artamonova, & M. Barbosa, (2015); considered the results of the students' reviews carried out abroad; it was for the first time that the reviews were conducted at the beginning and end of the program.

L. Chieffo, & L. Griffiths (2004) compared the data of survey which investigated the difference in intercultural level between the students studying abroad and at home.

D. Deardorff (2006) carried out a study intended for higher education administrators identifying the students' intercultural competence level.

M. Levrints (Lőrincz), & I. Greba, (2022) studied a set of problems encountered by EFL teachers with varying lengths of teaching experience because such kind of experience was considered to be one of the most important values affecting the student' gains.


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S. Aydin, & O. Ustuk (2020) researched the level of emotional state of anxiety experienced by the teachers instructing EFL.

R. Metruk (2020) determined with the help of interviews performed at the Slovak University the differences in the ideal EFL teacher perceptions by the pre-service teachers (students) and in-service teachers (instructors).

M. Uji, M. Kawaguchi (2021) offered the data based on examination of the relationship in different fields of student activities, in this case – between motivation styles and academic achievement level, using data obtained 162 college students in Japan.

G. Alamdarloo, S. Moradi & G. Dehshiri (2013) considered the results of survey conducted between pre-university students' conceptions of learning with their academic achievement. The sample consisted of 309 students (165 males and 144 females) in Tehran city.

Although the given Literature Review covers a huge range of problems, however, we did not find in the available literature the topic of contrasting the abilities and level of logical thinking among students of technical and humanitarian specialties, which, in our opinion, is the novelty of the proposed research.

**Methodology**

The number of students present at the survey was 86. The students studying at the three Institutes were selected:

1) the Institutes of engineering specialties 60 students – a) electrical engineering, power engineering and electrical mechanics (30 students); b) radio-electronic and telecommunication systems (30 students);
2) the Institute of humanitarian specialties 26 – psychology (15 students) and sociology (11 students).

All of them were trained under bachelor's programs but at different courses.

As we can see from the list of the Institutes, two of them are closely related by their technical subjects since many concepts and terms of electrical engineering are used in radio electronics. And the third group belongs to the Institute that has absolutely no areas of knowledge in common with any of the selected technical Institutes – the humanities.

First of all a scientific literary object had to be chosen, in which the mentioned grammatical phenomenon examples function in real texts. The terminology and concepts of such an object had to be quite clear to many future specialists of a non-linguistic university.

The presence of text corpus facilitates the task of choosing a linguistic object. Already many teachers, translators and other specialists involved in applied linguistics the results of examining text corpora to solve their professional problems (Justeson et al., 2019).

For those reasons the text corpus of the specialty "Electrical Engineering" was taken. It (corpus) was compiled by a continuous sampling method and based on scientific articles taken from the journals of the corresponding field published in USA and UK: Electrical Engineering; IEEE Transactions on Power Apparatus and Systems and other foreign English-language publications on the specialty "Electrical Engineering". Its total size is 200 thousand tokens.

The list of the most frequent adjectives obtained as a result of the statistical analysis of the text corpus "Electrical Engineering" consists of 366 units, of which 140 words (almost 38% of all adjectives in the list) are able to form degrees of comparison and 226 words incapable of forming (62%). In many cases the computer was used in data counting.

In the article the examples functioning in the real texts were introduced into the structure of the survey at all stages. They included the usual pairs of phrases "adjective + noun", but in more complex situations the whole sentences were presented.

In the process of work except for continuous sampling and statistical quantitative methods a number of other analysis methods were used in order to obtain the reliable and correct results at any particular stage of the survey. This concerns first of all the expert (specialist) review method, which was the most required at almost all stages of the experiment.

The studies have demonstrated that the adjectives met in such texts acquire the certain original and unusual characteristics, and sometimes "behave" in an unexpected and even contradictory way, which occur because of the fact that the boundaries between the relative and qualitative adjective are very unstable and dependent on the situation and the nouns they are connected to. That is why a thorough contextual analysis was



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applied and all the contradictory examples were fixed.

In the list of adjectives the special signs mark the complex cases when one and same word can contain a category of quality and form degrees of comparison, and at the same time, when combined with another type of nouns, it can be deprived such a possibility. Further these lexical-semantic variants were compared to the definitions fixed in Webster's normative explanatory Dictionary in order to highlight the cases of using adjectives in specific or incorrect meanings.

The authors of the survey can argue that in the case when examples taken exclusively from technical literature are considered, the involvement of students of humanities for this kind of experiment cannot be correct and a more rigorous selection of texts that correspond to the specialty of each of the participating groups is necessary. However, from the very beginning, the authors considered it possible and even necessary to introduce such students into the structure of the survey, since their opinion could turn out to be useful, original and unexpected, especially taking into account the above reasons for their participation.

**Results and discussion**

The discussion of task difficulties and mistakes was held immediately after each of the stages and not only the instructors (experts) were present but also all the participating students.

***Stage 1***. At the first stage the students of all specialties were given only those adjectives, which categories (qualitative or relative) were quite obvious, e.g. *large, electrical*, etc. There were 305 such adjectives.

The students following the theoretical rules coped with the tasks quite easily and the results of the first stage of the survey showed 100% correct answers of all student groups in a fairly short period of time – maximum 35 minutes.

However, the period of time spent on determining the categories of adjectives and their forms was much shorter for the students of technical specialties (20 minutes) than for students of humanitarian ones (35 minutes). In the process of discussion a completely reasonable explanation was found for such a long duration for the students of the humanities: the students of technical Institutes orient more freely in the vocabulary of scientific and technical discourse.

***Stage 2***. Much more difficult cases occur in the text corpus "Electrical Engineering" when the adjectives can function simultaneously (in the same text corpus) in relative and qualitative meanings. Their volume is 8% of all tokens.

As the examples the students were given the paired word combinations to identify qualitative adjectives and relative ones in them: *different from one another – different polarities, different subgroups; common size – common surge chamber; short circuit – short metal bar; transient measurements – transient recovery voltage; critical sparkover voltage, critical flashover – critical criterion; extreme conditions – extreme impulses; circular enclosure – circular cross section; solid relations – solid dielectric cable; direct current – direct effect; optimal decision – optimal controller; primary coil – primary analysis; practical consideration – practical circuit; positive charge – positive viewpoint; natural growth – natural frequency; symmetrical transistor – symmetrical system; secondary position – secondary coil; open window – open circuit; characteristic impedance – characteristic data; total understanding – total current; economic development – economic balance between lost cost and investment.*

In the paired word combinations the qualitative and relative adjectives are presented quite randomly, so that the students did not consider that the order of their use matters.

The answers of the students of technical specialties were 100% correct and took only 10 minutes. The answers of the students of the humanities were also 100% correct, but the process of identifying the different types of adjectives took much longer – 35 minutes. Moreover, the first 2-3 pairs were determined for more than 20 minutes, and the rest – for 10-15 minutes.

The reason for the undoubted success of students of technical specialties was again their knowledge of the subject itself and the fact that they were more fluent in the terminology of scientific and technical discourse.

The humanities students admitted that this stage was much more difficult than the previous one, requiring the mobilization of not only all knowledge of the English language but also a certain amount of observation and logics. Moreover, they had to consult Webster's


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normative dictionary several times. However, the well-learned theoretical information which focused the students' attention on the nouns, with which the adjectives are combined, allowed them to draw the correct conclusions and focus mainly on the meanings of the nouns in the proposed word combinations.

So after the first 2-3 word combinations they understood that if a noun was a term, then the adjective was, of course, relative, and if it was an ordinary word that is used in ordinary or scientific speech then of course it was qualitative. Therefore after such conclusions the process of indicating the types of adjectives went much faster and more productively and Webster's normative dictionary was no longer used by them.

Thus the humanitarians had to use their logics already at Stage 2.

***Stage 3.*** The next two stages of the survey – Stage 3 and Stage 4 included the most difficult tasks for participating students since they can use neither knowledge of theoretical grammar nor Webster's Dictionary in them as an aid.

Stage 3 continues the theme of identifying characteristics of qualitative and relative adjectives. At this stage the cases of the use of relative adjectives in the forms of degrees of comparison, which is absolutely impossible from the viewpoint of logics, were examined. For these cases not the separate paired word combinations, as usual, but the whole sentences were given.

The task is as follows: to give a rationale of using relative adjectives in the forms of degrees of comparison for this kind of cases so that in the future the students could apply this technique to their own work.

1. *<u>Most previous measurements</u> and also those reported in Tables 3 and 4 were primarily concerned with measurement or line surge impedance.*
2. *It is apparent that the remaining short-circuit strength are more subtle and involve design oversights, expressive production tolerances and in some cases the need for <u>more technical design</u>.*
3. *Now if the inverter voltage is suddenly reduced from 370 kV to 225 kV the transient current flow resulting from the line discharge with further charge the capacitor to <u>more negative voltage</u> and take the neutral potential to a high negative value.*
4. *<u>The most linear region</u> of the variation of L1 with $\theta$ is evidently around the point $\theta$ ….*

It took almost 30 minutes to perform this task both by the students of technical specialties and humanitarians.

At this stage the students had to solve two tasks at once: to show both their knowledge of the English language and the level of logical thinking, i.e. ability to make the logical conclusions. The base difficulty in the proposed sentences was that even the understanding of the meanings of all words could not help understand the content of sentence. In this case the only means that could be used was logics.

Of course, it was much easier for the technical students having the specialized knowledge to perform such a task. But later in the course of discussion even they confessed that they were shocked by such violation of the grammar rules they knew completely. Being absolutely confident in their logical and knowledge advantage over the humanitarians, who demonstrated much less strong knowledge in technical discourse, they were confused for the first time.

So, in examples № 2, 3 they quickly realized that the authors, most likely, simply omitted the words: in the word combination "more negative voltage" – it was the word 'value' (it turned out 'the negative voltage of higher value'); in the combination "more technical design" – the words 'strong' and 'perfect', which characterize the design, were missing (it turned out to be 'more strong and perfect design'). Such cases happen quite often in specialized texts, when the authors and readers are "on the same wavelength" of knowledge and understand each other perfectly. So there is no need to use all the elements of the phrase.

Humanities students, in turn, having no such knowledge of electrical engineering, simply logically assumed that some elements in examples № 2, 3 were most likely missing in these sentences although they did not know exactly which ones.

Example №1 shows how a relative adjective is used in superlatives. Engineering students could not explain such use of the relative adjective 'previous', and assumed "that the authors simply do not know Grammar".

But the psychology students accustomed to logical conclusions during the survey almost



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immediately noted the special emotional emphasis that the authors made when using the word 'previous' in the superlative degree in this phrase, and suggested that the adjective 'previous' was of particular importance in this context.

Example № 4 contains the word combination 'most linear region' which in itself may seem quite unbelievable because the word 'linear' can be attributed to a group of words that reflect exact and therefore the only given properties in technology, therefore they cannot have any approximate characteristics especially degrees of comparison.

So no group of the students could explain this example: neither knowledge of the language, nor knowledge of electrical engineering, nor a logical approach helped here.

That's why all groups had a 25% reduction in the score for performing the tasks at this stage.

***Stage 4***. Stage 4 was the longest and took 40 minutes to carry out.

The fourth stage of the survey was associated with the presentation of data on the types of forms of the degrees of comparison of adjectives obtained as a result of analysis of the text corpus, which made it possible to determine with which degree of probability the theoretical rules of classical English grammar are implemented in the texts (using the suffixes -er/-est and appending 'more/most').

All adjectives collected in the frequency list were previously divided into groups of one-, two-, three-, four- and five-syllable units. The correctness of such a division was checked according to Webster's normative dictionary. Three-, four-, and five-syllable adjectives practically did not raise any doubts about the correctness of the use of form types in the texts. Therefore Stage 4 presents monosyllabic adjectives that are used in the real texts with unusual forms of degrees of comparison, as well as two-syllable qualitative adjectives the forms of which usually have an unpredictable type.

The students were asked to familiarize themselves with these data, draw conclusions and, after a short discussion, present a reasonable summary that could logically explain the use of: 1) monosyllabic adjectives in analytical forms of degrees of comparison; 2) two-syllable adjectives in precisely those types of forms of degrees of comparison that are presented in the list and, accordingly, were found in real texts.

1) One of the most surprising phenomena that are observed in the text corpus "Electrical Engineering" is the use of some monosyllabic adjectives in analytical forms of degrees of comparison which is contrary to the fundamental rules set forth in theoretical grammars in the English language. And nevertheless in the studied texts they were found.

What is the reason for such a violation of the rules of English grammar? This question had to be answered by the students, demonstrating the logics of their thinking.

Here is a list of such adjectives (as always in our work they are presented with the value of their occurrence in the texts): full (F=46), slight (F=44), real (F=40), last (F=25), clear (F=23), true (F=15), firm (F=12), fair (F=10), poor (F=8), quick (F=7) and examples of some word combinations in which they are used in analytical degrees of comparison: *the most full information, more slight value, the most real way out, the most last construction problem solution, more clear view, the most true engineer opinion, the most firm integrated circuit package, the most fair decision, the most poor control demonstration, more quick computer calculation*.

After performing this task the positions of the student was as follows: the students of technical specialties were in the lowest position, since their logics in this task turned out to be very weak, and the grade was, accordingly, unsatisfactory; the students of the humanities occupied the highest position, with the highest score.

How did it happen? The students confessed that the phenomenon of using monosyllabic adjectives in analytical forms of degrees of comparison was almost shocking for them, since this completely contradicted the rules of classical grammar that they knew from the school curriculum.

The students were asked to determine the cause of the phenomenon of incorrect (from the viewpoint of theoretical grammar) use of the forms of degrees of comparison in the texts of scientific and technical discourse.

The students of technical specialties suggested that the authors of the scientific articles, most likely, were not familiar enough with English grammar (it was for the second time they made


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such kind of assumption instead of thinking over the situations in the texts).

Psychology students drew attention to the semantics of words that were used incorrectly and presumed that the authors-scientists thus focused on certain phenomena or facts that could not be noticed by readers of the articles if these words were used according to the classical rules. In addition they suggested that in these cases an emotional emphasis on these words is also possible which gave more expressiveness to the complex and "dry" texts on electrical engineering.

2) In accordance with the information on "Degrees of comparison of English adjectives" taken in the textbooks on theoretical Grammar of the English language as well as based on the experience of working with real text corpora, the authors came to the conclusions that the most unpredictable forms of degrees of comparison are observed in two-syllable qualitative adjectives which can demonstrate an increase in quality both with the help of suffixes -er /-est, and separate words 'more/most'. At Stage 4 they were presented in those types of forms and in conjunction with those nouns with which they are realized in the texts. And, of course, with the frequency of their occurrence in the texts.

Here they are: *more basic circuit (F=85), earlier solution (F=50), the most complete voltage calculation (F=43), more real electricity consumption (F=40), more complex management problem (F=35), the most recent year contracts (F= 27), the most proper conditions (F=25), more valid limitations (F=24), the most correct cable size (F= 23), heavier structure (F=23), the modernest invention (F=19), the most useful power consumption information (F=19), the most exact estimation (F=18)KA, more severe weather conditions (F=18), more usual agreement (F=18), the easiest equipment control (F=17), the most extreme reliable terminal (F=16), more active constituent (F=15), more compact form of casing (F=14), more rapid process interruption (F=14), steadier operation of the device (F=14), the most adverse junction (F=12), more careful operation observation (F=11), more random transmission line breaking (F=9), the narrowest passage (F=7), the most nearby transmission line tower (F=7), more normal power arrangement (F= 7).*

The answer of the students of technical specialties turned out to be much more successful and deserved the highest score for the logics they demonstrated in performing this task. The answers of the students of humanitarian specialties were standard, uninteresting and simply weak, devoid of any originality, with very weak logics. Humanities students received one of the lowest score.

The discussion of this Stage 4 item was also the longest in terms of time.

Humanities students suggested that the use of certain types of forms in the presented two-syllable adjectives has developed historically, and most likely, not all English speakers understand why they (types of forms) are used in this way and perceive such a situation as a given.

The students of technical specialties first went the same way, but saw that it was unproductive and came to the conclusion that perhaps in this matter there was some principle of using certain forms for adjectives with two syllables and tried to find it.

During the discussion after this stage they (technicians) confirmed that they were looking for and seem to have found an almost universal principle for determining the types of forms of degrees of comparison for adjectives with two syllables (of course, according to them, it would operate with some error, i.e. it is not always ideal). They drew attention to the values of the frequency of use of two-syllable qualitative adjectives in the forms of degrees of comparison in the texts, and decided to check whether these values could influence the type of formation. And indeed, those words that were used with a greater frequency had a greater (though not absolute) probability of forming degrees of comparison analytically, and with a smaller value of frequency – synthetically.

They presented the calculations with the help of which they confirmed their idea: the total frequency of occurrence in the texts of two-syllable qualitative adjectives in degrees of comparison with the help of suffixes -er/-est was 134 tokens, and the frequency of use of two-syllable adjectives that form degrees of comparison with 'more/most' – 493 tokens. So the guess of the students of technical groups turned out to be logically correct and may even be used in explaining the grammatical material "Degrees of Comparison of the English Adjectives".



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Thus, the proposed problem of differentiation of logical and thinking characteristics of technical and humanitarian students determines the type of survey. This (survey) is quite noticeably different in nature from those considered in the above literature sources, in which respondents passively carry out the tasks, and the conclusions are drawn by survey organizers. The tasks facing the participants of this exact survey allow them to take an active position, i.e. offer their own, rather original solutions to the assigned tasks, and, what is important, draw their own conclusions based not only on knowledge of the subject, but also on logics.

**Conclusions**

1. The described procedure of survey has demonstrated that in order to determine the level of assimilation of grammatical material it can be successfully used instead of the usual exercises and testing, which, firstly, have long been familiar to students and do not arouse any interest in them, secondly, it makes it possible along with expressing one's opinion to listen to opinions of others.
2. The simultaneous entering the students of technical and humanitarian specialties into the groups of the participants showed that such an association is quite successful, because made it possible to bring together individuals with different types of logical thinking and psychology, and they did not contradict but complemented each other when performing tasks, and showed possible and even unexpected variants of solutions. We can say that in this case not only objective but also psychologically verified data were obtained.
3. The conducted survey showed which elements in the future training methodology should be used for students to understand and accumulate the grammatical material of various subjects. This allows us to make the following recommendations: a) for students of technical specialties who will use English for their scientific and practical activities, English teachers should do emphasis on the lexical and semantic characteristics of language units as well as to draw their (students') attention to elements of the language that could enhance the impression of the information presented; b) for students of humanitarian specialties the attention should be focused not only on the stylistic features of texts and the semantics of words but also on formal logics, counting facts and observing their interaction, which make it possible to take into account features that may not be related to their specialties but will no less make their future research richer and more original.

Some words about the limitations of the proposed study. Of course, it would be ideal to present a complete list of adjectives functioning in the text corpus "Electrical Engineering", with all the necessary marks recording cases that were used in violation of traditional grammatical rules, but the scope of the article does not allow it.

The presented study also allows us to conclude that the use of scientific research results in explaining topics of theoretical grammar is long overdue. And first of all this concerns the results obtained on the basis of analysis of text corpus. That is why the article describes the procedure applying in practice the synthesis of theoretical issues of grammar and the results of the analysis of text corpora.

The authors agree that to solve the problem of adequate translation of written scientific texts in English, such an approach to teaching methods is quite possible. In addition, the authors, as part of a group of researchers, plan to create and analyse some text corpora (with the further compilation of probable-statistical models) in various areas of scientific and technical discourse to determine the comparative characteristics of text units functioning in real texts. The presence of frequency dictionaries also helps to clearly determine the sequence of introduction of speech units into the educational process, starting from the most frequent to the least frequent.

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# Reducing assessment anxiety: A case for using revised Bloom's taxonomy in ESP

## Зменшення передекзаменаційної тривоги: досвід використання таксономії Блума у викладанні англійської мови за професійним спрямуванням

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**Abstract**

This paper explores the benefits of incorporating the prepared speaking format into the final assessment in English for Specific Purposes, as a response to pandemic and the full-fledged war in Ukraine. The aim was to maintain students' achievements and reduce examination-related anxiety triggered by war stress. As literature review suggests, anxiety blocks cognitive process and ability to critical thinking, the development of which requires focused and sustained attention and correlation of emotions and cognition. Since the critical thinking development is one of the key competences of the XXI century, the format of the designed pre-examination tasks is based on questioning techniques with trajectory on cognitive levels of Bloom's Taxonomy, originally developed to help educators set educational objectives. In the suggested format it underwent a transformation, shifting from a teacher-centered approach to a student-centered one with the aim to enhance students' critical thinking and the ability to ask higher cognitive questions. This study was carried out through a qualitative longitudinal approach with semi-structured interviews, a survey, and observation as data collection methods. The findings demonstrated the viability and a crucial role of prepared speaking format in eliminating anxiety, by providing the

**Анотація**

У статті досліджуються переваги включення розробленого формату підготовленого мовлення до усної частини іспиту з дисципліни "Англійська мова професійного спрямування", у відповідь на виклики пандемії та повномасштабної війни в Україні. Мета новації полягає у збереженні рівня академічних досягнень студентів та зменшенні тривожності, пов'язаної як з іспитами, так і воєнно-політичною ситуацією в країні. Огляд літератури довів, що почуття тривоги блокує когнітивні процеси та здатність до критичного мислення, розвиток якого вимагає вміння зосереджуватися та утримувати стійку увагу, коригування емоцій і когнітивних функцій. Оскільки розвиток критичного мислення є однією з ключових компетенцій XXI століття, при розробці нового підходу ми спиралися на когнітивні рівні Таксономії Блума. Спочатку створена для допомоги вчителям визначати освітні цілі, у форматі підготовленого мовлення таксономія зазнала трансформації, змінивши спрямування від підходу, орієнтованого на вчителя, до студенто-центричного підходу, з метою покращення здібностей студентів до критичного мислення та їхньої здатності ставити запитання вищого рівня когнітивної діяльності.Це дослідження було проведено за допомогою якісного лонгітюдного підходу з напівструктурованим

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achievement-oriented strategies focusing students' attention on effective task engagement.

**Key words:** anxiety, Bloom's taxonomy, critical thinking, English for Specific Purposes, prepared speaking.

інтерв'ю, опитуванням і спостереженням як методами збору даних. Результати продемонстрували життєздатність і вирішальну роль підготовленого формату мовлення в усуненні тривоги, забезпечуючи орієнтовані на досягнення стратегії, що зосереджують увагу студентів на ефективному виконанні завдань, послідовність та зміст яких сприяє розвитку критичного мислення студентів.

**Ключові слова:** англійська мова професійного спрямування, критичне мислення, підготовлене мовлення, таксономія Блума, тривожність.

## Introduction

Since the beginning of the 2020s, global pandemic and political instabilities have created extraordinary socio-economic circumstances, greatly impacting the lives of many and leading to significant changes in the field of education. Participants of the World Economic Forum 2023 unanimously expressed concerns regarding the slowdown of economic growth in the world's largest economies. COVID-19 and the war in Ukraine are considered a critical turning point that has disrupted the global economic system. Thus, the scale of the global crisis and the anticipated potential for future crises require the transformation of defensive measures into proactive, vision-oriented policies and business strategies (World Economic Forum, 2023).

The quality of higher education in today's context is closely tied to students' mastery of key competencies that facilitate the effective development of language, communication skills, and other abilities essential for the 21st century. Among these competencies, developing critical thinking skills as the highest level of cognitive activity retains its particular significance.

However, psychologists have highlighted that feelings of anxiety, arising from various circumstances and particularly exacerbated by the ongoing war, can impede an individual's capacity for effective learning in general and critical thinking in particular. Even in times of peace, anxiety has been recognized as a detrimental factor affecting decision-making abilities and hindering efficient acquisition of knowledge and development of cognitive skills (Tanveer, 2007; Woldeab & Brothen, 2019).

The move to emergency remote teaching in response to country-wide crisis, once again forced educators to consider the principles of student autonomy and the development of critical thinking skills. Any kind of crisis in general and the war specifically brings a range of negative emotions, including anxiety and tension, fear, and despair. Therefore, the formation of appropriate learning trajectories and the development of flexible forms of assessing skills that contribute to reducing learners' feelings of anxiety are among the top priorities for educators. This is especially relevant during the examination period, when one of the stress factors that can negatively affect the psychological state and health of students is final examination, which inherently contains an element of uncertainty primarily due to the unknown outcome. Students need a sense of physical and psychological safety for learning to occur, since fear and anxiety undermine cognitive capacity and short circuit the learning process (Darling-Hammond et al., 2020).

**The purpose of the article** is to synthesize the findings of a three-year experience of implementing the *prepared speaking* part of the summative assessment, developed in order to enhance students' exam concentration and raise the level of their achievements via alleviating exam anxiety. Specifically, it aims to describe the format of the newly introduced *prepared speaking* format of the ESP speaking exam for the 4th-year students majoring in "Physics and Astronomy" at the Bachelor's level in Ukraine, the experience of using a set of questioning guidelines exploiting the revised Bloom's taxonomy, as well as to study the level of students' motivation to perform the *prepared speaking* task. Under this study, it is tempting to believe that the effectiveness of using Bloom's Taxonomy within a student-centered approach is as effective as using it for teachers' educational aims.


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**Literature review**

There is already a great deal of research dwelling into different aspects of online learning. Recent studies have demonstrated that at least one-third of the students suffered from anxiety during the early stages of the Covid-19 pandemic (Deng et al., 2021; Jehi et al., 2022). Existing studies on epidemics indicate that while lockdowns and quarantines are essential, they can lead to negative psychological effects like depression and anxiety. Students, especially, have been heavily affected due to pre-existing academic and psychosocial stressors, such as assessments. Lockdowns exacerbated these challenges, intensifying mental health issues such as depression, increased anxiety, and sleep disorders. Studies on the effects of online learning on students in Ukraine confirm this trend where almost 60% of student population surveyed acknowledged having psychological problems (Krylova-Grek & Shyshkina, 2021). Studies conclude that higher education institutions should take action to ensure the safety and the physical, social, and mental wellbeing of the students (Jehi et al., 2022) and implement long-term policies and programs to target the source of the students' mental health issues. (Deng et al., 2021).

The forced shift to online learning as a result of the pandemic has eventually had a somewhat positive impact on the quality of online instruction and on the variety of digital tools aimed to facilitate the process of teaching, learning, and assessment. Latest studies suggest the growth in demand for online learning has forced institutions to invest in preparation of many more instructors to be able to teach online and facilitate the shift face-to-face dynamics to the online experience that has proved to differ significantly (Ragan et al., 2023).

In 2022, Ukrainian higher education institutions shifted from face-to-face or blended to fully remote instruction termed as emergency remote teaching to ensure their students continue to obtain the required education while being protected them from the full-fledged military invasion. Emergency remote teaching is described by Hodges et al. (2020) as a "temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances". The sudden shift to online learning, combined with lifestyle changes and uncertainties, likely heightened anxiety levels.

The issue of assessment of learning, especially when it comes to summative assessment has long been associated with increased risk of anxiety (Birenbaum, 2007, Woldeab & Brothen, 2019). The majority of researchers concur that anxiety is an individual psychological trait, manifesting as a predisposition toward experiencing anxious states in anticipation of unfavourable outcomes. Anxiety, in psychological terms, is an emotional state arising from potential unexpected situations; both the delay or disruption of pleasant events and the anticipation of unpleasant ones (Stukalo & Simakhova, 2020). In the educational context within this socio-political landscape, the issue of assessment anxiety gains prominence as students undergo significant stress and apprehension before and during exams.

Anxiety is a powerful instrument able to block the process of cognition which is of paramount importance in the learning process. Thus, educators and scholars face the challenge of how to alleviate heightened assessment-related anxiety, organize learning and exam preparation effectively, manage learning in challenging circumstances, and enhance the development of critical thinking skills. It is noted that anxiety levels have an impact on the successful completion of tasks and hinder students' critical thinking abilities.

Based on this concerning assertion, educators need to find the ways of creating friendly examination environment that will support the effectiveness of the cognitive process and, moreover, help develop the critical thinking of students in the educational process as a whole, and specifically in foreign language learning. In the following part of the review, we are going to look critically at the role of cognition, emotional intelligence and critical thinking in learning.

***Cognition.*** Cognitive processes deal with such functions of our brain as thinking, paying attention, processing information, and remembering things. In other words they include attention, memory, logic, reasoning, and visual and auditory processing. Attention which presents a complex construct in psychology, can be considered as one of the most influential cognitive processes that interacts with perception, memory, behavioural planning or actions, linguistic production, and spatial orientation (Zimmermann et al., 2015). Owing to attentional skills a person can select and integrate all the relevant information he/she perceives, coming from different sensory channels, and associate them with conceptually superior categories (Konrad et al., 2005). In other words, attention allows students to concentrate on a particular activity or stimulus instead of


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processing everything around a person. (Cherry, 2022). In case of anxiety, it becomes quite problematic to keep attention or to be concentrated on the task being performed.

Therefore, in accordance with the purpose of this study, we are interested in focused attention and sustained attention. Focusing actively on one thing helps students avoid distraction of the stimuli caused by anxiety. Sustained attention intensifies this process prolonging the time of attention concentration on the subject matter (Cohen, 2014).

***Emotional intelligence.*** Emotional intelligence (EI) can also be considered as significant factor influenced upon cognition process. EI is the ability to identify, understand, and use emotions positively to manage anxiety, communicate well, empathize, overcome issues, solve problems, and manage conflicts (Drigas & Papoutsi, 2018).

Researchers underline that EI is important for children because what is perceived as not interesting, without an affective value, does not become a subject of attention. (Vuontela et al., 2013). For adults, it has as much significance, according to Szczygieł & Mikolajczak (2017), as it provides a person with a better inner world to cope with the outside world. The results of studies suggest that negative mood and anticipated fear are two factors of the relationship between EI and risk-taking in decision-making processes among adults (Panno at al., 2015). Research has also shown this positive correlation between EI and cognitive processes, and this demonstrates the important role that EI plays with emotion and cognition, thus, empowering individuals and their personality and benefitting the whole society (Mayer et al., 2008).

For our study, it is important that EI engages high cognitive functions such as attention, memory, regulation, decision-making and others that empower students manage with anxiety.

***Critical thinking.*** Previous studies confirm that critical and analytical thinking remains one of the most sought-after competences among graduates in Ukraine (Syzenko & Diachkova (2020). A plethora of distinguished scholars conducted theoretical and practical research into the phenomenon of critical thinking from psychological and pedagogical perspectives (Wood, 1991; Anderson & Krathwohl; 2001, Halpern, 2003, Temple, 2005; Butler, 2012; Wilson, 2016). Viewing critical thinking as a modern form of logical activity, many researchers associate its development with the importance of questioning, recognizing it as a valid teaching and learning strategy (Graesser & Olde, 2003; Chin & Osborne, 2008; Jiang, 2014; Davoudi & Sadeghi, 2015). In higher education setting, critical thinking is one of the most important skills as it enables university graduates to become effective contributors in the global workforce (Liu, Frankel & Roohr, 2014; Parashchuk, 2017).

Among scholars who have laid out the foundations of the study into development of critical thinking skills, Benjamin Bloom (1956) particularly stands out due to his taxonomy that presents an organised classification comprising six cognitive levels of lower-order and higher-order cognitive categories.

An updated version of this cognitive skill hierarchy was introduced by L. Anderson, a student of the renowned B. Bloom, and D. Krathwohl, a partner during development of the original taxonomy from 1950-1970. The updated Anderson and Krathwohl's taxonomy (2001) closely resembles the original one but incorporates semantic changes: verbs replaced nouns in level names, and the names of the fifth and sixth levels underwent changes. In this study, we use this revised taxonomy with the following six levels: 1) *remember*, 2) *understand*, 3) *apply*, 4) *analyse*, 5) *evaluate*, and 6) *create*. It is believed that intellectual skills linked to memorisation, understanding, and application encompass a lower cognitive level, whereas skills involving analysis, evaluation, and the creation of new knowledge are considered higher-order cognitive skills.

It is noteworthy that originally B.Bloom developed his taxonomy not for assessment purposes but as a system to classify skills and knowledge based on learning objectives, aiding examiners in crafting assessment materials.

These days, the application of Bloom's taxonomy is mostly geared towards the continuous development of students' critical thinking skills, where adeptly crafted questions by instructors play a pivotal role, aligning with specific levels of students' cognitive engagement. Our analysis of the aforementioned studies indicates that educators are well-equipped with a methodological foundation for both valid questioning in the learning process and assessing students' overall cognitive level during examinations.

As put by McKenzie (2003), questions and questioning are critical human technologies that



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empower young individuals to solve problems, make informed decisions, and excel in tests and life challenges. Researcher highlights the significance of fostering students' questioning skills. As a result, it is worth looking into how we can achieve a transition from the well-established practice of exploiting cognitive strategies, used by educators, to a more learner-centred approach, that would foster students' autonomy in posing questions and, consequently, further develop their critical thinking skills.

Despite significant contributions made into the fields covered in our literature review, new challenges call for practical changes into the assessment practices without compromising the quality of education, but at the same time providing the support required for tackling increased levels of anxiety prompted by difficult circumstances.

**Methodology**

The methodology used in the study is a qualitative longitudinal research approach using a case study method, with semi-structured interviews, a survey, and observation as data collection methods.

Theoretical analyses of the scientific literature on methodological, pedagogical, philosophical, and medical issues aim to define ways of alleviating anxiety in learners and opportunities to foster their critical thinking skills.

A learner-centered teaching method is used to design the procedure of the prepared speaking format with necessary guidelines for students. Shifting the focus to the learners' needs leads to active learning by doing as a group of the students majoring in Physics and Astronomy was engaged in utilizing the newly designed format. The group discussion technique was used to check the quality and number of the developed pre-examination tasks and their sequencing, deepening students' engagement in problem-solving and exploiting cognitive levels of Bloom's taxonomy. As a result, the number of pre-examination tasks was shortened from 10 to 6, the instructions became more precise. The most important issue that needed to be proved by these students was about their perception of the number of various types of questions they were requested to put up within the pre-examination tasks. As the format was approved by the students, it was suggested as a part of speaking exam called prepared speaking to all groups of 4-year students of Faculty of Physics.

A longitudinal study was implemented with the respondents – repeated 3 times – over a year-long period, using the same speaking exam format. Thus, a longitudinal survey was undertaken with 4th-year students in December 2021, 2022, and 2023 to track their satisfaction with the suggested speaking exam format and its influence upon exam preparation intensity.

To evaluate the effectiveness of the prepared speaking format in alleviating anxiety and fostering critical thinking skills, to invest in understanding students' emotions, feelings, and expectations, in 2023 a more intensive reflective approach is used. Observations, a student survey, and semi-structured interviews shed light on the current students' perceptions and attitudes towards the suggested examination approach by collecting, analyzing, and presenting feedback from them. Feedback was implemented via survey answers, email, and video format.

In this context, qualitative data with open-ended questions requires also collecting quantitative metrics with multiple choice survey, ranking the answers. Both types of data help create a rigorous picture of the outcomes and validity of the problem under consideration**.**

**Results and discussion**

At Taras Shevchenko National University of Kyiv (Ukraine), teaching foreign languages at Bachelor level at non-linguistic faculties follows a comprehensive approach based on the principles of student-centered approach and applies a mix of technologies, pedagogical methods and techniques that take into account the professional needs of future graduates and, within the Ukrainian context, the social and political conditions that impact the organisation of the educational process.

Based on the fundamental provisions of the Concept of Foreign Language Learning by Students of Non-Specialized Faculties and Institutes (Taras Shevchenko National University of Kyiv, 2020), the Common European Framework of Reference for Languages: Learning, teaching, assessment of the Council of Europe (Council of Europe, 2020), and the syllabus of the discipline 'Foreign Language (English)' within the educational-professional program Physics and Astronomy (2021), the format of the oral part of the examination was updated to increase the psychological safety of the students.


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In general, the final assessment of 4th-year Bachelor students consists of written and oral parts. The oral part encompassed the traditional summative examination format: 1) introductory conversation in a teacher-student mode; 2) description of suggested images; 3) unprepared speaking on the topic of the examination card.

As political situation in the country changed dramatically because of military actions, some serious distractors interfered into the learning process. Moreover, there were some obstacles in delivering information towards the students, arising the feelings of uncertainty. So an urgent necessity to arm students with new learning tools was evident. To avoid distractors, to diminish anxiety, to concentrate their attention on the process of exam preparation encouraging their heuristic abilities leading to critical thinking, the format of oral exam was reconsidered. The revised version has two parts: unprepared speaking and prepared speaking. The term 'prepared' means the performance of a set of pre-examination tasks that must be completed by students independently and submitted for evaluation 5 days before the exam. This format is based on students' ability to work with the scientific literature autonomously, distinguish key words and formulate questions, grouped into three categories based on complexity (Bilonozhko, 2023). Firstly, students are given a list of a fairly wide range of speaking topics in physics, optics, astronomy, from which they choose a topic for prepared speaking, that interests them, and select the necessary textual material from primary sources meeting the length requirement of 600 words. In other words, students should compile the logical text using materials from textbooks, scientific articles, encyclopedias, etc. The principle of scientificity is realized through focusing on working with professional English literature to compile relevant contextual content related to the chosen topic with references to primary sources. The following criteria have been developed for evaluating the content of the text on the chosen topic: a) correspondence to the chosen topic; b) structure and coherence of the text; c) meeting the text length requirement of 600 words.

Compiling the text and finding out the key words is followed by the completion of tasks related to the prepared text: 1) translation of ten sentences with key words; 3) making up 10 general, special, alternative and tag questions; 4) asking 10 open and closed questions. All these tasks serve as a preparatory stage to the final task that involves formulating ten questions with regard to the text at lower and higher cognitive levels: LOT – low order thinking, HOT – high order thinking, following Bloom's Taxonomy levels: remembering, understanding, applying, analyzing, synthesizing, and evaluating. Evaluation criteria for the questions tasks include: a) grammatical accuracy; b) word order in the sentence; c) use of the appropriate auxiliary verb; d) lexical correspondence; and d) use of all the suggested types of questions.

The hierarchy of the tasks' sequence is based on the philosophy 'from simple to complex' principle. Cognitive questions of the preceding level lay the groundwork for creating higher-level cognitive questions. Lower-level cognitive questions facilitate precise retrieval and processing of information. Higher-level cognitive questions serve as practical tools to encourage critical thinking and enhance cognitive skills, as they demand reasoning, analysis, synthesis, and decision-making in their responses.

***Students' guidelines.*** Students are provided with three sets of guidelines, the relevance of which stems from several factors. They are essential due to the peculiarities of the educational process organization, influenced by external factors such as air raid alarms, disruptions in the internet connection or complete lack of internet when a person is in a shelter. As a result, during online sessions, not all the information conveyed by the instructor reaches the students. The feeling of uncertainty gives rise to anxiety. To operate effectively in such situation is the purpose of the guidelines.

The first guideline outlines students' actions during the exam preparation and exam procedure. It provides information about consultation dates and time, an algorithm for students' actions, phone numbers, email addresses, and deadlines for completing the prepared speaking tasks.

The second guideline explains the structure of the tasks, which includes a sequence of assignments that the student must complete independently within the framework of preparation for the prepared speaking part and submit to the instructor.

The third guideline pertains to the levels of Bloom's Taxonomy and examples of question templates corresponding to each level. Using this guideline, students formulate questions of both lower and higher levels of cognitive activity. It should be noted that some examples for the



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guidelines were independently sourced by students from websites on their own initiative.

As it was mentioned in the Methodology section, the validity of the designed tasks for the prepared speaking part of the final exam was being checked in autumn 2021. While completing these tasks, a group of 17 students from Faculty of Physics was invited to provide feedback and discuss their progress and performance. As a result, the number of tasks was shortened to six with reformulated instructions. The text length requirement was extended from 300–400 words to 600 words as students needed more information included in their text to have the opportunity to ask questions. The aim of the next step undertaken was to check how this format would be evaluated by other lecturers. A sample of tasks was introduced to the English teachers of Faculty of Radio Physics, Electronics and Computer Systems (FRECS) who evaluated the validity of tasks succession and attested that they would work effectively during the pre-examination and examination process.

The results of exams in 2022 and 2023 (taken by 120 and 90 students) proved the outcomes of the pilot study in 2021.

Dealing with descriptive analysis a definite number of stages of prepared speaking exam implementation has been defined. The following table brings an extra light in terms of the above mentioned aspects.

**Table 1.**
*Stages of prepared speaking exam implementation*

| № | Stage | Faculty and form of feedback | Students' feedback |
|---|---|---|---|
| 1 | Piloting: Autumn 2021 | 17 students of Faculty of Physics. Group discussion | Expressed positive attitude to the format initiating to create the sample of the paper with the layout and the example of the performed tasks as well as the Students' guidelines on Bloom's taxonomy stems' questions. |
| 2 | ESP exam: 2021 | 4th year students of Faculty of Physics. Group discussion organized autonomously by the monitors of the groups. The generalized critical opinions were sent via emails. | Students liked working in this format. The main advantages are the presence of a creative approach (but at the same time, the text could be used ready-made, and not composed by oneself); a wide choice of topics (students noted that they were pleased to choose a topic that is close to their scientific interests). Among the shortcomings, students indicated the small volume of the text requirements: 300-400 words: it is not enough for such a number of questions, so the questions often turned out to be similar in content. |
| 3 | ESP exam: 2022 | 4th year students of Faculty of Physics (all groups), 1 group of FRECS. Very short closed questions by the examiners; random open questions because of the intensive military attacks. | Students expressed positive attitude to the format without any corrections. Satisfied with the requirements of 600 words-volume of the compiled text. |
| 4 | ESP exam: 2023 | 4th year students of Faculty of Physics (all groups) and 2 groups of FRECS. Survey, semi-structured interview. | Totally approved the previous format. Expressed their opinions with positive emotions. Sent their feedbacks via texting, emailing, filming. Some of the students attracted examiners attention with their deep evaluation of the impact of questioning on their cognitive process and were asked to describe their experience in the form of the written feedback. |

**Observations and students' feedback**. Observations during the examination period of academic years 2021, 2022, and 2023 demonstrated that this format of preparation for oral examination received positive feedback from students of various language proficiency levels. Examiners observed confidence and lexical competence in the prepared speaking part of the exam. The presence of highly emotional speech while communicating on the topic of prepared speaking is the sign of their deep tasks concentration in the pre-examination period. So


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such cognitive functions as focused and sustained types of attention on the tasks have led to the improved performance, absence of anxiety.

Students reported that they were offered a sufficient number of examination topics to choose from, a well-structured and diverse set of tasks involving well-known types of questions as a prerequisite to higher cognitive questions.

In the survey of 2023, the vast majority of students (95%) mentioned improved preparation for the examination because of high level of motivation to gain better grades and clearly directed actions. Almost 70 % of students surveyed reported total concentration on the tasks, absence of stress during the preparation stage and at the examination.

In the semi-structured interviews conducted with twenty-five students, there were two main questions:

1) How do you find the prepared speaking format?
2) Which of the questions you formulated are the most interesting?

Answering the second question, 23 students out of 25 immediately mentioned HOT Questions of Analyses and Evaluation levels, two students marked open questions. Answering the first question, the respondents underlined the importance of possibility to work with the topic of their scientific interests, “feeling better prepared and more knowledgeable in the topic”, and “enjoying the preparation stage”. All the interviewees mentioned the positive impact of preparation on the development of their critical thinking, while one student reported that “thinking about the questions, I better understood the connection between the concepts of Physics, which I may not have been fully aware of before. Therefore, specifically in my case, HOT questions helped understand deeper the connection between the physical phenomena”.

***Teachers’ training.*** On the initiative of the Deputy director of the Institute of philology, one-hour workshop was designed for the Heads of Foreign languages departments of the university to promote teachers’ awareness of the new format of the exam containing the prepared speaking part. The workshop comprised the following stages:

– introduction based on the importance of questioning for scientists as well as for students and teachers in the learning process;
– presentation of the principles of prepared speaking with trajectory on succession of the tasks that are based on the previous experience of the presenter;
– analysis of the sample of the prepared speaking task;
– reflection and discussion on how this approach fosters students’ critical thinking skills, which was the main purpose of the workshop.

Teachers were invited to experience this format in their groups of students.

Following this experience, methodical recommendations were published, containing the needs analysis template, examples of completed students works and tables with questions stems (Bilonozhko, 2022). They will be useful both for English language instructors at higher education institutions and students.

***Suggestions.*** As the central part of the prepared speaking exam format is Bloom’s taxonomy questioning, the findings of the study have led us to the following suggestions:

1. ESP exam questions should refer to both low and high cognitive levels.
2. Similar implementation ought to be conducted on the exam format of other specialties of English for Specific Purposes.
3. The same research ought to be conducted referring to whether the teachers implement the cognitive domains of Bloom’s Taxonomy in both assessing the students and teaching them independently asking questions leading to critical thinking development.
4. Similar research can be conducted on how wide the scientific culture of asking questions is, and what strategies can encourage students to ask questions of high cognitive levels as well as how teachers can also be encouraged to develop students’ attitudes to asking questions.
5. Special teacher training should be conducted to raise teachers' awareness on the cognitive levels of taxonomy.

**Conclusions**

As a result of this study some very important conclusions have been made on the following issues:

Incorporating prepared speaking format into summative oral assessment revealed itself as an effective way of optimizing learning potential of



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students because 1) each student was reached even if his location appeared to be in the remote area; 2) papers with the tasks were done strongly according to the schedule as a sign of effective self-organization; 3) the sequence of designed tasks owing to their reproducibility and replicability manifested its significance in encouraging students and pushing them to achieve impactful results, led to the successful coping with the difficulties in creating higher cognitive questions. As far as attention function is concerned, the strategy for achievement serves as a motivational factor, making this work engaging and encouraging students towards effective performance.

Observation of the emotions students revealed during semi structured interview, witnessed the highly positive perception and satisfaction with the process of exam preparation and exam itself.

Reproducibility of this format validates and verifies the robustness and reliability of the study outcomes. Moreover, this way of teaching has shown the possibility to use Bloom's taxonomy not only within the teacher-centered approach but also proved that the same questioning techniques that were developed for teachers can be exploited by students, enhancing their critical thinking.

Another research task has been put forward**:** to generalize the experience of bringing up the scientific personality of students developing their questioning competence at Physics faculty following the well-known Einstein's 'never stop questioning' principle.

We believe that this format of the oral examination in the context of emergency remote teaching is designed to meet the principles of scientific rigor, autonomy, academic integrity, critical thinking, and creativity that should form a solid background for the examination philosophy in higher education institutions.

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# Modern methods of teaching foreign languages

## СОВРЕМЕННЫЕ МЕТОДЫ ПРЕПОДАВАНИЯ ИНОСТРАННЫХ ЯЗЫКОВ

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**Abstract**

The purpose of the study is to assess the possibility of developing and further using in practice a comprehensive concept of teaching foreign languages based on traditional and modern pedagogical methods and characterized by the greatest effectiveness in terms of adaptation to the requirements of the external environment.
The subject of the study is the problem of finding new methods of teaching languages that could fully correspond to the dynamic structure of the modern educational concept. Special attention is paid to the methods of motivating the process of learning the language system. New pedagogical technologies have been selected as progressive forms of teaching, the essence of the implementation of which is given in the study. The concept of the term "Smart education" is disclosed, since its introduction and widespread use contributes to improving the effectiveness and accessibility of educational programs for a large number of users. As an evidence-based advantage, this study accepts the idea of universal digitalization of linguistic knowledge, the ubiquity of mobile technologies, which inevitably creates stable prerequisites for the

**Аннотация**

Целью исследования служит оценка возможности разработки и дальнейшего использования в практической деятельности комплексной концепции преподавания иностранных языков, основанной на традиционных и современных педагогических методиках и характеризующейся наибольшей эффективностью в части адаптации к требованиям внешней среды.
В качестве предмета исследования выбрана проблематика поиска новых методик преподавания языков, которые смогли бы в полной мере соответствовать динамичной структуре современной образовательной концепции. Особое внимание уделено приемам мотивации процесса изучения языковой системы. В качестве прогрессивных форм преподавания выбраны новые педагогические технологии, сущность реализации которых приведены в исследовании. Раскрыто понятие термина «Смарт-образование», поскольку его введение и широкое использование способствует повышению результативности и доступности образовательных программ для большого числа пользователей. В качестве доказательного преимущества данное

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transition from book sources of information to the active development of digital capabilities of the external language environment. In this regard, the objective expediency of using new educational methods, in particular, related to the process of digitalization and universal accessibility of mobile phones, as well as the possibilities of the Internet, attracts the close attention of the modern educational community.

**Keywords:** foreign language, modern methods, pedagogical technology, language social networks.

исследование принимает идею всеобщей цифровизации лингвистических знаний, повсеместное распространение мобильных технологий, что неизбежно создает устойчивые предпосылки для перехода от книжных источников информации к активному освоению цифровых возможностей внешней языковой среды. В связи с этим объективная целесообразность применения новых образовательных методик, в частности, связанных с процессом цифровизации и всеобщей доступности мобильных телефонов, а также возможностей сети Интернет, привлекает пристальное внимание современного образовательного сообщества.

**Ключевые слова:** иностранный язык, современные методы, педагогические технологии, языковые социальные сети, интеллектуальное образование.

## Introduction

The current stage of innovative technology development and remote educational systems, aimed at independent foreign language learning, imposes its own rules on participants in the global educational community. Digitization and the mobility of language acquisition processes have gained increasing significance in the past decades, occupying leading positions in the linguistic system's structure. Traditional approaches are being displaced due to their loss of dynamism, giving way to modern language teaching methodologies that can better adapt to the demands of educational service consumers and meet the actively evolving educational conditions.

Addressing the question of elucidating the concept of foreign language teaching methodology, it is essential to note that it encompasses a set of techniques, tools, technologies, and methods of studying a language system distinct from that of a native speaker. Typically, it involves an intuitively understandable algorithm of actions enabling individuals to master a language in the shortest possible time and with the greatest efficiency in terms of the resources invested in achieving set goals.

Undoubtedly precise and indisputable is the fact that a qualified educator, undertaking the responsibility for structuring the teaching process, must possess an impeccable teaching methodology foundation. The outcome of their efforts and the level of consumer satisfaction with the educational services received directly hinge on this proficiency. Furthermore, knowledge of the theory and fundamental principles of teaching a foreign language serves as the basis for organizing educational activities. Without this foundation, the educational process itself cannot exist, or it may be distorted, implemented incorrectly, and fail to achieve the desired results. Moreover, it could lead to intellectual losses.

Therefore, in the contemporary stage of global community development characterized by a high degree of digitization, mobility, Internet accessibility, and the repositories of information hosted therein, participants in the educational process increasingly seek to transcend the conventional boundaries of communicative interaction in the "teacher-learner" format. Relationships, both from a scientific and practical standpoint, are shifting towards innovation. An individual, creative approach to the learning process is increasingly observed, involving the continuous development, mastery, testing, and integration into the stable educational process of modern and, one hopes, more advanced language teaching methods.

In our opinion, this should be a unique offering from the teacher, allowing them to establish a stable position in the educational services market and ensure their typically commercial activities with a consistent audience focused on achieving common consumer plans.


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**Literature review**

One aspect which is deeply investigated in scientific literature is how the quality of education impacts living conditions and well-being of the society. Thus, in accordance with the sustainable development goals established during the United Nations summit held in September 2022, one of the key directions identified was the provision of comprehensive and equitable quality education, along with the promotion of lifelong learning opportunities for every citizen. An educational concept aimed not only at improving the quality of pedagogical services but also at exploring, identifying, and developing modern language teaching methods and techniques serves as a powerful prerequisite for shaping a high level of socio-economic living conditions for individuals. The possession of knowledge and opportunities for its development plays a crucial role in enhancing the quality of life for the population (United Nations Sustainable Development Agenda, 2015) (Akopova, 2020).

Another focus of scientific research concerns the recent pandemic and its influence on the development of online education and increased use of digital tools. As part of the implementation of policies supporting international cooperation in the field of education, including the teaching of foreign languages, and ensuring the continuity of the educational process, UNESCO regularly takes measures to disseminate educational concepts in remote regions of the planet. These issues were particularly acute during the development of strategies to mitigate the consequences of the COVID-19 pandemic. Initiatives include global monitoring of school closures at national and local levels and ensuring students' continuous access to sources of knowledge. For instance, in March 2020, UNESCO launched the Global Education Coalition in response to COVID-19, representing a partnership between UN agencies, civil society organizations, media, and information technology partners to develop and implement innovative educational solutions. The implementation of comprehensive measures to overcome barriers in the field of teaching foreign languages contributes to creating opportunities for inclusive learning for young people in both face-to-face and distance formats. All of this should fully contribute to universal access to existing and developing teaching technologies, participation in alternative learning programs, and the psychological support of consumers of educational services (Akopova, 2020).

The investigation of issues and problems related to the peculiarities of language system acquisition constitutes a complex process characterized by multilevel complexity and the presence of numerous goals and tasks. This becomes of utmost significance when studying a language other than one's native language and elicits keen interest from the global scientific community. Specifically, representatives from various pedagogical fields focus their attention on this category of research, which holds high relevance and practical significance. Among the extensively studied and noteworthy perspectives, based on the integration of mobile learning into the processes of teaching foreign languages, the work of M.A. Akopova (Akopova, 2020) stands out. The author investigates psychological dependance of students on digital services and electronic devices and states that the use of smartphones leads to a change in students' 'switching' ability, concentration of attention patterns and sustainability in learning.

In the research of (Baronenko et al., 2017; Baronenko et al., 2018). (Baronenko et al., 2017; Skorobrenko, 2018a, Skorobrenko, 2018b; Erenchinova 2014; Kislyakova, 2010) (Nazarova, and Mokhova, 2016; (Sarkisyan, 2016) the emphasis is placed on determining the role of information technologies in current educational conditions.

Dubskikh et al. (Dubskikh et al., 2019; Panfilova, 2009; Shaydarova, 2015 Shchukin, 2010). direct attention to the explored theme through the prism of applying the latest pedagogical technologies. Dubskikh et al. (2019) investigate indicators of professional communicative competence and assume that mastering terminology, axiological issues of their future career path and cognitive abilities are of paramount importance.

The application of a smart approach to the modern educational process arouses keen interest in the works of (Chernykh & Krolevetskaya 2021). The authors look upon the eligibility of such modern educational techniques as mobile technologies, digital textbook and cloud-based applications.

Furthermore, an active standpoint regarding the leading role of the motivational factor in the educational process is expressed by (Zasedateleva et al., 2018; Loginova, & Otbannov, 2015) (Raysvikh et al., 2017), (Shirokolobova & Gubanova, 2018).

One more issue that is addressed by scientific community is the importance of English as a



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language that gives access to the world's educational resources. Today, the most widely spoken languages in the global community are considered to be English, Chinese, and Arabic. Proficiency in at least one of these is recognized as a benchmark of success for any self-respecting citizen. Evaluating the proficiency of a particular foreign language and the extent to which teaching methods are utilized in society helps shape an understanding of the educational level of the population in a specific country.

The sample size of the analyzed literature is extensive and includes major points of modern state-of-the-art educational technologies. The search for literature review was based upon some class room observations of the authors that allowed to single out 'hot' topics for investigation.

Our research is aimed to identify the needs of the modern pedagogical community in transitioning to a new systemic-activity educational paradigm, implementing a new technological approach to teaching. The ability to leverage information and communication technologies to the fullest extent plays a significant role in this research direction. Changes associated with moving away from traditional teaching methods, which have seen a decline in productivity in recent decades, predictably expand the boundaries of educational processes, aiding their transformation for the personal development of learners. An important aspect is understanding the factors influencing individuals and educators when deciding on the most appropriate approach to learning a foreign language. Achieving the set goal and mastering this knowledge domain must align with the requirements of the modern global educational concept, with motivational factors varying for each specific learner.

The scientific domain related to the study of foreign language teaching features numerous contradictions and controversial points. These factors serve as driving forces for the further progressive development of the proposed comprehensive model for modernizing widely accepted methods of learning foreign languages. Therefore, the subject of this research is modern methods of teaching foreign languages. The greatest value within this study lies in methodologies such as the use of new pedagogical technologies, the application of "Smart Education" methodology, the incorporation of the latest achievements of the global community in the information and communication sphere, and the utilization of mobile devices with ubiquitous access to the Internet. Additionally, there is a proposal to explore the possibility of implementing a comprehensive approach that integrates methods of competition and collaboration, suggestopedia, communicative, and some other traditional methods as a foundation for applying the most innovative techniques in practice.

**Materials and methods**

The study is grounded in an analysis of international experience in the field of foreign language teaching, encompassing both classical approaches and innovative educational methods with elements of digitalization and mobile learning integration. A pivotal aspect of the research was identifying the key objective of the contemporary language learning process. In our view, this objective lies in the practical acquisition of knowledge, supported both by instructors and through independent efforts, fostering the development of individual capabilities necessary for seamless participation in international communicative processes. Of utmost significance in modern conditions are the resources expended in addressing educational tasks and their accessibility to individuals interested in them.

The subject of this research is the realm of teaching foreign languages, incorporating the most relevant methodologies and approaches for the contemporary consumer, taking into account rapidly evolving external conditions. The selection and analysis of literature for this study revolve around the comprehensive utilization of both traditional technologies and innovative pedagogical methods, exploring the practical implementation of this approach with a high motivational component in the educational process.

Among the classical approaches proposed as the foundation for shaping a comprehensive concept of modern foreign language teaching, the grammatical translation method is primarily examined. As methods with high priority in terms of effectiveness and practical application, the direct method of foreign language study, focused on oral communication, and the audiolingual methodology, combining elements of psychology and live interaction between the teacher and learner, are adopted. This research also delves into the intriguing methodology of suggestopedia, associated with immersing the individual in a relaxed educational environment for maximum unconscious absorption of the study material. The communicative method proposed within the traditional system of foreign


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language study, which fosters a stable perception of practical materials through enhanced application, is also of interest.

In addition to classical techniques and educational concepts, new pedagogical technologies are gaining increasing popularity. Within this research, practical application of the smart education system has caught our attention, and a review and systematization of data on the use of digital technologies in foreign language learning have been conducted. Considering contemporary approaches to teaching foreign languages, which have a legitimate claim to inclusion in a comprehensive modern methodology and its corresponding educational program, noteworthy current approaches include:

- Information and communication technology;
- Critical thinking development technology;
- Problem-based learning technology;
- Case method;
- Module-based learning technology.

Their main advantage lies in their common primary goal – improving the quality of the learning process and creating conditions for the harmonious development of individuals through the acquisition of communicative skills. It has been proven that an individual who gains the ability to navigate previously unknown informational spaces becomes more successful, adapting to external language conditions while simultaneously developing a sustained interest in the educational process.

When deciding to implement a comprehensive model for teaching foreign languages, the primary task becomes the derivation of a consolidated definition of the concept of pedagogical technology. Based on selected sources, we have determined that it is a dynamic system of techniques, forms, methods, and means of transmitting social experience in the field of teaching, reflecting the distinctive features and interconnection of pedagogical activity processes. An essential condition for the effective management of pedagogical processes is achieving the declared educational and upbringing indicators and reducing the time required for learners to assimilate information. This also ensures a high level of adaptation and manageability of the educational process, provided there is a reduction in risks that pose a threat to the achievement of the required efficiency in learning a foreign language.

Moreover, a prerequisite for the applicability of innovative educational methods is their motivational component. At various levels of foreign language acquisition, a lack of interest in the educational process may be observed. The learner may perceive the desired results as unattainable. Primarily, this is determined by the presence or absence of psychological and intellectual characteristics in the individual. Often, individuals encounter difficulties in the language learning process and require the discovery of new ways to assimilate information to maintain interest in the material being studied (Chernykh, & Krolevetskaya, 2021).

This study is based on logical, dialectical, and comparative research methods. The tools employed to assess the feasibility of applying a comprehensive approach to modern pedagogical technologies utilized in the process of foreign language learning can be applicable to representatives of the education sector in neighboring countries, international pedagogical communities, as well as for the purpose of enhancing the educational activity system existing in the Russian Federation. For an objective assessment of the expediency of applying the researched methods of teaching foreign languages in practical educational activities, this study takes into account the conditions of the rapid digitization of the global community, a person-centered approach to participants in the language acquisition process, and motivational prerequisites for the educational process.

The methodological basis of the study is presumed to be a logical, dialectical and comparative analysis of ‘old’ and ‘new’ approaches in issuing educational tasks, i.e. we assess how dynamics of various classroom tasks may help students increase motivation and quality of learning. In order to do that we look upon and compare some ‘ancient’ learning techniques such as grammar-translation method, traditional 20$^{th}$ century ‘avenues’ of teaching (communicative approach, suggestopedia, audiolingual method, problem-based learning, case studies) and most recent smart educational techniques. We hope to establish some criteria of the balance of ‘old’ and ‘new’ through the analysis of educational practices.

**Results**

During the research, knowledge has been accumulated sufficient to identify the most significant and contemporary methods of teaching foreign languages. The relevance is



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attributed to traditional approaches to the educational process. Among the classical approaches proposed as a basis for forming a comprehensive concept of modern foreign language teaching, the method of grammatical translation is considered, primarily by us. It involves acquainting learners with the language basics and rules along with translation practice. This teaching model has been considered the most widespread, convenient, accessible, understandable, and widely used worldwide. Advocates of the translation method believe that acquiring skills in translating text from one language to another contributes to the enhancement of the learner's intellectual abilities while simultaneously fostering the development of cross-linguistic communication skills.

It is assumed that traditional methods of teaching foreign languages should create a solid foundation for the further integration of innovative approaches into a comprehensive teaching system. From a practical standpoint, special attention is deserved by the direct method of foreign language learning, which focuses on oral communication and offers the use of the imitation and memorization principle as its main advantages. However, it is characterized by the active use of patterns and does not ensure the formation of fundamental knowledge, reflecting its superficiality and limitations for further development, hindering the improvement and continuous advancement of language proficiency levels among learners (Shaydarova, 2015).

Audiolingual Methodology in Foreign Language Teaching, incorporating linguistic theory and elements of psychology, is designed to overcome the limitations of the direct method. Therefore, it can also be considered as one of the components of the comprehensive language teaching methodology under development. Techniques such as repetitive exercises, vocabulary learning in context, reinforcement of information through visual aids and cards, as well as focusing on correct pronunciation of the learned words, may hold the greatest value (Shaydarova, 2015).

Another effective foreign language teaching methodology, extensively described in scientific literature and deserving attention in terms of applicability in modern conditions, is Suggestopedia. This method, credited to (Lozanov, 1982), is based on situational reinforcement of speech material. It is characterized by an orientation toward creating a natural scientific environment with the manifestation of learners' activity, emphasizing the mobilization of hidden personal human reserves through relaxation. Learners should perceive the study material while sitting in comfortable chairs, listening to pleasant music, and being in a maximally relaxed state. In such conditions, the cognitive reserves of the learner are in a state of maximum receptivity, and the brain is susceptible to suggestion, which, in turn, logically contributes to the productive assimilation of knowledge (Shaydarova, 2015).

A significant contribution to the developing methodology of teaching foreign languages, in our view, can be made by the communicative method. Its proponents involve learners in the functional use of individual language capabilities at a pragmatic level. In the comprehensive methodology, it is imperative to employ skills such as rapid reading, constant improvement of translation accuracy, and the use of non-standard contexts by students in language learning, allowing the methodology to go beyond the familiar boundaries of language perception (Skorobrenko, 2018b)

Based on the findings of this study, a departure from monotonously structured educational processes is proposed through the implementation of an active transformation of entrenched traditional methodologies. It is suggested to modernize them with the aid of new pedagogical technologies in education. Primarily, this idea can be realized through the intensive creation, enrichment, and systematization of an electronic data repository in the form of the informational space of the Internet, which opens entirely new possibilities for learning and improving one's language skills.

The comprehensive methodology proposed for implementation should take into account the international context and establish a close connection with the possibilities of using a unified digital information space. First and foremost, innovative teaching methods contribute to orienting the educational process in line with the requirements of the dynamically changing external world. The achievement of user-specific interests through independent educational activities also becomes significant. However, certain conditions must be met: modern methodologies should be characterized by transparency, organization, and maximum integration into existing educational environments (Baronenko et al., 2017).

According to the majority of experts, a person-centered approach to the educational process takes precedence in the field of foreign language teaching today. Its implementation can be


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focused on both the teacher and the learner or can combine both these directions. Teachers increasingly utilize modern, including interactive, technologies that encourage and widely practice involving learners in the teaching process, developing educational tasks, applying an assessment system, and other procedures (Loginova & Otbanov, 2015).

Upon closer examination of the most recent teaching methodologies, the following significant data has been obtained. In the application of information and communication technology, learners are actively instilled with the ability to obtain information about the studied language from various sources, process it, use it, and even create it independently. This not only raises the level of education among students but also develops the professional competencies of the educator (Kislyakova, 2010).

The application of critical thinking expresses the position that learners do not accept any received information at face value; instead, they search for evidence of its reliability using various methods, ideas, and, including innovative approaches. The foreign language teaching model within this approach is based on three stages of the learning process: fostering personal interest in the language system, engaging with existing information, and subsequent reflection through the restructuring and consolidation of acquired knowledge.

The technology of problem-based learning in foreign language education involves the deliberate creation of critical situations within the instructor's controlled zone and stimulates learners to independently solve identified problems, searching for the least resource-intensive way out of the artificially modeled crisis. As a result, the individual's higher-order thinking abilities are engaged, and their creative potential is unleashed through a non-standard approach to problem-solving. In this scenario, the educator not only presents a problem to the student but also guides them in choosing the direction for its resolution, demonstrates and encourages the course of scientific thinking, and monitors the dialectical movement of the learner's thought process (Kurbatova et al., 2017).

Case methods integrate gaming technologies, project methods, and situational analysis. Typically, within this interactive methodology, a specific educational situation is analyzed, its description containing both the problem itself and a set of knowledge necessary for acquisition during the process of its practical solution. This technology develops critical thinking skills, information analysis, identification of key problem points, and the generation of ways to solve them, followed by the selection of the most optimal option.

Modular learning is focused on self-education and is based on an approach where language learning is carried out by the individual independently, with minimal assistance from the instructor, who predominantly plays a consultative-coordinating role. Educational modules represent functional nodes that combine educational content and the technology of mastering the existing knowledge base, collectively forming a comprehensive educational program (Shaydarova, 2015).

It is essential to note that in the contemporary educational environment, there is an active development of modern teaching methodologies towards smart education. Smart education is a concept aimed at reorganizing teaching processes, methods, and technologies. This methodology enables learners to achieve high results in line with the demands of the external world. Thanks to it, young individuals gain the ability to adapt to the unstable and rapidly changing conditions of the educational environment. Additionally, the significant use of a unified digital repository for educational materials replaces traditional book resources. The digitization of educational content opens prospects for employing an analytical search system, continuous monitoring of the relevance of stored data, the integration of cutting-edge information technologies, and obtaining high-quality feedback (Ukolova et al., 2016).

In the past decades, with the active development of mobile telephony and the widespread coverage of the internet across the globe, the application of digital mobile technologies has become relevant both in educational institutions and for self-education purposes in foreign language learning. Individual studies devoted to exploring the value of mobile systems and networks from the standpoint of contemporary culture and linguistics affirm psycho-pedagogical ideas and concepts of high integration of such technologies into teaching. Moreover, they create opportunities for unifying the subject area of foreign language learning through mobile applications. Scientific research in this field is primarily directed at confirming the universal digitization of education, developing a productive educational paradigm, and providing a personal orientation to the



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teaching process. Of particular interest is the procedure for identifying, assessing, and preventing risks associated with gadget use in the process of foreign language learning, as they may introduce distracting factors and negatively impact the health of learners (Alekseeva & Fisunov, 2016).

**Discussion of results**

The data obtained during the research reflect a standpoint suggesting that traditional approaches to foreign language learning remain widely prevalent in the academic community; however, they do not always meet the growing demands for the quality of education. Among these approaches, the grammar-translation method, direct method, audiolingual methodology, suggestopedia, and communicative language teaching can be highlighted. Nevertheless, it is the modern methodologies and directions aimed at the modernization and improvement of pedagogical technologies that play a pivotal role in achieving the goals of the educational process in the era of universal digitization.

In particular, the spread of the COVID-19 pandemic, which catalyzed the development of digitization processes and their ubiquitous dissemination, became a catalyst for active transformative phenomena in the contemporary world and in the international educational environment. Currently, information technologies permeate all spheres of societal life, including the field of teaching foreign languages.

When considering the potential utilization of the most current foreign language teaching methodologies, including the integration of information technologies, researchers pay particular attention to a broad spectrum of Internet resources (Shirokikh, & Hampage, 2019). The possibilities of their use at present can be considered limitless, aiding learners in addressing the following tasks:

- Independent information retrieval in accordance with the goals of the educational process;
- Expansion of the scope of knowledge by incorporating new areas of scientific data into the content of the educational program;
- Utilization of accumulated knowledge from past years, exchanging best practices in shaping an individual's linguistics system;
- Unimpeded expansion of vocabulary with new language units;
- Development of reading skills based on materials of various levels of complexity;
- Enhancement of listening skills through the use of educational audio files available on the internet;
- Study of the culture of the people – the native speakers of the foreign language;
- Direct communication with a representative of the studied language culture in real-time;
- Opportunity for repeated practice and consolidation of material through the use of lesson recordings.

The revision of the educational concept in favor of new pedagogical technologies involves a shift in the educational focus. This implies the application of a personality-oriented approach to interaction between the student and the teacher. The research places significant emphasis on the expansion of the sphere of smart education as a comprehensive approach to the reorganization of the educational environment. Its existence as an independent methodology is aimed at the conceptual reformulation of the teaching process, the study of a foreign language, and its subsequent practical application.

In recent decades, these changes have gained significant importance. They contribute to the adequate formation of an individual's interlanguage communication skills and allow for the supplementation of classical approaches to foreign language teaching. The anticipated effect of this research primarily involves the organization of knowledge and skills accumulated in the field of foreign language teaching. Additionally, the prerequisites for transitioning to digital educational opportunities must be identified, while preserving the positive experience of previous years. This will ensure the achievement of educational goals with minimal costs and the fulfillment of coordination conditions for the actions of educational subjects on a self-regulatory basis.

As individual consequences of implementing a modern comprehensive concept that combines traditional methodologies and state-of-the-art pedagogical technologies, an increase in interest and motivation among participants in the learning process is expected, along with the unveiling of their intellectual and creative potentials. It is assumed that each learner should attain an awareness of their ability to engage in international communication and express thoughts in another language. This, in turn, will lead to the independent resolution of communicative tasks.

The possibility of utilizing a smart educational environment in the context of the digitization of


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the learning process is noteworthy, including the use of smartphones and other gadgets, which are accessible to anyone wishing to learn a language from almost any point on the planet. This can involve audio files, video narratives, games, mobile applications, solving crosswords and language tasks, engaging in search reference systems, and more.

The social significance of this study lies in unraveling the potential of cutting-edge language teaching methodologies to adapt to changes in contemporary educational trends. These methodologies manifest themselves in various aspects of the learning process, notably seen in the shift from traditional knowledge sources to digital ones. Currently, the spectrum of educational tools is expanding with new technologies actively leveraging the online space. Improving language skills is facilitated by the use of internet content, online communication through video conferencing with native speakers, and other means. The ability to exchange knowledge using advanced technological tools between teachers and students, who may be located in entirely different parts of the world, is gaining importance. The predominant use of these resources creates favorable conditions for the formation of a so-called comprehensive Smart educational environment.

The pedagogical focus today is increasingly shifting towards unlocking the personal potential of learners, implementing health-preserving principles, and satisfying psychological needs. These factors prompt the recognition of identifying the most effective methods of teaching foreign languages as one of the key issues in this field. The ability to choose, further apply teaching methods, and achieve the desired results in the educational process is directly dependent on the thoroughness of addressing this issue.

In connection with this, methodologies such as smart education, a learner-centric approach to the teaching process, the utilization of new pedagogical technologies, and the potential of mobile learning are gaining popularity. Investigating the nuances of their practical application, identifying their potential, and determining the most effective methods provide objective prerequisites for the continuous improvement of the quality of information resources involved in the teaching process. It is essential to note that the quality and level of educational materials available for use in cyberspace and accessible to a wide range of users must be consistently monitored at the scientific community level to ensure their adequacy to educational objectives. Moreover, such informational databases in the form of educational platforms can constitute a unified integrated system alongside other elements of the learning process.

**Conclusions**

Weaknesses:

In the contemporary civilized world, it is challenging to envision an average global citizen who does not aspire to master at least one foreign language. Individuals may be motivated by diverse objectives, such as fulfilling a passion for travel, expanding cognitive horizons, enhancing professional skills, or pursuing a sports career. These are just a few reasons why people strive not only to explore foreign cultures but also to learn foreign languages.

Summarizing the conducted research, it can be asserted that the issue of updating modern foreign language teaching methodologies is attracting intensified attention from the academic community. When learning a foreign language, the learner's primary goal is practical mastery of knowledge and the development of skills necessary for participation in international communicative processes. Consideration is given to the use of contemporary pedagogical technologies, which have gained considerable significance in recent decades. This allows complementing traditional language teaching methods and contributes to the formation of the foundations of interlanguage communication.

The explored domain within the realm of scientific knowledge holds high developmental potential. The primary prospective areas in foreign language teaching should precisely involve the application of digital technologies and the dissemination of educational smart environments. Their utilization is intended to enhance the accessibility and quality of educational materials, drawing on the best practices of traditional approaches to foreign language instruction. For example, more and more universities in Russia use Moodle platform to structure their syllabi – it allows for online testing, chatrooms and forums, live video conferencing sessions, creating and conducting surveys, live presentations and gives access to digital books.

In the realm of constructive proposals, the prospect of amalgamating classical methodologies, known for their utmost



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effectiveness, is put forward, with the subsequent development of a new educational concept based on their foundation. In doing so, the utilization of digital technologies and smart education resources creates virtually boundless opportunities for the learning and refinement of language skills for each student. On one hand, the educational process becomes simpler and more accessible. On the other hand, users require assistance in navigating the boundless stream of information and the multitude of offered knowledge sources. That's why universities offer their staff some training courses, e.g. a course on how to use artificial intelligence tools for preparing classroom materials or developing students' critical thinking skills through comparisons of 'artificial' translation of AI with their own versions of a text. Ideas of how to use these new and surely progressive technologies are numerous, but the question of balancing them with the old methods is also acute.

Pedagogical technology encompasses a set of teaching techniques that reflect the distinctive features and interrelation of pedagogical activities. Effective management of these processes contributes to achieving the required educational and developmental indicators. Consequently, the interest and desire of the participants in the learning process are heightened, unveiling their intellectual and creative potentials. The learner reaches the realization of their ability to express thoughts in another language, leading to independent resolution of communicative tasks and increased levels of motivation. For example, a study conducted by proved that project-based activities raise the level of students' motivation, memorization of lexis and domain-specific language skills significantly.

Summarizing the inherent conclusions based on the results of the conducted research, it can be inferred that the data obtained therein serves to strengthen the theoretical foundation and provide practical support for educational technologies in the development of the most relevant directions. The prospect of implementing a comprehensive concept of modern foreign language teaching will lead to a reduction in disparities in the level of skills and competencies among potential participants in the educational process. In turn, this will result in positive social changes both in education and in related areas of public activity.

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# Digital competence of society as a component of modern public administration

## Цифрова компетентність суспільства як складова реалізації сучасного публічного управління

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**Abstract**

Today, digital transformation covers all areas of human activity, including the public administration sector. At the same time, the effectiveness of reforms in this area largely depends on society's digital competence, which determines people's ability to use innovative products and services. The study aims to analyse the impact of society's digital competence on developing e-government as a component of digital public administration. The study used statistical analysis, correlation analysis, and multivariate regression analysis. It was found that there is a significant or high correlation between the level of the population's digital competence and the development of e-government. Assessment of the impact of separate indicators characterising the citizens' digital competence on the E-Government Development Index (EGDI) revealed that

**Анотація**

На сьогодні цифровою трансформацією охоплені усі сфери глобальної діяльності людей, у тому числі сектор публічного управління. При цьому ефективність реформ у цій сфері у значному ступені залежить від цифрової компетентності суспільства, яка визначає можливості людей користуватися інноваційними продуктами та послугами. Метою дослідження є аналіз впливу цифрової компетентності суспільства на розвиток електронного урядування як складової публічного управління у цифровому середовищі. У ході дослідження застосовувались методи статистичного аналізу, кореляційного аналізу, аналізу за методом багатовимірної регресії. В результаті дослідження було виявлено, що між показниками, що демонструють рівень цифрової компетентності населення та

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approximately 74.54% of the variation in this indicator can be explained through the used independent variables, namely, “Digital Skills among Population”, “Global Science and Technology Skills” and “E-Participation Index”. The novelty of the research is to quantify the impact of citizens’ digital competence on the level of e-government development in European countries. Government officials can use the results to further develop strategies and measures to improve digital public administration.

**Keywords:** digital competence, media literacy, quality of public services, netocracy, information society.

розвитком електронного уряду існує помітна або висока сила зв’язку. Оцінка впливу окремих показників, що характеризують цифрову компетентність громадян, на індекс розвитку електронного уряду дозволила виявити, що приблизно 74,54% варіації у рівні цього показника можна пояснити через використані незалежні змінні, а саме – «Digital Skills among Population», «Global science and technology skills» та «E-Participation Index». Новизна дослідження полягає у кількісному визначенні впливу цифрової компетентності громадян на рівень розвитку електронного уряду в країнах Європи. Результати роботи можуть бути використані держслужбовцями у цілях розробки стратегії та заходів для подальшого покращення публічного управління в цифровому середовищі.

**Ключові слова:** цифрова компетентність, медіаграмотність, якість публічних послуг, нетократія, інформаційне суспільство.

## Introduction

In today's world, digital technologies determine not only society’s daily life but also public affairs management (Alvarenga et al., 2020). Public administration is transforming significantly, introducing the latest digital developments into its practice (Kravtsov, 2022; Semchuk, 2022). This has led to the emergence of the “e-government” concept (Eom & Lee, 2022), which has many advantages in the context of increased transparency (Bisogno et al., 2022), access to information (Mensah & Mwakapesa, 2023), reduction of information asymmetry (Yan & Lyu, 2023), and more significant opportunities for citizens to influence government decision-making (Anshari & Hamdan, 2022). The development of e-government is a critical factor in the effectiveness of public administration in modern conditions (Doran et al., 2023).

The effectiveness of public administration in the digital transformation era significantly depends on society’s digital competence (Kvitka et al., 2020; Razumei & Razumei, 2020; Peng, 2022). “Digital competence” is a broader concept than “digital literacy” (Falloon, 2020) and is defined as the ability of citizens to effectively use Internet resources, information and communication technologies to solve personal and professional tasks and other goals (Storozhenko, 2023). As defined in “The Digital Competence Framework for Citizens”

Vuorikari et al., 2022), digital competence is a key competence in the context of the Fourth Industrial Revolution. It covers information and media literacy, communication and collaboration, digital content creation, security and problem-solving, and lifelong learning. Digital competence is not limited to technological knowledge but focuses on the social, cognitive and emotional dimensions of living and working in a digital environment (Mokhova & Orlova, 2021). Therefore, digital competence involves not only the application of digital skills but also changes the established way of life, necessitating continuous personal and professional development.

The level of society’s digital competence largely determines the effectiveness of public administration. In turn, public administration can influence digital competence levels through the introduction of state programmes for testing and training in digital and media literacy, preparation of relevant draft laws in education, labour and other sectors, control over the security of state platforms and ensuring their convenience for different segments of the population, etc. In the context of these mutual influences, there is an effective interaction between the state and society, which creates new forms and mechanisms of democratic participation necessary for the further development of public administration based on netocracy.

The main challenge faced by the development of e-government in relation to citizens' digital competence is the insufficient level of digital


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competence of a part of the population, which may be related to age, education, personal and other reasons. This can hinder the development of e-government due to the limitations created when using e-services for a part of the population with insufficient digital competence. This actualises the key research question of the work - to what extent does the development of electronic government depend on the digital competence of the population? In addition, it is important to determine which measures from the public administration can contribute to increasing the population's digital competence level.

The study aims to analyse the impact of society's digital competence on e-government development as a component of digital public administration. This aim requires solving several tasks:

- to determine the relationship between the citizens' digital competence and the development of digital public administration;
- to identify the impact of citizens' digital competence indicators on the development of e-government;
- to determine the place of the population's digital competence in the public administration system in Ukraine.

**Literature review**

The digital competence of society has often been studied in the context of public administration. The majority of such works relate to aspects of the development of a digital society, a necessary prerequisite for which is the development of the population's digital skills, as well as the strengthening of digital inclusion. Poliovyi (2021) explores public administration modernisation in the context of the development of the digital society, namely the areas for the digital economy development (improvement of the population's digital skills and digital competencies in some sectors). This direction involves the development of citizens' digital skills in general. Also, it focuses on the need to develop digital competencies of education and science workers, healthcare professionals, entrepreneurs, and officials and the introduction of new digital professions. Blažič & Blažič (2020) dwell on the development of digital competence in older adults, as this category of the population has the most difficulty developing digital skills. The researchers explore how older people can bridge the digital divide and note that the problem is particularly acute due to the trend towards demographic ageing. Tsekeris (2019) explores ways to deal with different challenges and existential fears of European citizens by forming a digital skills ecosystem. Such a system will allow for the consolidation of liberal principles and activate people's joint creativity through collective evolution, displacing outdated standards of top-down control. Oberländer et al. (2020) have clarified the definition and framework of digital competencies and noted a gap between the existing digital competence of citizens and the needs they face in the workplace.

Some studies have emphasised the need to develop digital competencies for citizens in general and public administration professionals. Orlova & Shlyakhtina (2021) claim that modern transformation processes in public administration require the development of digital competencies in civil service leaders. Similar conclusions are drawn by Wodecka-Hyjek et al. (2021), who note that developed digital competencies of employees will contribute to improving the efficiency of human resource management in public organisations and public administration. Fedorova et al. (2019) study the changes in the requirements for the competencies of managers in the civil service in the digital economy. The researchers emphasise the need to develop so-called "soft skills" (communication, management, etc.).

Many works empirically reveal the relationship between the digital skills of the population and the development of e-government. Chohan & Hu (2022) explore the possibilities of enhancing digital inclusion through e-government and identify the impact of information and communication technology curricula on improving digital competence using e-government services. Scientists empirically confirm the hypothesis that e-government educational programs in the field of information and communication technologies can increase the level of digital literacy and improve the formation of an information society. Tai et al. (2020) investigate whether the rise of e-participation affects citizens' mobilisation to participate in public affairs offline based on an analysis of a representative sample of citizens in the United States of America. An empirical study by Rodríguez-Hevía et al. (2020) argues a close connection between e-government and the digital divide. Researchers argue that e-government policies can both exacerbate the divide and hinder it. Researchers have found that despite having access to the Internet, many users have a significant skills gap. In particular, the work focuses on increasing attention to the digital


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inclusion of the elderly. Abdulkareem & Ramli (2021) investigate the prognostic role of digital literacy in improving e-government performance. The central assumption in the study is that citizens with a high level of digital literacy will be able to use e-government services, which will lead to higher efficiency of the latter.

The literature review allows us to note that the problem of civil servants' digital competence has been studied extensively. At the same time, a much smaller number of studies are aimed at establishing the relationship between the citizens' digital competence and public administration, in particular, e-government. Most of the works containing empirical studies reveal the impact of e-government on the digital divide, while the impact of digital competencies of the population on e-government is not sufficiently discussed. Therefore, our study will seek to fill this gap by applying correlation analysis and multivariate regression analysis to indicators characterising the level of development of e-government and citizens' digital competence.

**Methods**

The conducted research is based first on the epistemological approach to understanding and obtaining information. The research procedure involves three interrelated and interdependent stages. The first stage examines the relationship between citizens' digital competence and the development of digital public administration in European countries. This is done by determining the relationship between the following groups of indicators: on the one hand, indicators that characterise the citizens' digital competence – "E-Government Index" and its sub-indices "Online Service Index", "Human Capital Index" and "Telecommunication Infrastructure Index"; on the other hand, indicators that demonstrate the level of e-government development – "Digital Skills among Population", "Global science and technology skills" and "E-Participation Index".

The second stage of the study reveals the significance and strength of the impact of citizens' digital competence indicators on the development of e-government.

The third stage reveals the correlation between digital competence and e-government development in Ukraine. The analysis includes indicators such as the "E-Government Development Index" and "E-Participation Index" for Ukraine for the period from 2003 to 2022, the level of general digital skills of the Ukrainian population in % in 2019 and 2021, the Media Literacy Index of the Ukrainian population in % for 2020-2022, as well as the growth rates of digital competence and e-government development indicators.

*Sample*

The sample size is equal to 45 European countries, the data of which was used in the study. The digital competence and e-government indicators for Ukraine are disclosed separately and in more detail. Ukraine is of particular scientific interest as a developing country with intentions of European integration. Therefore, such a vector of development as digital transformation in all spheres of life and activity is particularly important.

For data analysis, such software as Excel and STATISTA were used in the work.

*Methods*

Statistical analysis was used to assess changes in the studied indicators over time, and correlation analysis was used to determine the relationship between citizens' digital competence and the development of digital public administration. The multivariate regression analysis provides an opportunity to assess the impact of citizens' digital competence on the development of e-government.

*Limitations of the study*

This study has its limitations. First, the study assessed the impact of the population's digital competence not on public administration in general but on public administration in the digital environment (meaning the development of e-government as a critical component of the effectiveness of modern public administration). Hence, the study did not determine the impact of the population's digital competence on the offline aspects of public administration.

Secondly, "digital competence" is a broader concept than "digital skills" and "media literacy" and encompasses a large number of characteristics. The study mainly assessed the digital competence of the population by their digital skills.

Third, the years of conducting research used to define the indices differ. For example, the E-Government Index and the E-Participation Index have been defined for quite some time, and data for the last 20 years are available. At the



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same time, indices such as "Digital Skills among Population" and "Global Science and Technology Skills" are component indices of the Digital Skills Gap Index, and this data is available only for 2021.

The above limitations are mainly due to the lack of necessary quantitative data for the relevant periods. They are also related to the limitations of the scope of this research paper.

**Results**

To conduct a correlation analysis, we used indicators that characterise the population's digital competence on the one hand and indicators of e-government development on the other. Studying the correlations between these indicators will allow us to determine the relationship between the population's digital competence and the effectiveness of digital public administration, expressed through the level of e-government development. Table 1 shows the results of the correlation analysis between the studied indicators.

**Table 1.**
*Results of the correlation analysis between the studied indicators*

| | E-Government Index | Online Service Index | Human Capital Index | Telecommunication Infrastructure Index |
|---|---|---|---|---|
| Digital Skills among the Population | 0,707864 | 0,472664 | 0,610652 | 0,720944 |
| Global science and technology skills | 0,574072 | 0,257826 | 0,526553 | 0,705004 |
| E-Participation Index | 0,681942 | 0,827953 | 0,373623 | 0,408730 |

Source: calculated by the author based on data from Wiley (2021); United Nations (2022)

As can be seen from the data in Table 1, the degree of the relationship between many of the indicators is significant or high. Focusing on the indicators "Digital Skills among Population" and "Global Science and Technology Skills", we can see that there is a strong correlation with the "Telecommunication Infrastructure Index", as well as with the E-Government Index for "Digital Skills among Population" indicator. Therefore, the level of citizens' digital competence is most closely related to the level of e-government and telecommunications infrastructure development. The E-Participation Index correlates highly with the Online Service Index, so the more developed the electronic services for citizens are, the higher their e-participation is.

*Identifying the impact of citizens' digital competence indicators on e-government development*

In the context of the study, it is of particular interest to determine the impact of the population's digital competence on implementing public administration in the digital environment. Using the multivariate regression method (Table 2), we assessed the impact of indicators characterising the population's digital competence level on the E-Government Index.

**Table 2.**
*Results of the analysis using the multivariate regression method*

| | BETA | BETA standard error | B | Standard error B | t(42) | p-value |
|---|---|---|---|---|---|---|
| Free member | | | 0,449655 | 0,034395 | 13,07324 | 0,000000 |
| Digital Skills among the Population | 0,334765 | 0,098067 | 0,015070 | 0,004415 | 3,41363 | 0,001455 |
| Global science and technology skills | 0,319292 | 0,090937 | 0,013569 | 0,003865 | 3,51112 | 0,001100 |
| E-Participation Index | 0,502226 | 0,083264 | 0,275067 | 0,045603 | 6,03172 | 0,000000 |

Source: calculated by the author

In the multivariate regression analysis, the variable "E-Government Index" was the dependent variable, and "Digital Skills among Population", "Global Science and Technology Skills", and "E-Participation Index" were the independent variables. In such a way, how each independent variable influences the "E-Government Index" variable was assessed.


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The "E-Government Index" is a key indicator for characterising the development of e-government. The "Digital Skills among Population", "Global Science and Technology Skills", and "E-Participation Index" indicate the level of development of citizens' digital competence.

The analysis results suggest that given the value of the coefficient of determination R2, which is about 0.7454, approximately 74.54% of the variation in the level of the "E-Government Index" can be explained by the independent variables. The F-statistic is F (3, 41) = 43.939, and the p-value is less than 0.00000, which indicates a significant impact of the independent variables on the dependent variable.

The free member has a statistically significant effect on the "E-Government Index" with a high t-statistic (t(41) = 13.07324) and a low p-value (p < 0.000000). This means that, despite other variables, there is a constant that has a significant impact on the "E-Government Index".

The indicators "Digital Skills among Population" and "Global Science and Technology Skills" also have a statistically significant impact on the "E-Government Index", with high t-statistics (t(41) = 3.41363 and t(41) = 3.51112, respectively) and low p-values (p = 0.001455 and p = 0.001100, respectively). The "E-Participation Index" has the most considerable positive impact on the "E-Government Index" with a high t-statistic (t(41) = 6.03172) and a low p-value (p < 0.000000).

Hence, all the variables included in the analysis have a statistically significant impact on the dependent variable "E-Government Index" and may be necessary for improving the efficiency of e-government. The regression model can predict the "E-Government Index" based on the independent variables.

From the conducted analysis, it can be concluded that the correlation between citizens' digital competence and the development of public administration in the digital environment is close, because about 75% of the variation in the level of development of electronic government can be explained by the change in indicators related to the development of digital competences of the population. This influence of digital skills on the level of development of e-government can be explained by the fact that the effectiveness of e-government depends, first of all, on the ability of citizens to use it properly. These opportunities, in turn, depend on the digital competences available to the population.

*The place of the population's digital competence in the public administration system in Ukraine*

When determining the place of the population's digital competence in the public administration system in Ukraine, it is also worth referring to statistics first. Figure 1 shows the values of the "E-Government Development Index" and the "E-Participation Index" for Ukraine from 2003 to 2022.

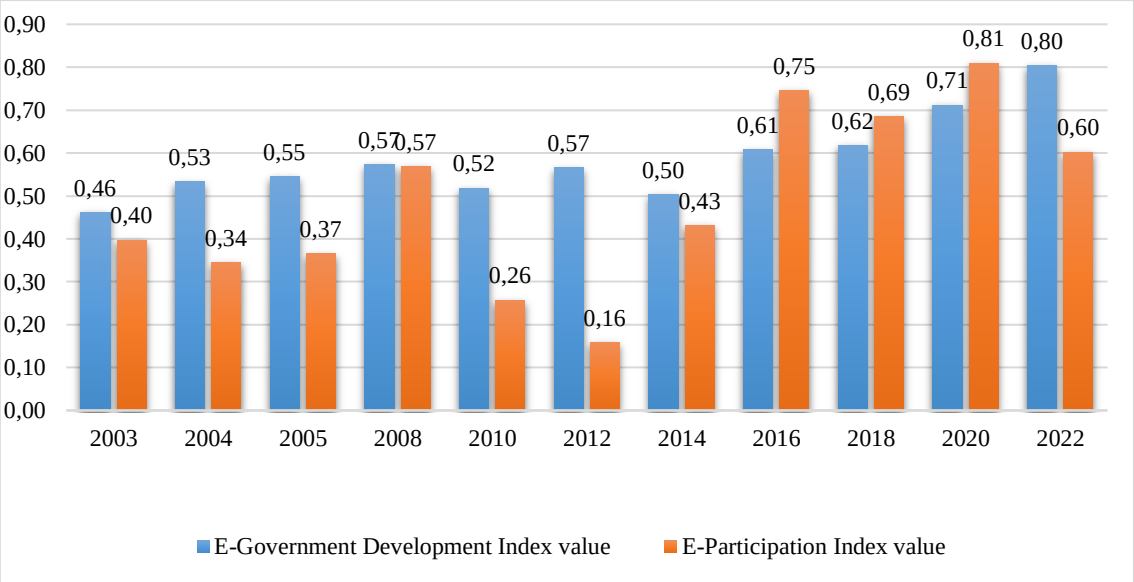


***Figure 1.*** Values of the "E-Government Development Index" and "E-Participation Index" for Ukraine for the period from 2003 to 2022
Source: constructed by the author from United Nations (2022)



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As can be seen from Figure 1, the "E-Government Development Index" for Ukraine has a more stable upward trend than the "E-Participation Index", which is characterised by significant fluctuations. At the same time, the correlation between the indicators is 0.618450, or about 61.85%, which is lower than the value calculated for European countries (0.681942). However, this may be due to differences in the calculation methodology – for Ukraine, the observations were the values of the "E-Government Development Index" and the "E-Participation Index" in 2003-2022, while for European countries, these were the values of the indices for each country in the last year of the study. In general, the strength of the connection between the two indices can be defined as significant.

In determining the impact of the population's digital competence on e-government development, it is impossible to apply the same approach to Ukraine as was applied to European countries in the previous section. This is because the values of such indices as "Digital Skills among Population" and "Global Science and Technology Skills" are available only for 2021. Therefore, it is impossible to study their changes over time. At the same time, when the observations are not periods but individual countries, using these indices is entirely appropriate. Hence, in the case of Ukraine, it is possible to assess the impact of the "E-Participation Index" alone.

In the course of assessing the impact of the "E-Participation Index" on the "E-Government Development Index" using the multivariate regression method, the following results were obtained. The coefficient of determination R2 is approximately 0.3825, which means that about 38.25% of the variation in the dependent variable "E-Government Development Index" can be explained using the independent variable "E-Participation Index" in the regression model. The value of the F-statistic F(1,9) is approximately 5.5744, and the p-value is less than 0.04253. This indicates that the independent variable "E-Participation Index value" is statistically significant in predicting the dependent variable "E-Government Development Index". The beta coefficient for the independent variable "E-Participation Index" is approximately 0.2901. This means that for every one unit change in the "E-Participation Index", the dependent variable "E-Government Development Index" changes by about 0.2901 units in the same direction. The standard error of the estimate for the "E-Participation Index" is approximately 0.1229, meaning there is a certain degree of error in the predictions.

The "Digital Skills among Population" and "Global Science and Technology Skills" indicators, available only for 2021, are 5.9 and 4.8 for Ukraine, respectively, with a maximum value of 10. The leader in the "Digital Skills among Population" index in Europe is Finland (10), and in "Global Science and Technology Skills" – Austria (9.6).

In the absence of values for the indicators "Digital Skills among Population" and "Global Science and Technology Skills" over time, the change in the level of digital competence of the population in Ukraine can also be assessed using local indicators. Such indicators in the study are the Population's Level of General Digital Skills and the Population's Media Literacy Index. The latter index was taken into account in the study, as the Digital Competence Framework for Citizens defines media literacy as a component of digital competence, which "encompasses concepts such as information and media literacy, communication and collaboration, digital content creation (including programming), security (including personal data protection in the digital environment and cybersecurity), as well as problem-solving and lifelong learning" (Vuorikari et al., 2022). The level of general digital skills and the Media Literacy Index of the Ukrainian population are presented in Figures 2 and 3.


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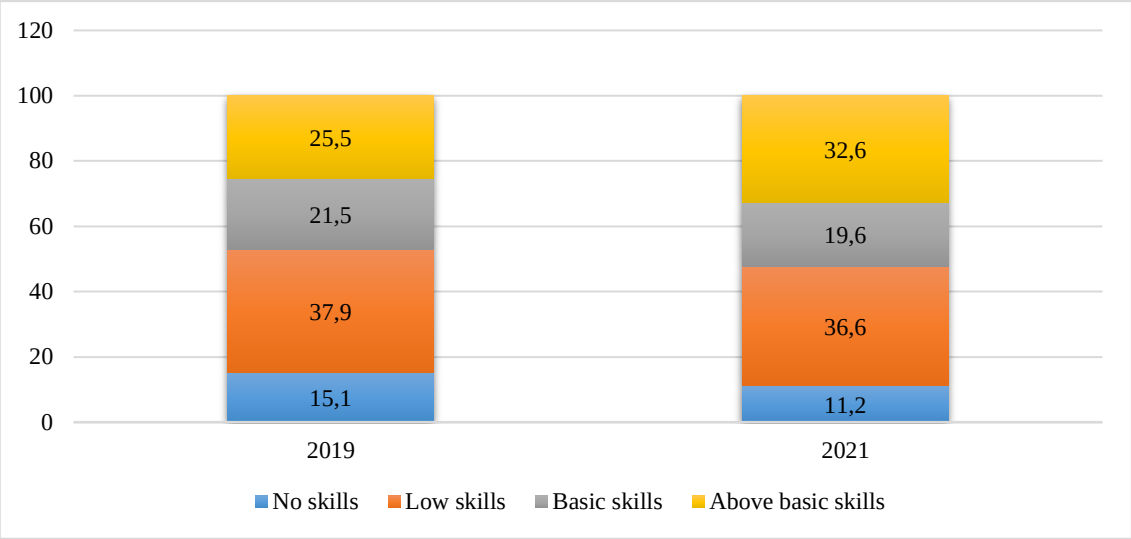


***Figure 2.*** The general level of digital skills of the Ukrainian population (%)
Source: constructed by the author according to Diia. Osvita (2021)

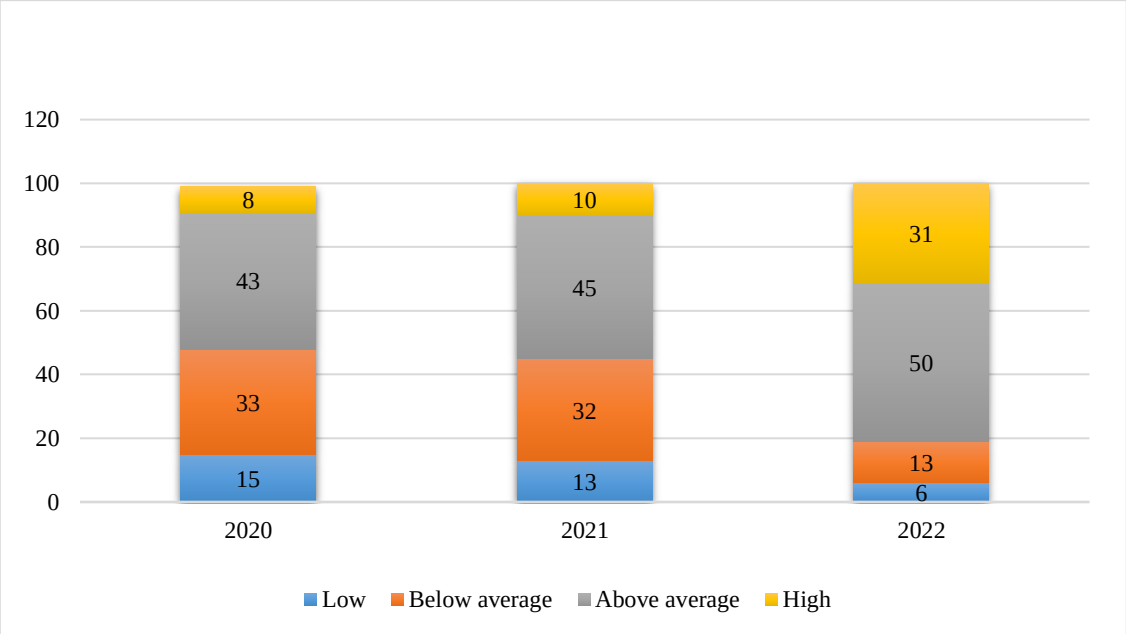


***Figure 3.*** Media literacy index of the Ukrainian population (%)
Source: compiled by the author from Detector Media (2023)

Analysing the data in Figure 2, we can see an increase in the share of the population with digital skills above basic by 7.1% (in 2021 compared to 2019). The Media Literacy Index of the population has grown incredibly significantly (Figure 3). The proportion of the population with above-average media literacy increased by 7%, and the proportion with high media literacy rose by 23% (in 2022 compared to 2020).

In the context of the study, comparing the growth rates of the above indicators for Ukraine is helpful. For such indicators as the General Level of Digital Skills and the Media Literacy Index, the sums of the shares of the population with average and above-average values were calculated, which allows us to determine the growth rate of the population with an above-average level of digital competence. The calculations are presented in Table 3.



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**Table 3.**
*Growth rates of the population's digital competence and e-government development*

| 2022 Ukraine | 2019 | 2020 | 2021 | 2022 | Growth rate, %. |
|---|---|---|---|---|---|
| E-Government Development Index | - | 0,7119 | - | 0,8029 | 112,78 |
| E-Participation Index | - | 0,8095 | - | 0,6023 | 74,40 |
| Online Service Index | - | 0,6824 | - | 0,8148 | 119,40 |
| Telecommunication Infrastructure Index | - | 0,5942 | - | 0,727 | 122,35 |
| Human Capital Index | - | 0,8591 | - | 0,8669 | 100,90 |
| Overall digital skills assessment (Basic skills + Above basic skills) | 47 | | 52,2 | - | 111,06 |
| Media literacy index (Above average + High) | - | 51 | 55 | 81 | 158,82 |

As can be seen from Table 3, the Media Literacy Index has the highest growth rate. The lowest growth rate (74.4%) is characteristic of the "E-Participation Index". The growth rate of the "E-Government Development Index" reaches 112.78%. Based on the results of the preliminary analysis for European countries, it can be assumed that 74.54% of the variation in this indicator can be explained by changes in the "Digital Skills among Population", "Global Science and Technology Skills", and "E-Participation Index". A comparison of the indicators' growth rates also shows that the growth of the "E-Government Development Index" is accompanied by an increase in general digital skills and media literacy. However, the "E-Participation Index" has declined.

The analysis shows that to improve the efficiency of public administration, in particular in the digital sphere, it is necessary to improve the population's digital competence. This can be achieved through introducing special government programmes, further development of the Digital Competence Framework and its adaptation to Ukrainian realities, development of platforms for testing and training in digital skills, educational programmes, etc. Forming a proper ecosystem of digital skills of the population will contribute to the development of public administration and public services based on netocracy.

Among the specific recommendations, it is possible to propose the implementation of educational projects to improve the digital literacy of the elderly, taking as an example the project launched by the National Bank of Ukraine in partnership with PrivatBank. This project is called "Financial Wisdom" and is aimed at increasing the financial literacy of older people. Taking this project as a basis, it is possible to issue a printed publication containing information about modern public digital services, the possibilities they provide, recommendations for use, and advice on data security.

**Discussion**

The analysis conducted confirms that the development of e-government significantly depends on the level of society's digital competence. Therefore, developing relevant skills among citizens is one of the government's top priorities in digitalising public administration.

Poliovyi (2021) emphasises that the digitalisation of public administration should become a prerequisite for developing the digital economy and society. According to the researcher, the digitalisation process of public administration can be intensified by introducing information and communication technologies using public-private partnership models. At the same time, the author's research demonstrated that the efforts to digitalise the public administration sector should focus primarily on the human factor and secondarily on technological aspects. This applies to both the population and civil servants. The author's conclusions are confirmed in the research by Orlova and Shlyakhtina (2021), who, studying ways to improve the digital competencies of managers in the civil service, conclude that mechanisms for assessing acquired digital competencies are insufficiently developed. In addition, efforts should be made to create effective programmes to improve the digital literacy of officials. Fedorova et al. (2019) emphasise the development of soft skills in civil servants and propose to classify such skills into five categories: communication, self-organisational, managerial, emotional and mental. Wodecka-Hyjek et al. (2021) used correlation analysis to establish a link between the level of digital competencies of management personnel and employee engagement and satisfaction on the one hand and the effectiveness


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of human resource management on the other hand. These research works confirm the conclusions drawn in the study and propose specific areas for developing digital competence. Chohan & Hu (2022) conclude that e-government programmes for information and communication technology training have a significant impact. Such programmes should be used in conjunction with measures to improve digital literacy. This will help reduce the digital divide in developing countries. Among the positive effects, it is also worth noting the growth of the potential population of such states and the increase in equity in the use of public services. The author's research further found that the development of digital skills and media literacy, communication and creative skills, etc., should accompany training in information and communication technologies.

Tai et al. (2020) found that greater electronic participation of citizens increases their offline engagement. Citizens' participation in public affairs through various forms of electronic interaction is directly related to their engagement outside the digital sphere. This conclusion differs from our study, which is dedicated to the impact of e-participation on the development of e-government. Thus, comparing the author's work with this thesis reveals the main limitation of the author's research - it did not reveal the impact of digital skills on offline aspects of public administration.

Blažič & Blažič (2020) emphasise the importance of the digital divide for older adults and the possibility for technologies to facilitate the lives of this category of citizens by increasing mobility, communication opportunities, access to services, etc. The researchers also revealed the effectiveness of using particular games on a tablet to develop information and communication skills in older adults. This topic was not covered in the article, but further research could continue through a statistical analysis of the population's digital skills by age group.

Tsekeris (2019) suggests that forming a practical digital skills ecosystem among the population will contribute to strengthening humanism and democracy. In addition, it will spur responsible innovation and improved adaptability, ultimately leading to economic growth and transforming existing risks into new opportunities for the population. While this study focuses on strengthening democracy, our research emphasises the development of public administration based on netocracy, the importance of digitalising the public sphere for the free expression of opinions and increased participation of citizens in public administration through information and communication technologies.

Oberländer et al. (2020) point out the lack of work aimed at studying the digital competence of the adult population, as well as the neglect of the context of work (education, politics, media, communications, and other areas). This work fills the gap in the study of the adult population's digital competence to some extent.

Abdulkareem & Ramli (2021) found that the level of digital literacy of the population has a significant impact on the use of e-government and its benefits (based on the example of Nigeria). These findings are consistent with the author's research, as they prove that increasing the effectiveness of e-government depends on the population's level of digital competence. The studies differ in the regions used for the analysis, so the conclusions drawn in the author's work may be valid for other countries and require additional calculations based on local data.

**Conclusions**

Innovative technologies transform the way society and public administration develop, forcing the latter to adapt to new challenges. Improving citizens' digital competence is crucial for ensuring effective e-government and strengthening democracy in the digital era. The interconnection between the digital competence of society and public administration reveals new opportunities to improve the efficiency and quality of public services and engage citizens more actively in shared decision-making.

The study results show a significant relationship between the population's digital competence level and the development of e-government in European countries. In particular, a high level of citizens' digital competence affects the increase in the "E-Government Index" and its sub-indices, indicating a more efficient public administration through information and communication technologies. The results also indicate the need to develop telecommunications infrastructure to increase the level of digital competence and efficiency of public administration.

The multivariate regression analysis allows for predicting the level of e-government development based on indicators of citizens' digital competence and other factors. Given the significant impact of these indicators on the effectiveness of public administration, it is



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possible to develop strategies and measures to improve public administration in the digital environment further.

The digital competence of the population in Ukraine also has a significant impact on the development of e-government and public administration. The growth of the "E-Government Development Index" is accompanied by an increase in digital skills and media literacy, demonstrating the importance of digital competence for modern public administration.

To improve the effectiveness of public administration in the information society, it is necessary to actively develop programmes and initiatives to increase the digital competence of the population and adapt them to the needs of Ukrainian society. For example, the work proposed the implementation of an educational program for the elderly, which, in the form of a printed edition, will increase their awareness in the field of public digital services - following the example of the implemented program for increasing the financial literacy of the elderly "Financial Wisdom". High digital competence of the population will contribute to developing public administration and public services based on netocracy.

The key limitations of the study are related to the fact that the analysis does not reveal the impact of the population's digital skills on offline aspects of public administration. In addition, further research should cover a wider range of characteristics of digital competence of the population, in addition to existing digital skills. Further research should be aimed at developing strategies to improve citizens' digital competence, taking into account the results of this study, as well as by different age groups.

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# The influence of the media on the body perception and the risk of developing eating disorders in youth

## Вплив медіа на формування сприйняття тіла та ризику розвитку розладів харчової поведінки у молоді

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**Abstract**

The standards of appearance created by media resources incite the excessive desire of young people to conform to patterns incompatible with reality. Determining the influence of media on body perception will contribute to reducing the risk of eating disorders in young people. The aim is to identify the impact of media on young people's perception of their bodies and their risk of developing eating disorders. The following empirical methods were employed: SATAQ-3, BAQ, EDI, ASI-R. Statistical methods: ANOVA, descriptive statistics, regression analysis. Media influence young people's attitudes to their body and pose a risk of developing eating disorders. Information impairs the attitude towards one's own appearance ($p \leq 0.01$) and provokes the risk of eating disorders ($p \leq 0.01$). Media pressure in 72% determines the risk of developing eating disorders (R=0.642), has the greatest influence on drive for

**Анотація**

Створення медіа ресурсами еталонів зовнішності провокують надмірне прагнення молоді відповідати несумісним із реальністю шаблонам. Визначення впливу медійних засобі|в на сприйняття тіла сприятиме зниженню ризику виникнення харчових розладів у молоді. Мета полягає у виявленні впливу засобів медіа на сприйняття молоддю свого тіла та ризику розвитку у них харчових розладів. Використано емпіричні методи: «SATAQ-3», BAQ, EDI, ASI-R. Statistical metod: Anova, descriptive statistics, regression analysis. Засоби медіа впливають на ставлення до тіла молодих осіб та ризик виникнення у них харчових розладів. Інформування знижує ставлення до власної зовнішності ($p \leq 0{,}01$) та провокує ризик харчових розладів ( $p \leq 0{,}01$). Тиск медіа у 72% обумовлює ризик розвитку розладів харчової поведінки (R=0,642), найбільше впливає на прагнення до

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thinness (β=0.620±0.319) and body dissatisfaction (β=0.557±0.235). The results of the study indicate the need to develop educational and preventive measures to eliminate the negative impact of mass media on body perception by young people and reduce the risk of eating disorders.

**Keywords:** Media, body perception, eating disorders, young people, prevention.

худоби (β=0,620±0,319) та незадоволення тілом (β=0,557±0,235). Результати дослідження свідчать про необхідність розробки просвітницьких та профілактичних заходів для усунення негативного впливу ЗМІ на сприйняття тіла молодими людьми та зниження ризику розладів харчової поведінки.

**Ключові слова:** медіа простір, інтернет, харчові розлади, усвідомлена тілесність, самосприйняття, перфекціонізм.

## Introduction

Rapid informational progress in society makes media tools widely distributed among the population. The term "media" refers to the communication channels through which certain information is transferred: news, music, movies, advertising, etc. (Carpentier, 2013). The term "media" refers to everything that makes it possible to receive certain information: print and online newspapers, magazines, television, radio, billboards, telephone, Internet, social networks, and messengers (Khalaf et al., 2023). Media tools are created to inform people about events and phenomena, but this information is not always positive. In many cases, the media has a destructive effect on the personality and human body (Nghaimesh, 2023).

In recent decades, the media space has widely covered fashion trends in body shape, facial appearance, makeup, and even plastic surgery (Ohannessian et al., 2014). Very often, mass media present thin women and excessively muscular men (actors, models, artists). But people with excess weight are almost not represented at all. This position promotes the formation of an attitude that thinness is the standard of beauty, and excess weight is shameful and unacceptable. This shapes an attitude to follow such trends and accept everything that is shown in the media space (Frieiro Padín et al., 2021). The creation of artificial standards of beauty that do not correspond to reality leads to a distorted perception by people, especially youth, of their bodies (Sanzari et al., 2023). Young people begin to develop eating disorders in the constant search for the "ideal body" (Uchôa et al., 2019). Such disorders are characterized by increased psychopathology, serious physical health problems, impaired psychosocial functioning, and reduced quality of life (Williams et al., 2018).

According to the American Psychiatric Association, eating disorders consistently affect several million people, most often women aged between 12 and 35. These can be very serious conditions affecting physical, psychological, and social functions (American Psychiatric Association, (s.f)). The National Eating Disorders Association (NEDA, (s.f)) states that eating disorders are often misunderstood by people, so in most cases they do not receive timely help.

Therefore, it is important to identify the role played by the media in young people's perception of themselves and their bodies, to understand the steps that can be taken to reduce their harmful influence. This will allow detection of eating disorders before they lead to pathological conditions.

The aim of the research is to study the extent of influence of media on the body perception of young people and their risk of developing eating disorders. The following hypothesis was advanced on the basis of the determined aim: media influence the attitude towards the body and the emergence of eating disorders in young people, in particular, social networks exert the greatest influence. The aim and hypothesis involved the fulfilment of the following research objectives:

1) identify the peculiarities of the attitude towards one's body among young people;
2) establish the presence of eating disorders among young people;
3) determine the extent of conscious bodily appearance of young people;
4) prove the impact of media on body perception and development of eating behaviour among young people.

In the section "Literature Review" the essence of the concept of "media" is presented, its structure and features of the influence of the individual's attitude towards his body are defined. Categorization of eating disorders arising under the influence of the media has been carried out. In the "Methods" section, the research procedure



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is presented, the sample population is described, the methods of diagnosis and data analysis are substantiated, and the ethical criteria of the research are given. The "Results" section contains the main results of the study of the evaluation of one's own appearance and body awareness in young people, the presence of eating disorders. In the "Discussion" section, a description of the obtained indicators of young people's attitude towards their own body is presented, an analysis of the impact of the media on the attitude towards the body and the risk of eating disorders among young people is carried out. The results were compared with other studies. The "Conclusions" section includes the main provisions of the conducted research and describes limitations and prospects for further research.

**Literature review**

In the modern world, life is impossible without mass media. They serve as a virtual mediator between the society and a person as an end user. However, excessive information flow and low filtering of appropriateness of information can have a destructive effect on personality development. This is especially relevant at a young age, when people are actively forming their worldview and personal-oriented position. Youth is an active driving force of society, which ensures quality transformation of society. Therefore, the ideals that young people learn are essentially the ideals of sustainable development (Ohannessian et al., 2014). At the same time, young people actively use the media for their professional or personal needs, form their normative beliefs based on the received information.

Nowadays, one of the main topics in the media is the human body, beauty, standards of body shapes, stereotypes of behaviour. Accordingly, young people actively seek to follow the presented standards. This leads to the devaluing of one's self and the depersonalization of one's body appearance (Ramos et al., 2019). The influence on the perception of one's body appearance can have two vectors. The first one is aimed at simple communication of certain facts of human body appearance — the process of informing. The second vector is the purposeful influence and imposition of specific standards on the human body — a pressure (McCabe et al., 2007).

The rapid spread of social media use increases the frequency, duration, and variety of resources that young people use in their daily lives. Identifying potentially harmful aspects of media use can contribute to the prevention of negative consequences of media abuse and its destructive impact on personality (Sanzari et al., 2023). The study suggests that current television and Internet trends are sources of unrealistic and inappropriate ideal images that are difficult to follow (Voelker et al., 2015).

The main postulates of the media regarding body appearance are the ideal body shape. Created artificial stereotype of a beautiful thin body encourages young people to achieve the same standard (Elran-Barak et al., 2020). Therefore, many young people resort to exhausting diets, food restrictions, or overeating, exhaustion from excessive physical load. At the same time, this behaviour is characteristic of both men and women (Rohde et al., 2023).

This influence results in numerous eating disorders. Eating disorders are a mental condition in which excessive control over eating is used to cope with negative feelings or to achieve a desired appearance (Kumar, 2023). Eating disorders are atypical eating habits that include skipping meals, restrictive diets or compulsive overeating, anorexia nervosa, or bulimia nervosa (Taylor et al., 2018). However, each type of emerging eating disorder still remains poorly understood (Whitelaw et al., 2018). Most of the emerging disorders are related to each other, mixed, or result from additional influences (Omeljaniuk et al., 2021).

At first glance, striving for an ideal is a positive stimulus for self-development. But when the changes are excessive and inconsistent with personal development, and the ideal is unattainable, changes occur at the mental level (Perrin et al., 2023). Such people find themselves on the edge of an internal contradiction: between who they are and the impossibility of becoming what they want (López-Gil et al., 2023). This contradiction provokes a nervous state in which a person seeks to change his body by physical means. Eating disorders are quite serious and in some cases fatal diseases (Zam et al., 2018).

According to the London Centre for Eating Disorders and Body (2022), almost 10,000 young people began treatment for eating disorders between April and December 2021, which is significantly more than in previous years.

A prerequisite for the emergence of eating disorders may be a body attitude (Schaefer et al., 2019). Body attitude is a subjective attitude towards one's body and satisfaction with it (Bulik


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et al., 2019). This concept is essentially an internalization of external standards of beauty and appearance (Nagata et al., 2020). In other words, the body attitude is influenced by external information about body standards. On this basis, the individual compares his body with the standard of beauty prevailing in society. If the body does not meet the standard and the individual has certain psychological problems at the same time, this results in eating disorders aimed at achieving the ideal (Harrison et al., 2022). With age, the attitude towards the body can change, as the ability to self-understand decreases against the background of a negative attitude towards one's own body (Bellard et al., 2022). Accordingly, the more the standard of body and beauty is promoted in the media, the more people are able to perceive it as their own ideal. The integrity of the self-image is violated, the internal state and external needs are separated in achieving such an ideal. Eating disorders arise against this background.

Problems with the body attitude and eating disorders manifest themselves most in the period of youth. According to researchers, youth may feel inferior by comparing themselves to an ideal, leading to body image issues and lower self-confidence (Frank et al., 2018). Such problems lead to potentially dangerous eating disorders, including the most widespread — anorexia and bulimia (Morris & Anderson, 2021).

All of the foregoing requires empirical confirmation, as negative body attitudes and eating disorders are dangerous to health and can lead to death.

## Methods

### *Research design*

The study lasted 4 months between May 2023 and September 2023. During this time, the necessary amount of information was collected to achieve the aim of the research and confirm the hypothesis. The study involved 4 stages. The first stage provided for the methodological development of the research programme, selection of diagnostic methods, development of diagnostic forms. The second stage involved testing respondents according to the selected methods. The third stage included processing the research results, presenting them graphically and statistically. The fourth stage provided for a qualitative data analysis, a description of the obtained results, and their practical significance.

### *Sampling*

The study involved 210 people aged 25 to 44 (according to the WHO classification): 74 male and 136 female. The research was conducted at Odesa National Maritime University and Odesa I. I. Mechnikov National University. The inclusion criterion was the age limits established by the study. All subjects are employees of the specified universities. Respondents with existing health problems that could affect the reliability of the results were excluded.

### *Methods*

The research employed methods that correspond to the set aim and advanced hypothesis.

The Appearance Schemas Inventory Revised, ASI-R method. This questionnaire has two scales: a self-evaluative salience and a motivational salience scale. The self-evaluative salience scale measures the influence of self-evaluative salience on the evaluation of others. The motivational salience scale measures motivation to change (improve) one's appearance. This technique determines young people's attitude to their appearance.

Eating Disorder Inventory, EDI. The questionnaire identifies eating disorders, primarily anorexia nervosa, and bulimia nervosa. The first version of the questionnaire was developed in 1983 by D.M. Garner, M.P. Olmstead, J.P. Polivy. The technique consists of 7 subscales: drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal insecurity, interoceptive deficits.

Body Awareness Questionnaire, BAQ. Test authors Shields, Mallory and Simon, translated by Maria Heinz. The test consists of 18 questions, the answers to which are distributed on a 7-point scale, assessing the degree of relevance of a particular statement to oneself. The overall score of the test indicates the level of body awareness.

The Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ-3) was used to identify the influence of the media on attitudes towards one's own body in young people. In the first version of the SATAQ, the main provision was the recognition of the existence of two aspects of the perception of social standards regarding body appearance: "awareness" and "internalization". In the updated version of the SATAQ-3, the authors supplemented the



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questionnaire with additional scales of the social influence of mass media on beliefs, evaluations and attitudes about human corporeality: "information" and "pressure". The last two scales were used in this study : information and pressure to show how the media influence the body attitudes of young people.

***Statistical Methods***

Descriptive statistics, one-way ANOVA, Pearson correlation coefficient, and linear regression analysis were used in the study.

***Ethical Criteria of Research***

Before conducting the research, all respondents were informed about the purpose of the research and its confidentiality. The consent was obtained for diagnostics and non-disclosure of data.

**Results**

As a result of our research, the degree of assessment of one's own appearance and body awareness among young people has been established (Table 1).

**Table 1.**
*Indicators of assessment of one's own appearance and body awareness of young people*

| Scale | Mean | SD | Dispersion (σ) |
|---|---|---|---|
| self-evaluative salience | 40.67 | 6.84 | 46.78 |
| motivational salience | 25.55 | 6.23 | 38.85 |
| Appearance Schemas Inventory | 63.58 | 9.84 | 96.91 |
| Body Awareness | 72.08 | 23.57 | 555.75 |

Source: *(own data)*

The obtained data indicate that young people have a high self-evaluative appearance and an average motivation to change their appearance. The integral indicator of the evaluation of one's own appearance is above average, which indicates a positive assessment by young people of their body appearance. For them, satisfaction with the features of their own appearance, as well as its evaluation by the surrounding people, is inherent to them, which leads to the desire to improve the parameters of their visual image in various ways, taking into account certain social ideas and cultural standards. The study of eating disorders showed that certain signs of disorders were found in the subjects (Table 2).

**Table 2.**
*Indicators of eating disorders in young people*

| Scale | Mean | SD | Dispersion (σ) |
|---|---|---|---|
| Drive for thinness | 14.82 | 4.49 | 13.18 |
| Bulimia | 4.66 | 1.55 | 5.48 |
| Body dissatisfaction | 17.60 | 5.32 | 15.39 |
| Ineffectiveness | 13.14 | 4.31 | 14.34 |
| Perfectionism | 9.03 | 3.63 | 9.94 |
| Interpersonal insecurity | 7.25 | 2.64 | 8.99 |
| Interoceptive deficits | 12.26 | 6.57 | 13.59 |

Source: *(own data)*

According to the table, young people have a high drive for thinness, low bulimia, high body dissatisfaction, ineffectiveness, medium perfectionism, medium partial interpersonal insecurity, and high interoceptive deficits. Such indicators reflect problems in the eating behaviour of young people, which are mainly characterized by dissatisfaction with their appearance and their body and the desire to have a thin body. Failure to achieve the desired standard can lead to nervous disorders in the future, which can manifest as anorexia or bulimia.

Determining the influence of the media on the young people's attitudes showed that the mass media exert pressure on young people (Table 3).


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**Table 3.**
*Indicators of mass media influence on youth*

| Scales | Mean | SD | Dispersion (σ) |
|---|---|---|---|
| Information | 16.48 | 5.26 | 27.67 |
| Pressures | 29.52 | 7.02 | 49.26 |

Source: *(own data)*

It was found that the media exerts medium information on young people (and high pressure on them). Today, the socialization of young people is impossible without the use of media tools, especially the Internet and social networks. However, excessive media pressure can form distorted stereotypes of appearance and body in young people that do not correspond to reality, resulting in eating disorders. Ignoring them leads to consequences, which are characterized by severe neuropsychological disorders.

A correlational analysis was conducted to identify the relationship between media influence, body attitudes and eating disorders (Table 4).

**Table 4.**
*Correlation between attitudes towards one's own appearance and the influence of the media*

| **Indicators of attitude towards one's own appearance** | **Information** | | **Pressures** | |
|---|---|---|---|---|
| | **r** | **p** | **r** | **p** |
| self-evaluative salience | -0.708** | 0.000 | -0.654** | 0.000 |
| motivational salience | -.086 | -.052 | -0.216* | 0.042 |
| Appearance Schemas Inventory | -0.546** | 0.000 | -0.486** | 0.000 |
| Body Awareness | -0.696** | 0.000 | -0.587** | 0.000 |
| **Eating disorders** | **Information** | | **Pressures** | |
| | **r** | **p** | **r** | **p** |
| Drive for thinness | 0.326** | 0.000 | 0.482** | 0.000 |
| Bulimia | 0.282** | 0.000 | 0.223 | 0.740 |
| Body dissatisfaction | 0.271** | 0.000 | 0.206** | 0.000 |
| Ineffectiveness | 0.212 | 0.357 | 0.273** | 0.000 |
| Perfectionism | 0.353** | 0.000 | 0.490** | 0.000 |
| Interpersonal insecurity | 0.196 | 0.342 | 0.378** | 0.000 |
| Interoceptive deficits | 0.318** | 0.000 | 0.282 | 0.112 |

Source: *(own data)*

According to the obtained data, an inverse relationship was found between Information and self-evaluative salience scale (r=-0.708, p≤0.01), an integral indicator of attitude towards appearance (r=-0.546, p≤0.01), body awareness (r=-0.696, p≤0.01). These correlations indicate that the greater the informational influence exerted by the media, the lower young people rate their body appearance. Comparing one's own body with the standard offered by the media lowers self-esteem, self-confidence, and creates dissatisfaction with oneself. Such young people begin to look for ways to change themselves, to correct their bodies according to social standards, which causes eating disorders.

An inverse correlation was established between media pressure and the scale self-evaluative salience (r=-0.654, p≤0.01), motivational salience (r=-0.216, p≤0.05), an integral indicator of attitude to one's own appearance (r=-0.486, p≤0.01), body awareness (r=-0.587, p≤0.01). So, when the pressure from the media increases, the positive attitude towards oneself and one's appearance decreases among young people. Such individuals begin to assimilate values imposed from the outside. At the same time, their negative self-attitude towards their body appearance and appearance provokes eating disorders, which are most often found among people who are dissatisfied with their physique.

A direct relationship between informing the media and the development of drive for thinness (r=0.326, p≤0.01), bulimia (r=0.282, p≤0.01), body dissatisfaction (r=0.271, p≤0, 01), perfectionism (r=0.353, p≤0.01), interoceptive deficits (r=0.318, p≤0.01). Based on the obtained correlations, it can be asserted that the more aware young people are about their body and appearance, the more they are dissatisfied with their appearance and have signs of eating disorders.



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Media pressure has a direct impact on the drive for thinness (r=0.482, p≤0.01), body dissatisfaction (r=0.206, p≤0.01), inefficiency (r=0.273, p≤0.01), perfectionism ( r=0.490, p≤0.01), interpersonal insecurity (r=0.378, p≤0.01). The constant imposition of stereotypes and ideals of appearance by the media leads to an increase in eating disorders. Mostly, these are disorders of dissatisfaction with the body and the desire to lose weight in order to meet expected standards. At the same time, perfectionism is expressed as a desire to achieve the desired ideal. This disturbs the internal balance of the individual and his/her interpersonal communication.

A linear regression analysis was conducted In order to determine the model of influence of media on body attitudes and the risk of eating disorders in young people (Table 5).

**Table 5.**
*Regression analysis of media influence on body attitudes and risk of eating disorders in youth*

| Scale | β | SD | t | p-value | R | $R^2$ |
|---|---|---|---|---|---|---|
| **Information** | | | | | | |
| Self-evaluative salience | -0.349 | 0.044 | -70.959 | 0.000 | | |
| Motivational salience | 0.032 | 0.038 | 0.862 | 0.390 | -0.775 | 0.617 |
| Appearance Schemas Inventory | -0.091 | 0.013 | -70.155 | 0.000 | | |
| Body awareness | -0.349 | 0.044 | -70.959 | 0.000 | | |
| Drive for thinness | 0.403 | 0.235 | 10.719 | 0.087 | | |
| Bulimia | -0.067 | 0.238 | -0.280 | 0.780 | | |
| Body dissatisfaction | -0.189 | 0.275 | -0.687 | 0.493 | 0.684 | 0.548 |
| Ineffectiveness | 0.259 | 0.281 | 0.922 | 0.358 | | |
| Perfectionism | 0.408 | 0.253 | 10.612 | 0.108 | | |
| Interpersonal insecurity | -0.209 | 0.293 | -0.715 | 0.475 | | |
| **Pressure** | | | | | | |
| Self-evaluative salience | -0.489 | 0.067 | -70.316 | 0.000 | | |
| Motivational salience | 0.066 | 0.057 | 10.149 | 0.252 | -0.693 | 0.480 |
| Appearance Schemas Inventory | -0.087 | 0.019 | -40.481 | 0.000 | | |
| Drive for thinness | 0.114 | 00.08 | 20.113 | 00.656 | | |
| Bulimia | 0.620 | 0.319 | 10.944 | 0.053 | | |
| Body Dissatisfaction | -0.251 | 0.324 | -0.776 | 0.439 | | |
| Ineffectiveness | 0.557 | 0.373 | -10.493 | 0.137 | | |
| Perfectionism | 0.380 | 0.382 | 0.995 | 0.321 | 0.642 | 0.717 |
| Interpersonal insecurity | 0.297 | 0.344 | 0.865 | 0.388 | | |
| Interoceptive deficits | 0.084 | 0.398 | 0.211 | 0.833 | | |
| Drive for thinness | 0.367 | 0.319 | 10.152 | 0.251 | | |

Regression analysis showed that the media has an influence on body attitudes and eating disorders in young people. It was found that media has a 62% influence on attitudes towards the body and appearance (R=-0.775), in particular, it has the greatest impact on body awareness (β=0.349±0.04). Such data indicate that information about ideals of appearance forms a stereotype among young people, which requires them to conform to such ideals. It was also found that information by 55% determines the risk of developing eating disorders (R=0.684), the most perfectionism (β=0.408±0.235) and drive for thinness (β=0.403±0.253).

In 48% of cases, media pressure leads to a decreased self-esteem towards one's appearance and perceived body appearance (R=-0.693), in particular, the greatest impact was found on self-esteem of appearance (β=-0.489±0.067). Also, media pressure determines the risk of developing eating disorders by 72% (R=0.642), has the greatest impact on drive for thinness (β=0.620±0.319), and body dissatisfaction (β=0.557±0.235).

Therefore, the results of the study confirmed the influence of media on body attitudes and the risk of developing eating disorders in young people.

**Discussion**

The study found that modern media have a negative impact on young people's attitude to their bodies and appearance and cause the risk of developing eating disorders. Inverse relationship between the effect of media and attitude to one's body appearance and direct relationship with eating disorders were found. This suggests that the information received from the mass media about the ideals of beauty and the body distorts the self-perception of young people and forms


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unattainable standards of beauty. Striving to achieve a set ideal lowers the self-esteem of young people, their level of harassment, disrupts the perception of their body, and lowers satisfaction with themselves and their appearance. As a result, young people begin to look for ways to change their bodies and achieve the standards of beauty dictated by the media. In the search for an ideal, there is a risk of developing eating disorders. In particular, as it turned out, the most frequent are the drive for thinness, perfectionism, dissatisfaction with the body. And the stronger the influence of the media, the more young people strive to achieve body beauty standards imposed on them.

Similar results have been obtained in many other studies, which established that the perception of body image is shaped by unrealistic ideals presented in the mass media. At the same time, body dissatisfaction is a risk factor for eating disorders, low self-esteem, depression, and obesity (Sharma et al., 2019).

The results of a similar study were presented in more detail by McCabe et al. (2007). They also found that the media affects body attitudes, but more extensively showed that this influence is equally strong both for men, and women. At the same time, another study proved the opposite of such statements, where it was found that the overall incidence of eating disorders among women is significantly higher than among men (Williams et al., 2018). Therefore, identifying the gender aspect of attitudes towards body and eating disorders requires additional research.

Uchoa et al. proved that the influence of the media is a predictor of the development of eating disorders and dissatisfaction with one's body. Through media information flows, the media can encourage young people to adopt patterns of physical beauty, which in case of non-compliance with such standards leads to dissatisfaction with their own bodies (Uchôa et al., 2019). The recent study found that social media platform use has a negative impact on body image among adolescents and young adults (Nghaimesh, 2023). It is social networks, as the main channel for obtaining information, that form a stereotypical attitude to their body and appearance in young people.

Mazurkiewicz et al. (2021) did not find a relationship between body shape parameters and feelings of stigma, even when subjective body evaluation acted as a moderator. At the same time, body weight was a strong predictor of levels of perceived stigma. Obese women experienced higher levels of stigma than other groups. So, the standards of female beauty imposed in the media with a thin body and a beautiful face encourage a feeling of inferiority of overweight women.

Frieiro Padín et al. (2021) proved that the media only increase awareness of social norms in a particular country and cultural environment. Therefore, the attitude to body appearance largely depends on the social norms of a specific ethnicity, and the media only promote these norms. Such conclusions require additional research.

So, the study showed that the media really influence the body attitude of young people and can provoke the development of eating disorders. However, with proper medical care, people with eating disorders can regain healthy eating habits, as well as their emotional and psychological health (Grigaliūnaitė et al., 2023). Control of the quantity and quality of consumed content, and not the time spent on media resource platforms should be one of the methods of prevention and overcoming the negative consequences of media influence (Sanzari et al., 2023). In addition, it is advisable to study the psychological problems of young people and the functioning of the brain, which will make it possible to improve the attitude to one's body appearance and prevent the risk of eating disorders (Frank et al., 2018).

**Conclusions**

The study found that media influence the body attitude and poses the risk of developing eating disorders. The obtained results are valuable for the prevention of eating disorders among young people. The modern rapid development of the Internet and especially social networks has contributed to the fact that young people excessively use information channels and have a very low threshold for its filtering. An unbiased attitude to all informational content leads to depersonalization and devaluation of the individual and can significantly disrupt the homeostasis of the body. Therefore, identifying the influence of the media on attitudes towards the body and the risk of developing eating disorders opens up ways to develop effective methods of preventing such disorders.

The media should be responsible for the information presented, so as not to present unrealistic ideals of body image and appearance. Preventive measures should be aimed primarily at promoting a healthy body image and eating behaviour.



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The limitations of the study are the difficult psychological condition of individuals who have signs of eating disorders. They actively deny the existing problem, therefore, identifying the disorder and providing them with help requires the active involvement of such persons in cooperation. The issue of the extent at which young people themselves determine distorted media content regarding the body and beauty also remains unexplored. Another unexplored issue is whether young people who have problems with body image and nutrition are actively looking for unattainable ideals and standards in the media.

The prospects of the study include determining gender peculiarities in the perception of one's own body and manifestations of eating disorders. It is also important to establish which media channels most determine a distorted attitude towards one's own appearance.

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# Digital transformation, environmental protection, and technology competence: An integrated analysis of sustainability preferences

## التحول الرقمي وحماية البيئة والكفاءة التكنولوجية: تحليل متكامل لتفضيلات الاستدامة

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**Abstract**

In the contemporary global landscape, the pursuit of environmental sustainability has become paramount, prompting organizations to rethink their strategies and operations. This study investigates the intricate relationships between digital transformation, technology competence, environmental protection, and sustainability preferences. It examines five key hypotheses to unravel the complex dynamics among these variables. The research employs a robust methodology, utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) to scrutinize the research model. Data is gathered from 243 participants occupying diverse roles. Structured surveys, incorporating established scales, are administered to these select participants. The results offer a nuanced understanding of the relationships under investigation. Digital transformation is revealed to significantly impact organizations' sustainability preferences, indicating the transformative potential of technology adoption. Additionally, technology competence emerges as a pivotal factor, significantly moderating this relationship, highlighting the importance of organizational proficiency in leveraging digital tools for sustainable practices. Furthermore, the mediation effect of environmental protection is found to be non-significant within the specific context of this study. These findings have profound implications for both theory and practice, emphasizing the need for strategic investment in technology competence development, fostering holistic sustainability integration, and considering direct sustainability strategies.

**Keywords:** Digital transformation, sustainability preferences, technology competence, environmental protection, digital sustainability framework.

**ملخص:**

في المشهد العالمي المعاصر، أصبح السعي لتحقيق الاستدامة البيئية أمرًا بالغ الأهمية، مما دفع المؤسسات إلى إعادة التفكير في استراتيجياتها وعملياتها. تبحث هذه الدراسة في العلاقات المعقدة بين التحول الرقمي والكفاءة التكنولوجية وحماية البيئة وتفضيلات الاستدامة. وتدرس خمس فرضيات رئيسية لكشف الديناميكيات المعقدة بين هذه المتغيرات. ويستخدم البحث منهجية قوية باستخدام نمذجة (PLS-SEM) للتدقيق في نموذج البحث. تم جمع البيانات من 243 مشاركًا يمثلون أدوارًا متنوعة. وتم إجراء استبانات منظمة تتضمن مقاييس محددة على هؤلاء المشاركين المختارين. قدمت النتائج فهمًا دقيقًا لهذه العلاقات. تم الكشف عن أن التحول الرقمي يؤثر بشكل كبير على تفضيلات الاستدامة لدى المؤسسات، مما يشير إلى إمكانية تحولها إلى تبني التكنولوجيا. بالإضافة إلى ذلك، تبرز الكفاءة التكنولوجية كعامل محوري، حيث تعمل على تعديل هذه العلاقة بشكل كبير، مما يسلط الضوء على أهمية الكفاءة التنظيمية في الاستفادة من الأدوات الرقمية للممارسات المستدامة. علاوة على ذلك، وُجد أن تأثير الوساطة لحماية البيئة غير مهم في السياق المحدد لهذه الدراسة. هذه النتائج لها آثار عميقة على كل من النظرية والتطبيق، مع التأكيد على الحاجة إلى الاستثمار الاستراتيجي في تطوير الكفاءة التكنولوجية، وتعزيز التكامل الشامل للاستدامة، والنظر في استراتيجيات الاستدامة المباشرة.

**الكلمات المفتاحية:** التحول الرقمي، تفضيلات الاستدامة، الكفاءة التكنولوجية، حماية البيئة، إطار الاستدامة الرقمية.

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## Introduction

The integration of digital technologies into modern organizations marks a transformative era with implications for sustainability and environmental protection (Liu et al., 2019). This study explores the dynamic interplay between digital transformation, technology competence, environmental protection, and sustainability preferences in Saudi Arabia's Oil, Gas, Electricity, Minerals, and Water Desalination sectors (George & Schillebeeckx, 2022). Amid a global imperative for environmental sustainability, the research focuses on the role of digital transformation in shaping organizations' sustainability preferences and considers mediating and moderating factors (Chen et al., 2020). Key variables include digital transformation, highlighted for its transformative role and impact on sustainability (Shen & Wang, 2023; Feroz et al., 2021). Technology competence moderates the relationship between digital transformation and sustainability preferences, emphasizing organizations' proficiency in utilizing digital tools for sustainability (Gregori & Holzmann, 2020). Environmental protection, a mediator variable, requires in-depth investigation of its dynamics in the context of digital transformation (Chen et al., 2020; Feroz et al., 2021; Shen & Wang, 2023).

The study underscores the significance of these relationships for environmental sustainability, emphasizing the impact of digital transformation on organizations' sustainability preferences (Khan et al., 2023). As Saudi Arabian sectors strive for sustainability, understanding digital transformation's role becomes crucial (Feroz et al., 2021). The mediating role of environmental protection is vital for connecting digital transformation initiatives with sustainable practices (Hanelt et al., 2021). Technology competence emerges as pivotal, influencing the relationship between digital transformation and sustainability preferences practically. While valuable insights exist in the literature, gaps persist, necessitating focused investigation in the specific context of Saudi Arabia's selected sectors (Gregori & Holzmann, 2020; Hanelt et al., 2021; Khan et al., 2023). The research aims to address these gaps by delving into relationship nuances, contributing to a comprehensive understanding of digital sustainability. Grounded in the premise that digital transformation significantly influences sustainability preferences, the study incorporates the theoretical moderating factor of technology competence and the mediating role of environmental protection (Alsuood, 2019). The overarching objective is to empirically validate these relationships and explore their contextual dynamics in Saudi Arabian sectors, contributing to both theoretical and practical understanding of digital sustainability.

## Literature review

In the realm of contemporary sustainability considerations, the interplay of digital transformation, environmental protection, and technology competence has come to the forefront (Khan et al., 2023). The present global landscape witnesses organizations acknowledging the growing significance of digital transformation (Feroz et al., 2021). This transformation utilizes cutting-edge tools like the Internet of Things (IoT), artificial intelligence (AI), and big data analytics to boost efficiency, strengthen relationships with customers, and encourage creative thinking (Shaikh et al., 2023). This dynamic aligns with a greater emphasis on the convergence of digital transformation and environmental protection (Qamar et al., 2023). Given the urgency of climate change, resource scarcity, and environmental deterioration, businesses are revisiting their operational paradigms to adhere to sustainability objectives (Mangi et al., 2023). A comprehensive approach to digital transformation seeks not only to enhance profitability but also to champion eco-conscious practices and reduce environmental footprints (Hanelt et al., 2021). This amalgamation of digital technologies and environmental sustainability underscores a crucial juncture, showcasing the potential for technology to serve as a catalyst for environmental protection and the enduring preservation of ecological well-being (Qamar et al., 2023).

Moreover, technological competence is central to the realization of the synergistic relationship between digital transformation and environmental protection (Shaikh et al., 2023).

An organization's capacity to leverage advanced technologies effectively is vital for its ability to foster eco-friendly practices and mitigate environmental risks (George & Schillebeeckx, 2022). Competence in deploying technologies such as renewable energy solutions, energy-efficient infrastructure, and eco-friendly supply chain management systems is integral to enhancing environmental performance (Lin, 2022). However, this critical aspect of technological competence is complex and


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multifaceted (Feroz et al., 2021). It extends beyond the mere adoption of technology to encompass factors like workforce skills, digital literacy, and the ability to innovate within the context of sustainable practices (Kunkel & Matthess, 2020). Recognizing this interplay among digital transformation, environmental protection, and technology competence is pivotal, as it informs the strategic choices that organizations make in pursuit of their sustainability objectives (Chen et al., 2020). Understanding how these dimensions converge is not only a key challenge but also a potent opportunity to forge a path towards a more sustainable future where technology is harnessed for ecological preservation and enhanced corporate competitiveness (Shen & Wang, 2023). This study aims to provide an integrated analysis of these sustainability preferences, shedding light on the intricate dynamics and implications for businesses and society at large.

The Digital Sustainability Framework (DSF) theory provides a robust conceptual foundation, elucidating relationships between digital transformation, environmental protection, and technology competence (Hanelt et al., 2021). It posits that digital transformation significantly impacts sustainability preferences, highlighting its multifaceted role in efficiency, innovation, and sustainability practices (Fontana et al., 2021). Environmental protection mediates this relationship, channeling digital transformation's positive impacts toward sustainability objectives, emphasizing the need for a strategic focus on environmental protection (George & Schillebeeckx, 2022). Moreover, technology competence moderates the connection between digital transformation and sustainability preferences, influencing the effectiveness of digital technologies for environmental sustainability (Chen et al., 2020; Shen & Wang, 2023). The DSF theory offers a structured lens to understand the intricate interplay of these dimensions in the context of modern sustainability preferences, providing valuable insights for analysis and decision-making.

***Hypotheses Development***

Digital transformation profoundly shapes the contemporary business landscape as organizations embrace advanced technologies (Feroz et al., 2021). This shift significantly influences environmental sustainability preferences, reflecting a commitment to ecological responsibility and reduced environmental impact (Khan et al., 2023). The literature underscores the connection between digital transformation and environmental sustainability, highlighting its role in refining resource utilization and elevating ecological prowess (Stroumpoulis & Kopanaki, 2022). Advanced technologies like IoT, AI, and big data analytics empower enterprises to regulate ecological footprints with unmatched efficacy (Yang et al., 2023). Understanding this influence is imperative for making astute choices that align business prosperity with environmental stewardship (Martínez-Peláez et al., 2023). Empirical research supports the hypothesis that digital transformation significantly impacts and enhances organizations' commitment to environmental sustainability, evident in improved resource efficiency, reduced energy consumption, and integrated sustainability considerations in decision-making and supply chain management (Shen & Wang, 2023; Hanelt et al., 2021; Kunkel & Matthess, 2020). This growing body of evidence underscores the profound impact of digital transformation on shaping sustainability agendas (Martínez-Peláez et al., 2023).

Further research should scrutinize specific mechanisms of how digital transformation influences environmental sustainability, such as IoT's role in real-time monitoring, AI optimizing energy usage, and big data shaping sustainability metrics (George & Schillebeeckx, 2022; Khan et al., 2023). Exploring how organizational factors mediate this relationship, including culture, leadership, and policies, is crucial (Chen et al., 2020). Understanding these nuances informs targeted strategies, while the Digital Sustainability Framework (DSF) offers a valuable theoretical lens, emphasizing the transformative potential of digital technologies in advancing environmental stewardship (Martínez-Peláez et al., 2023; Sahu et al., 2023; Fontana et al., 2021). The DSF provides a structured approach for assessing the impact of digital technologies on sustainability, guiding practical implementation in the business world (Yang et al., 2023).

*H1. Digital transformation significantly impacts environmental sustainability preferences.*

In the contemporary sustainability discourse, environmental protection is pivotal for safeguarding the environment from harm and degradation. Simultaneously, digital transformation, integrating advanced technologies into operations, is a key driver of change. The nexus between environmental protection, digital transformation, and


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sustainability preferences suggests that environmental protection mediates this relationship (Khan et al., 2023). Extensive literature acknowledges digital transformation's role in shaping sustainability preferences, with technologies like IoT and AI enhancing environmental performance (Shen & Wang, 2023). Empirical findings support the hypothesis that environmental protection significantly mediates the relationship between digital transformation and sustainability preferences, emphasizing the need for a holistic approach in environmental sustainability strategies (Yang et al., 2023).

Based on empirical research, it is recommended to further investigate the specific mechanisms and strategies through which environmental protection mediates the relationship between digital transformation and environmental sustainability preferences (Kunkel & Matthess, 2020). This includes exploring how organizations formulate and implement sustainability policies in response to digital transformation (George & Schillebeeckx, 2022). Additionally, research could scrutinize the role of leadership and organizational culture in integrating environmental protection into digital transformation strategies (Fontana et al., 2021). Understanding these dynamics is crucial for organizations leveraging digital technologies for sustainability (Sahu et al., 2023). Cross-industry studies can offer nuanced insights and best practices for corporate sustainability strategies (Khan et al., 2023). The Digital Sustainability Framework (DSF) supports the hypothesis that environmental protection mediates the relationship, emphasizing the need for an integrated approach (Shen & Wang, 2023). DSF underscores that environmental protection measures alongside digital transformation are essential for a sustainable business ecosystem, providing a structured perspective for practical guidance (Stroumpoulis & Kopanaki, 2022).

*H2. Digital transformation significantly impacts environmental protection.*
*H3. Environmental protection significantly impacts environmental sustainability preferences.*
*H4. Environmental protection significantly mediates the relationship of digital transformation and environmental sustainability preferences.*

Technology competence, the ability to effectively use advanced digital tools, is a compelling factor in moderating the relationship between digital transformation and environmental sustainability preferences in the business and sustainability context (Shen & Wang, 2023). This competence includes skills, knowledge, and proficiency in technology adoption. While digital transformation is recognized as a driver of organizational change and sustainability goals, the influence of technology competence in shaping environmental sustainability practices is increasingly significant (Hanelt et al., 2021). The hypothesis suggests that technology competence serves as a significant moderator in the relationship, impacting organizations' overall sustainability trajectory (Martínez-Peláez et al., 2023).

Empirical research supports the hypothesis that technology competence significantly moderates the relationship between digital transformation and environmental sustainability preferences. Organizations with high technology competence better capitalize on digital technologies for sustainability, optimizing resource usage and reducing environmental impact (Chen et al., 2020; Martínez-Peláez et al., 2023). Conversely, lower technology competence may hinder leveraging digital transformation for sustainability benefits (Stroumpoulis & Kopanaki, 2022). Thus, technology competence is a critical moderator, influencing the extent to which digital transformation shapes environmental sustainability preferences (Feroz et al., 2021). This empirical evidence emphasizes the strategic imperative for organizations to build and maintain technology competence in aligning digital transformation with environmental sustainability objectives (Yang et al., 2023).

Based on empirical research, further exploration into the factors underlying the moderating role of technology competence in the relationship between digital transformation and environmental sustainability preferences is recommended (Hanelt et al., 2021). This includes an in-depth examination of training programs that enhance technology competence and investigating the impact of leadership and organizational culture on fostering technology competence and sustainability goals (George & Schillebeeckx, 2022; Feroz et al., 2021). Understanding how organizations can cultivate and sustain technology competence is crucial for effective strategies bridging the gap between digital transformation and environmental sustainability (Shen & Wang, 2023). Cross-industry studies assessing the impact of technology competence as a moderator can provide valuable insights and best practices (Kunkel & Matthess, 2020). The Digital


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Sustainability Framework (DSF) strongly supports the hypothesis that technology competence significantly moderates the relationship, positioning it as a key factor shaping the impact of digital transformation on sustainability (Sahu et al., 2023). DSF emphasizes organizations' need to invest in developing technology competence to ensure effective alignment with sustainability preferences (Chen et al., 2020). The holistic approach of DSF provides a structured perspective for further empirical research and practical strategies in navigating the intricate relationship between technology competence, digital transformation, and environmental sustainability preferences (see figure 1).

*H5. Technology competence significantly moderates the relationship of digital transformation and environmental sustainability preferences.*

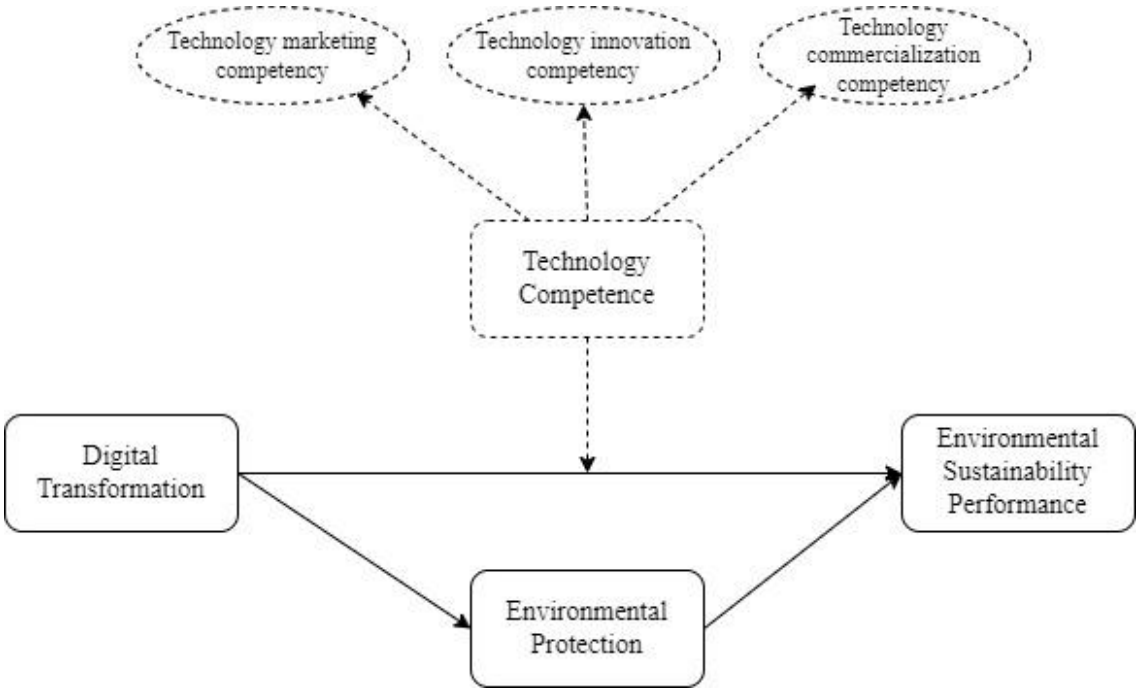


***Figure 1.*** Conceptual Model

**Methodology**

This study sought to investigate the intricate relationships between digital transformation, environmental protection, technology competence, and environmental sustainability preferences within the highly significant Oil, Gas, Electricity, Minerals, and Water Desalination sectors in the Kingdom of Saudi Arabia (see table 1). To ensure a representative sample, 243 participants were selected from a range of organizations operating within these sectors, encompassing a diverse array of roles, including research and development, operations, and management. The selection process involved a meticulous identification of organizations specifically within the Kingdom of Saudi Arabia, operating in the targeted industries. A purposive sampling technique was employed to ensure that the chosen organizations were actively involved in green innovation and sustainability initiatives, aligning with the research objectives and the relevance of the study.


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**Table 1.**
*Respondents' Profile*

| Demographic Variable | Category | Number of Respondents |
|---|---|---|
| Gender | Male | 209 |
| | Female | 34 |
| Age | 25 and below | 45 |
| | 26 - 35 | 90 |
| | 36 - 45 | 58 |
| | 46 - 55 | 34 |
| | 56 and above | 16 |
| Education Level | High School or Below | 29 |
| | Bachelor's Degree | 127 |
| | Master's Degree | 78 |
| | Doctorate or Ph.D. | 9 |
| Years of Experience | Less than 1 year | 15 |
| | 1 - 5 years | 88 |
| | 6 - 10 years | 73 |
| | 11 - 15 years | 53 |
| | 16 years and above | 14 |
| Department | Research and Development | 64 |
| | Operations | 121 |
| | Management | 58 |
| | Other (Specify) | 0 |

Data was collected through structured surveys administered to the selected participants. The survey instrument included items from established scales. The three-items scale for between digital transformation was adopted from the work of Teng et al. (2022). The six-items scale of He et al. (2017) was employed to measure the environmental protection. Whereas, for technology competence the nine-items scale of Kim and Ha (2023) which was composed of three sub-factors: technology marketing competency, technology innovation competency, and technology commercialization competency, was used. Environmental sustainability preferences was measured on four-items adopted from Tseng et al. (2019) work. These scales are recognized for their validity and extensive application in the realms of sustainability and organizational research. The survey items were carefully designed to encompass various aspects of digital transformation, environmental protection, technology competence, and environmental sustainability preferences. The participants were contacted directly by the research team, and the survey was administered electronically. Comprehensive instructions were provided to the participants, ensuring they were well-informed about the research's objectives and the voluntary nature of their participation.

The research employed Partial Least Squares Structural Equation Modeling (PLS-SEM) as the primary analytical technique to scrutinize the proposed research model. PLS-SEM is a powerful and flexible statistical method specifically suited for exploratory research models. It was chosen to examine the intricate relationships between digital transformation, environmental protection, technology competence, and their combined influence on environmental sustainability preferences within the targeted industries in the Kingdom of Saudi Arabia. This method was selected due to its capability to analyze complex relationships and its compatibility with the study's exploratory nature.

## Findings and discussion

Table 2 presents the Cronbach's Alpha values for various constructs used in the research study. Cronbach's Alpha is a measure of internal consistency or reliability, with higher values indicating greater reliability in the measurement of each construct. Notably, the constructs examined in the study include digital transformation, environmental protection, environmental sustainability preferences, technology commercialization competency, technology innovation competency, and technology marketing competency.



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**Table 2.**
*Cronbach's Alpha*

| | Cronbach's Alpha |
|---|---|
| Digital Transformation | 0.770 |
| Environmental protection | 0.836 |
| Environmental sustainability preferences | 0.831 |
| Technology commercialization competency | 0.719 |
| Technology innovation competency | 0.760 |
| Technology marketing competency | 0.787 |

Table 3 provides a comprehensive overview of the factor loadings, composite reliability, and Average Variance Extracted (AVE) values for each construct in the research model. Factor loadings indicate the strength of relationships between items and their respective constructs, while composite reliability and AVE are indicators of reliability and convergent validity. The constructs include digital transformation, environmental protection, environmental sustainability preferences, technology commercialization competency, technology innovation competency, and technology marketing competency. For digital transformation, the factor loadings (e.g., DT1, DT2, DT3) range from 0.710 to 0.755, suggesting that these items exhibit substantial relationships with the construct. The composite reliability for digital transformation is 0.773, indicating strong internal consistency. The AVE value for digital transformation is 0.531, demonstrating that over 53% of the variance in this construct is explained by its items (see figure 2).

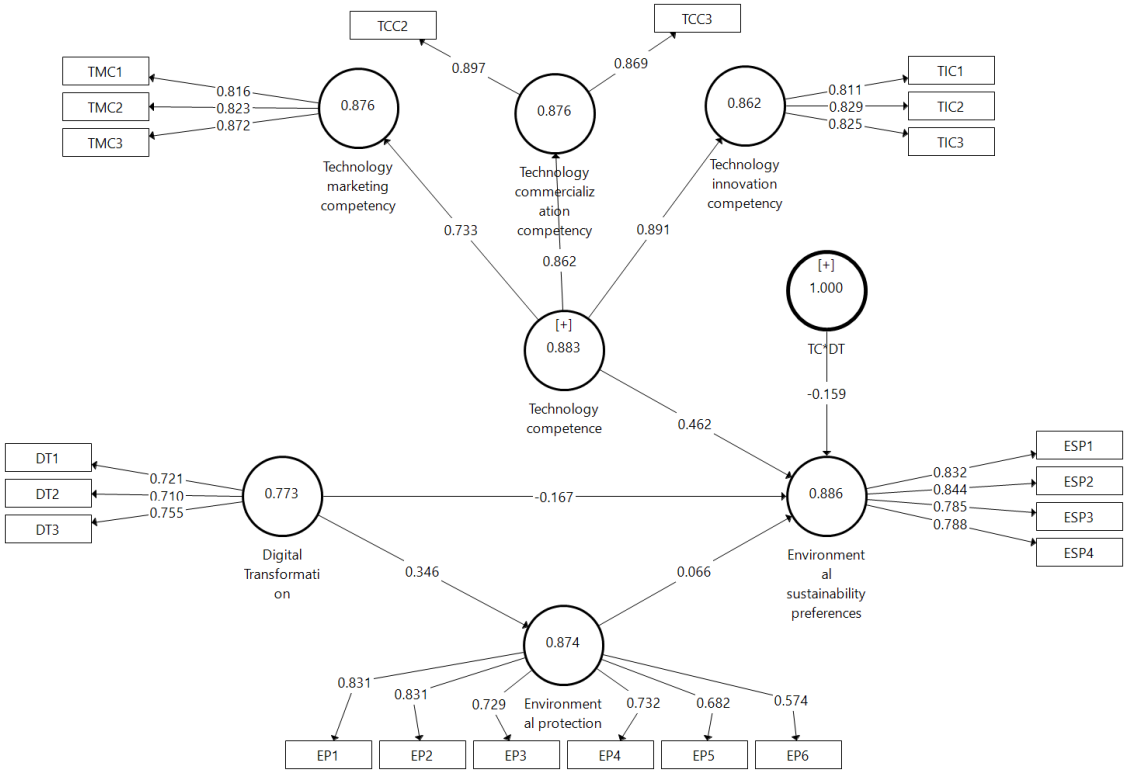


***Figure 2.*** Estimated Model


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**Table 3.**
*Factor loadings, Composite Reliability, and Average Variance Extracted (AVE)*

| | Item | Original Sample | Composite Reliability | Average Variance Extracted (AVE) |
|---|---|---|---|---|
| Digital Transformation | DT1 | 0.721 | 0.773 | 0.531 |
| | DT2 | 0.710 | | |
| | DT3 | 0.755 | | |
| Environmental protection | EP1 | 0.831 | 0.874 | 0.540 |
| | EP2 | 0.831 | | |
| | EP3 | 0.729 | | |
| | EP4 | 0.732 | | |
| | EP5 | 0.682 | | |
| | EP6 | 0.574 | | |
| Environmental sustainability preferences | ESP1 | 0.832 | 0.886 | 0.660 |
| | ESP2 | 0.844 | | |
| | ESP3 | 0.785 | | |
| | ESP4 | 0.788 | | |
| Technology commercialization competency | TCC2 | 0.897 | 0.876 | 0.780 |
| | TCC3 | 0.869 | | |
| Technology innovation competency | TIC1 | 0.811 | 0.862 | 0.675 |
| | TIC2 | 0.829 | | |
| | TIC3 | 0.825 | | |
| Technology marketing competency | TMC1 | 0.816 | 0.876 | 0.702 |
| | TMC2 | 0.823 | | |
| | TMC3 | 0.872 | | |

Table 4 presents the Fornell-Larcker Criterion, which is a tool for assessing the discriminant validity of the constructs in the research model. This criterion helps determine whether the constructs are sufficiently distinct from one another, ensuring that the measurement model effectively captures the unique variance within each construct. The table depicts the square root of the AVE values (bold diagonal) for each construct compared to the correlations with other constructs (off-diagonal). The Fornell-Larcker Criterion reveals that the diagonal elements of the table (bolded values) represent the square root of the Average Variance Extracted (AVE) for each construct.

**Table 4.**
*Fornell-Larcker Criterion*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Digital Transformation | 0.729 | | | | | | |
| Environmental protection | 0.346 | 0.735 | | | | | |
| Environmental sustainability preferences | 0.379 | 0.350 | 0.813 | | | | |
| Technology commercialization competency | 0.458 | 0.424 | 0.322 | 0.883 | | | |
| Technology competence | 0.538 | 0.465 | 0.649 | 0.862 | 0.698 | | |
| Technology innovation competency | 0.483 | 0.431 | 0.325 | 0.831 | 0.810 | 0.822 | |
| Technology marketing competency | 0.395 | 0.305 | 0.715 | 0.370 | 0.733 | 0.395 | 0.838 |

Table 5 presents the model fitness indicators, which are used to assess the predictive performance and accuracy of the research model. $Q^2$predict is a measure of predictive relevance and indicates the extent to which the research model can predict the outcome or dependent variable. In this case, the $Q^2$predict value is 0.088, suggesting that the model exhibits a moderate level of predictive relevance. This means that the independent variables in the model are able to explain a significant portion of the



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variation in the dependent variable. RMSE is a measure of the average prediction error. In this table, the RMSE value is 0.050, which represents the square root of the average squared differences between predicted and observed values.

**Table 5.**
*Model Fitness*

| $Q^2$predict | RMSE | MAE |
|---|---|---|
| 0.088 | 0.050 | 0.086 |

Table 6 presents the R-squared values, which indicate the proportion of variance in each dependent variable explained by the independent variables in the research model. The results show that "Environmental Protection" has an R-squared of 0.119, suggesting that approximately 11.9% of the variance in environmental protection is accounted for by the independent variables. "Environmental Sustainability Preferences" has a notably higher R-squared value of 0.505, indicating that approximately 50.5% of the variance in sustainability preferences is explained by the model. Furthermore, "Technology Commercialization Competency," "Technology Innovation Competency," and "Technology Marketing Competency" exhibit high R-squared values of 0.743, 0.794, and 0.537, respectively, signifying that a substantial portion of the variance in these constructs is captured by the independent variables. These findings highlight the effectiveness of the research model in explaining and predicting the variations in the specified dependent variables.

**Table 6.**
*R-Square*

| Variable | R-square |
|---|---|
| Environmental protection | 0.119 |
| Environmental sustainability preferences | 0.505 |
| Technology commercialization competency | 0.743 |
| Technology innovation competency | 0.794 |
| Technology marketing competency | 0.537 |

Table 7 presents the F-statistics, which assess the significance of the relationships between independent variables (IV) and dependent variables (DV) in the research model. The table displays the F-statistics for various IV-DV combinations. The results indicate the statistical significance of these relationships. For instance, the F-statistic for the relationship between "Digital Transformation" and "Environmental Protection" is 0.136, suggesting a lack of statistical significance for this association. In contrast, the F-statistic for "Environmental Protection" and "Environmental Sustainability Preferences" is 0.007, which implies a statistically significant relationship between these variables. The table also shows that "Technology Competence" has a significant impact on "Environmental Sustainability Preferences," "Technology Commercialization Competency," "Technology Innovation Competency," and "Technology Marketing Competency" as indicated by the respective F-statistics. Overall, these results offer insights into the significance of the relationships between the variables within the research model.

**Table 7.**
*F-statistics*

| | Environmental protection | Environmental sustainability preferences | Technology commercialization competency | Technology innovation competency | Technology marketing competency |
|---|---|---|---|---|---|
| Digital Transformation | 0.136 | 0.029 | | | |
| Environmental protection | | 0.007 | | | |
| TC*DT | | 0.163 | | | |
| Technology competence | | 0.232 | 2.896 | 3.851 | 1.158 |


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Table 8 presents the results of the path analysis for the numbered hypotheses in the research model.

Hypothesis 1 (H1) results indicate that the relationship between "Digital Transformation" and "Environmental Sustainability Preferences" is statistically significant. The path coefficient of -0.167, a standard deviation of 0.068, a T statistic of 2.443, and a p-value of 0.007 collectively demonstrate that digital transformation significantly impacts environmental sustainability preferences. This supports the hypothesis that digital transformation is an influential driver of environmental sustainability preferences within the research context. In examining the relationship between digital transformation and environmental protection (H2), the analysis revealed significant findings. The original sample data exhibited a low standard deviation of 0.072, indicating consistency within the sample. The T-statistic of 4.827 was observed, indicating a strong and statistically significant impact of digital transformation on environmental protection. Moreover, the p-value of 0.000, which is below the conventional significance threshold of 0.05, confirms the significance of this relationship. Therefore, the results suggest that digital transformation has a substantial and positive impact on enhancing environmental protection measures within the studied context.

In assessing the influence of environmental protection on environmental sustainability preferences (H3), the analysis revealed notable insights. The standard deviation for the original sample data was relatively low at 0.067, indicating consistency among the responses. The T-statistic of 0.994 was observed, signifying a relatively weak relationship, and the p-value of 0.160 exceeded the typical significance threshold of 0.05. As a result, the statistical analysis indicates that within the studied context, the impact of environmental protection on environmental sustainability preferences is not statistically significant. These findings suggest that while environmental protection measures are in place, they may not be the sole driver of sustainability preferences, and other factors could be at play in influencing such preferences. Hypothesis 4 (H4) suggests that "Environmental Protection" mediates the relationship between "Digital Transformation" and "Environmental Sustainability Preferences." However, the path analysis results reveal that this mediation is not statistically significant. With a path coefficient of 0.023, a standard deviation of 0.024, a T statistic of 0.939, and a p-value of 0.174, the findings do not provide strong evidence to support the mediation effect. This implies that the impact of digital transformation on environmental sustainability preferences may not be mediated by environmental protection in the specified context (see figure 3).

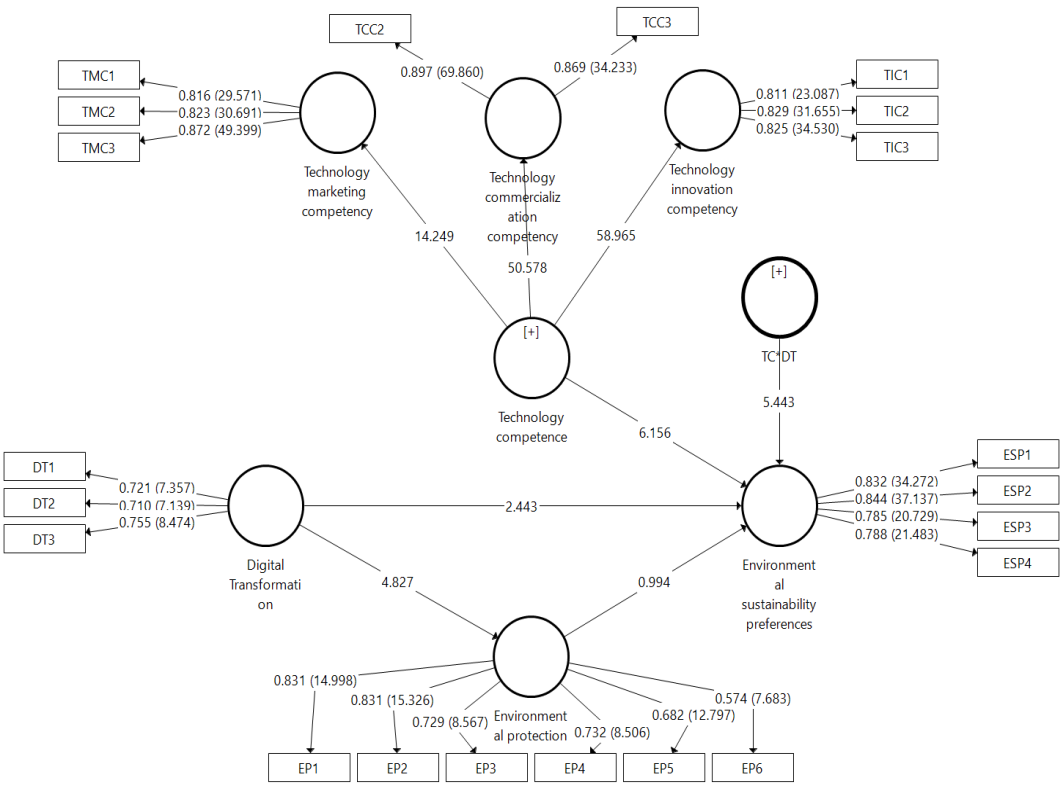


***Figure 3.*** Structural Model



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Hypothesis 5 (H5) asserts that "Technology Competence" moderates the relationship between "Digital Transformation" and "Environmental Sustainability Preferences." The path analysis results strongly support this hypothesis. With a path coefficient of -0.159, a standard deviation of 0.029, a T statistic of 5.443, and a p-value of 0.000, the findings indicate that technology competence significantly moderates the relationship between digital transformation and environmental sustainability preferences. This underscores the pivotal role of technology competence in shaping how digital transformation influences environmental sustainability preferences. In summary, the path analysis results provide detailed insights into the significance and nature of the relationships within the research model.

**Table 8.**
*Path Analysis*

| | Original Sample | Standard Deviation | T Statistics | P Values |
|---|---|---|---|---|
| H1. Digital transformation significantly impacts environmental sustainability preferences. | -0.167 | 0.068 | 2.443 | 0.007 |
| Digital transformation significantly impacts H2. environmental protection. | 0.346 | 0.072 | 4.827 | 0.000 |
| Environmental protection significantly impacts H3. environmental sustainability preferences. | 0.066 | 0.067 | 0.994 | 0.160 |
| H4. Environmental protection significantly mediates the relationship of digital transformation and environmental sustainability preferences. | 0.023 | 0.024 | 0.939 | 0.174 |
| H5. Technology competence significantly moderates the relationship of digital transformation and environmental sustainability preferences. | -0.159 | 0.029 | 5.443 | 0.000 |

The research on "Digital Transformation, Environmental Protection, and Technology Competence: An Integrated Analysis of Sustainability Preferences" delves into the dynamic interplay between digital transformation, environmental protection, technology competence, and sustainability preferences within the Oil, Gas, Electricity, Minerals, and Water Desalination sectors in the Kingdom of Saudi Arabia. The findings of this research are not only insightful but also contribute to the burgeoning body of literature exploring the multifaceted relationship between technology adoption and environmental sustainability. To contextualize these findings, this discussion will draw upon relevant literature and make comparisons with three studies that align with the results of this research.

The research underscores the significant impact of digital transformation on environmental sustainability preferences in the specified Saudi Arabian industrial sectors. This result aligns with a growing body of literature emphasizing the transformative role of technology adoption in driving sustainability initiatives. The integration of digital technologies, such as data analytics, Internet of Things (IoT), and artificial intelligence, offers organizations powerful tools to enhance their environmental performance. For instance, the study by Schaltegger & Lüdeke-Freund (2016) highlights that digital technologies provide organizations with the means to reduce resource consumption, minimize waste, and improve energy efficiency. In this context, the research findings underscore the relevance of these assertions in the Saudi Arabian context, where digital transformation acts as a catalyst for organizations to align their operations with sustainability goals. Moreover, the study aligns with the observations made by Zhanbayev et al. (2023) in the context of South Korean companies. They found that organizations that actively embraced digital transformation technologies demonstrated a stronger commitment to sustainability practices. In a global context, this research's findings reinforce the universal nature of the relationship between digital transformation and environmental sustainability preferences. This indicates that as organizations in the Saudi Arabian industrial sectors continue to advance their digital transformation efforts, they are also well-positioned to enhance their sustainability orientations, contributing to broader sustainability goals and societal well-being.

The research emphasizes the pivotal role of technology competence in moderating the relationship between digital transformation and environmental sustainability preferences. This finding echoes the work of Hongyun et al., (2023), who argue that technological competence is essential for organizations to effectively


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harness digital tools for sustainability initiatives. In essence, technology competence acts as the bridge between the adoption of digital technologies and the realization of their potential environmental benefits. The research results highlight that, in the Saudi Arabian industrial sectors, a high level of technology competence empowers organizations to effectively leverage digital transformation for environmentally sustainable practices. This is especially relevant in a rapidly evolving digital landscape where organizations must be equipped not only with the right technological tools but also the knowledge and skills to maximize their impact on sustainability. Furthermore, the research findings resonate with the insights from the study by Hockerts (2017), which examined the role of technological capabilities in the context of the German automotive industry. Hockerts highlights that technology competence, such as proficiency in sustainable product development, can significantly enhance a company's environmental performance. The research results align with this perspective, emphasizing the importance of organizations in the Saudi Arabian industrial sectors nurturing their technology competence to unlock the full potential of digital transformation for sustainability. This underscores the critical need for investment in human capital and technological training to ensure that organizations can fully capitalize on digital transformation's sustainable benefits.

The results of the hypotheses analysis provide valuable insights into the complex relationship between digital transformation, environmental protection, and environmental sustainability preferences. Notably, the findings underscore the significant impact of digital transformation on environmental protection, as evidenced by a strong T-statistic and a p-value well below the conventional significance threshold. This suggests that organizations undergoing digital transformation initiatives within the studied sectors in Saudi Arabia are actively contributing to enhanced environmental protection measures. Such transformations likely entail the adoption of innovative technologies and practices aimed at reducing environmental footprints, conserving resources, and improving sustainability. Conversely, the analysis of the relationship between environmental protection and environmental sustainability preferences yielded results indicating a lack of statistical significance within the studied context. While environmental protection measures are in place, it appears that they may not be the sole determinants of organizations' sustainability preferences. Other factors, such as regulatory frameworks, cultural norms, and strategic objectives, may also play integral roles in shaping these preferences. These findings prompt further exploration of the nuanced dynamics at play within the context of the selected sectors in Saudi Arabia. Understanding the multifaceted relationship between digital transformation, environmental protection, and sustainability preferences is crucial for organizations seeking to align their operations with sustainability goals. Future research can delve deeper into the interplay of these variables, considering additional contextual factors that may influence the observed relationships.

One of the notable results of the research is that the mediation effect of environmental protection on the relationship between digital transformation and environmental sustainability preferences is not statistically significant. This finding aligns with the observations made by Milani (2017), who note that while environmental protection and digital transformation are interconnected, the extent of mediation can vary significantly depending on organizational and contextual factors. In the Saudi Arabian context, this study suggests that the direct impact of digital transformation on environmental sustainability preferences may be the dominant driver, indicating that the mediation role of environmental protection may not be as prominent in this specific research context.

In conclusion, the findings of this research offer valuable insights into the complex relationship between digital transformation, environmental protection, technology competence, and sustainability preferences within the specified industrial sectors in the Kingdom of Saudi Arabia. The research underscores the direct influence of digital transformation on sustainability preferences and the vital role of technology competence in moderating this relationship. These findings resonate with the broader literature on technology and sustainability, while the non-significant mediation effect of environmental protection indicates the context-specific nature of these relationships. As organizations worldwide continue to grapple with the challenges and opportunities presented by digital transformation and environmental sustainability, this research contributes valuable knowledge to guide their efforts.

## Conclusion

In conclusion, this research conducted on the Kingdom of Saudi Arabia's Oil, Gas, Electricity,



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Minerals, and Water Desalination sectors has yielded valuable insights into the complex interplay of digital transformation, technology competence, and environmental sustainability preferences. The study's results affirm that digital transformation significantly impacts organizations' sustainability orientations, underscoring the pivotal role of technology adoption in shaping sustainable practices. Furthermore, the research highlights the critical role of technology competence as a key moderator in this relationship, emphasizing the significance of organizational proficiency in harnessing digital tools for environmental sustainability. However, the non-significant mediation effect of environmental protection in the studied context suggests that organizations may prioritize direct strategies in enhancing sustainability preferences. These findings contribute to the evolving landscape of sustainability in the digital era and provide actionable insights for organizations seeking to align their operations with environmental goals. As organizations continue to navigate the challenges and opportunities presented by digital transformation and sustainability imperatives, this research offers a substantial knowledge base to inform decision-making, foster technological competency, and drive sustainable practices in alignment with global environmental goals. The study's implications extend beyond the specified industrial sectors, resonating with the broader discourse on technology's transformative role in sustainability and offering a roadmap for organizations worldwide striving to advance their sustainability agendas in an increasingly digital world.

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# Mass deportations of native nations to ratify Stalin's regime in 1940s

## Масові депортації корінних народів як засіб ратифікації сталінського режиму у 1940 х рр.

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**Abstract**

In the article highlighted the mass deportations of Oirato-Kalmyks, Karachay-Balkars, Chechens, Crimean Tatars, Ukrainians and other native nations had positive results for the totalitarian Soviet regime. Deportations undermined the will of the indigenous peoples to resist for several decades, although it was continued by a small number of passionaries who were ready to resist Soviet power even while in camps. In general, by relying on the social unconscious, the native nations were forced to demonstrate loyalty to the Soviet system, which was at the peak of its power. At the same time, the basis of national identity became an underlying distrust of Moscow, a potential hostility that manifested itself in conditions of its weakening. The development of the national movements of the native nations who were subjected to mass deportations in the conditions of the systemic crisis of the Soviet system in the 1960-s and 1980-s will be considered in the following articles. The originality of the research lies in the

**Анотація**

У статті висвітлені масові депортації ойрато-калмиків, карачаєвці-балкарців, чеченців, кримських татар, українців та інших корінних народів, які мали позитивні для тоталітарного радянського режиму результати. Депортації підірвали рух супротиву корінних народів на кілька десятиліть, хоча вона продовжена невеликим числом пасіонаріїв, які були готові простояти радянській владі навіть перебуваючи у таборах. У цілому же, корінні народи були змушені демонструвати лояльність радянському устрою, який знаходився на піку своєї могутності. Разом із тим, з цього періоду характерною рисою національної ідентичності стала підспудна недовіра до Москви, потенційна ворожість, яка проявлялася в умовах її послаблення. Розвиток національних рухів корінних народів, які зазнали масових депортацій у умовах системної кризи радянської системи у 60 – 80 рр. XX ст. буде розглянутий у наступних статтях. Оригінальність дослідження полягає у

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fact that for the first time the mass deportations of the indigenous peoples of the USSR were comprehensively examined on the basis of the introduction into scientific circulation of interviews with their representatives.

**Keywords:** mass deportations, native nations, Oirato-Kalmyks, Karachay-Balkars, Chechens, Crimeans.

тому, що вперше комплексно розглянуто масові депортації корінних народів СРСР на основі введення у науковий обіг інтерв'ю з їх представниками.

**Ключові слова:** масові депортації, корінні народи, ойрато-калмики, карачаєвці-балкарці, чеченці, кримли.

## Introduction

The full-scale invasion of Ukraine in February 2022 intensified discussions about the colonial nature of the USSR and the Russian Federation and possibility of decolonization. One of the components of Russia's policy toward the conquered territories is the use of forced displacement of the local population to gain more control over them. Such cases can be found in the temporarily occupied territories of modern Ukraine, but examples of this policy also can be found and much earlier. The most striking example is the mass deportations of indigenous peoples in the 1940s, which were carried out by the Stalin's regime for the equal purpose. At the same time, this problem has received little coverage in historiography, which for a long time was in line with Soviet and Russian approaches. The purpose of this article is to examine the mass deportations of native nations in the USSR in the 1940s as a means of ratifying Stalin's regime from the perspective of modern approaches in the discourse of decolonization.

## Literature review

Besides the strong interest to the current problem in historical science it can be stated that this topic has hardly been studied. In particular, there is a lack of comprehensive work that examines the causes, implementation and historical results of the Soviet deportation policy regarding of the native nations. It also seems important to show the Soviet campaign for the forced resettlement of part of the Ukrainian population during the period under study, in the context of Moscow's general policy against od the native nations under its imperial control.

Considering the absence of such scientific works, the source and historiographical basis of this article were interviews with national figures representing certain people who were subjected to deportations by the Soviet totalitarian regime (Prokhvesora 2022a, Prokhvesora, 2023a, Prokhvesora, 2022b, Prokhvesora, 2023b, Turbanova, 2017).

Based on an analysis of interview with representatives of the native nations who survived deportations by the soviet regime in the 1940's to comprehensively cover the causes, course and consequences of the policy of forced resettlement by Moscow during the period being studied.

Separate issues of the research topic were considered in previous scientific articles (Naboka, 2020).

## Methodology

The article is based on special historical and general scientific research methods, as well as the principles of consistency and objectivity. The authors chose a descriptive research design that allowed to establish the chronology, content and consequences of the deportations. At the same time, elements of qualitative design (interview) were used to collect data from representatives of displaced indigenous peoples to obtain specific examples and reveal the problem through the vision of individual participants in the events or their relatives.

Among the main historical research methods were used the typological, comparative and systematic. Based on the use of content analysis, a detailed analysis of recent studies by Ukrainian and foreign researchers was carried out. The historical-comparative method was used to revise some of the generally accepted views on the peculiarities of interpreting and studying past events in the Soviet Union and the countries of the Soviet bloc in the 1940s, where the Stalinist regime carried out mass deportations of native nations. All these stages allowed to draw up an objective picture of the course and consequences of mass deportations to guarantee the quality of study's results.

## Results and discussion

According to the famous activist of the Oirat-Kalmyk people Batyr Boromangnaev in the


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1940's about forty of the native nations were subjected to forced deportation (Prokhvesora, 2023a). Among them are: Kabardian, Kumyks, Avars, Dagestanis, Tavlins, Abazins, Ossetians, Nogais, Russians, Dargins, Ukrainians, Laks, Abkhazians, Lezgins, Azerbaijanis, Circassians, Iranians, Tatars, Georgians, Gemrans, Adygeis, Kyrgyz, Arabs, Svans, Turks, etc (Yakovlev, 2005).

Among these deportations four were total and meant the eviction of the entire people from their homeland. Among the are Karachay-Balkars, Oirat-Kalmyks, Checheno-Ingush and Crimeans (Prokhvesora, 2023a).

One of the first to experience mass deportation was the Karachay-Balkar people whose settlement territory was occupied by the Germans in 1942 but in October 1943 it returned again to the control of the Red Army. Due to the anti-Soviet uprising which actually unfolded here during the retreat of Stalin's army upon its return, Stalin gave the order to eliminate local autonomy. Thus, by decree of the President of the Supreme Council No. 115/13 of October 12th, 1943 the Karachay Autonomous Region was liquidated and its native nations should be resettled in other regions of the Soviet Union. The territory of the former autonomy was divided between neighbouring regions. It was to be populated with "verified categories of workers" (Yakovlev, 2005).

The implementation of this resolution was carried out on November 2-5th, 1943. The deportation was ensured by a military contingent of 53 thousand soldiers. In the first days 34 trains were forcibly sent to Kazakhstan, 2000 – 2100 people in each. All military personnel of Karachay nationality were also removed from the front and deported (Yakovlev, 2005).

The next were the Oirat-Kalmyks. As a representative of people who experienced such a tragedy in the past for Batyr Boromangnaev the forced deportation of the Oirat-Kalmyks at the end of 1943 is clearly genocide and a crime against humanity the tragic legacy of which is not yet fully appreciated by the international community. "This is a real crime against humanity, the same as aggressive wars, such as the Second World War or the current war in Ukraine. This crime has no statue of limitations. I believe that the verdict regarding communism should be made including into aacount these crimes against entire nations" (Prokhvesora, 2023a), noted by Batyr Bromangmaev.

Modern activist Daavr Dordzhin called the forced deportation of the Oirat-Kalmyk people "a terrible point of collective memory for the Oirats" (Prokhvesora, 2022b). Operation "Ulus" (this is the name used in the NKVD documents for the action to evict the Oirat-Kalmyks from their homes) begn on one of the winter days of December 1943. To implement it the leadership of the NKVD involved about 4,000 soldiers who were temporarily recalled from the front (Maximov, 2004).

People began to be taken an masse and forcibly from places they had inhabited for centuries and sent to Eastern Siberia (a small part of the deportees were also sent to Kazakhstan). The Oirat-Kalmyks were mainly settled in Omsk, Novosibirsk, Sverdlovsk, Tyumen and other regions. Compact living was not allowed; only a few families were accommodated in different settlements.

The most difficult and dramatic was the first year in a new place. Suffering from hunger, Kalmyk mothers were forced to make a terrible choice – which of their children should continue to feed and which should doom to death by starvation.

Possible death by starvation and general disorder were the result among other things of the initial lack of acceptance of the unwitting newcomers by the local population who considered the newcomers almost "cannibals". Only after some time when the Siberians were convinced that they were dealing with ordinary people contrary to the prohibitions they began to allow Kalmyk families to take dead cattle for food and began to share food and clothing.

It is noteworthy that the repressions also affected Kalmyk front-line soldiers who were at the front at the start of Operation Ulus. They were taken and sent to their new places of residence under the pretext that a special Kalmyk military unit was supposedly being formed in the rear. Some were told that this was happening in the Volga region, others that it was in the Urals (Prokhvesora, 2023a).

In total several thousand front-line soldiers were sent to the distant, harsh rear, some of whom were allowed to return to their families who at that time were already in the Altai and Krasnoyarks territories, the Omsk region or in other regions of Siberia.

Some Kalmyk front-line soldiers most officers had the opportunity to reach their once native places through Stalingrad or Stavropol. But there


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a long-gone cold hearth was already waiting for them and they were forced to continue looking for their families in Siberia (Prokhvesora, 2023a).

A significant part of the privates and sergeants were in the so-called. “Shiroklag” is on of the GULAG camps. “My grandfather, he fought in the Gorlovka motorized rifle division in eastern Ukraine. He was raised, demobilized and sent to Siberia where he died. He died in the Shirokovsky camp so you understand, on April 9th, 1945” (Prokhvesora, 2022b), - notes Daavr Dorzhin.

In total abut 15 thousand Kalmyk military personnel were called from the front most of whom were sent to the aforementioned “Shiroklag”. According to Batir Boromangnaev, Shoroklag was far from the only place where Kalmyks were kept. In his opinion, Kalmyk front-line soldiers were kept in at least 3 camps. They participated in the construction of various facilities, including the Shirokovskaya hydroelectric power station. “Front-line soldiers with medals and orders became prisoners of war overnight” (Prokhvesora, 2023a), our guest bitterly stated.

A lot of Kalmyks died at these Gulag “construction sites if communism”. Many who reached an extreme degree of exhaustion were released to their relatives to die. Many did it simply on the way. Some were lucky; upon returning to their families, they were able to be cured and fed (Prokhvesora, 2023a).

The Kalmyks were only rehabilitated in March 1956. According to statistics presented by Daavr Dordzhin, approximately 20% of this indigenous people perished as a result of mass deportation, with some estimates reaching up to 50% (Prokhvesora, 2022b). More than 90 thousand Kalmyks were deported, and over 14 thousand died on the way (Biurchiev, 2016).

According to activists, another fundamental negative consequence is ethnocide – the effective Russification of the indigenous people in their new settlement. Daavr Dordzhin noted, "In addition to physical destruction, an entire generation of people grew up in Siberia without knowing our language in schools. On a practical level, the Russian language was imposed" (Prokhvesora, 2022b).

Among the main negative consequences of the forced deportation, activists point out, firstly, a decline in childbirth from about three children per woman before 1943 to around 1.5 children after. Secondly, the deportation led to a low knowledge of the national language in modern Kalmykia, a situation further encouraged by current authorities. Daavr Dordzhin mentioned that, since 2017, learning the native language has been voluntary and optional (Prokhvesora, 2022b).

Batyr Boromangnaev considers the forced deportation of the Kalmyks as the apotheosis of the long-standing and systematic destruction of this indigenous people. He emphasizes that a significant portion of the Kalmyks perished in the 20s and 30s. Painful losses were also suffered during the Second World War, as part of Kalmykia was occupied, and Kalmyks were among the first people mobilized in the Soviet Union. "When they deported us, they didn't deport the entire population but what was left of it: women, the elderly, and children," noted the Oirat-Kalmyk activist.

Another people who underwent forced mass deportation were the Chechens. The Chechen writer, journalist, and human rights defender, Mayrbek Taramov, shared the tragedy of the Chechens, who were accused of collaboration with the Germans in 1944.

As is known, on February 23, the day when Imperial Russia honors its "defenders of the fatherland," the mass deportation of the Chechen people began in 1944, accused of collaboration with the Germans, although, according to Mayrbek Taramov, "the foot of the Germans did not set foot on Chechen soil" (Prokhvesora, 2023b). It was a massive punitive military operation against the half-million indigenous people, involving about 100 thousand soldiers demobilized from the front and another 19 thousand NKVD troops. The operation was given one week to be carried out.

The main reason Chechens were among the peoples completely evicted from their native lands, as noted by Mayrbek Taramov, was not collaborationism but a principled rejection of Soviet policy in the region in the 20s and 30s. Particularly resistant was the opposition to collectivization. The war with Germany became a convenient moment to finally deal with the disobedient people. "Why did the eviction happen without uprisings? Because the combat-ready part of the population was sent to the front. Who defended the Brest Fortress? About 400 Chechens and Ingush. This fact is also hushed up today," (Prokhvesora, 2023b), - noted Mayrbek Taramov.



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Another factor that played into Stalin's hands was that during previous years, the intellectual elite had been destroyed through repression, especially the "alims" - Islamic spiritual leaders and educators. A total of 10 thousand alims were killed. They were replaced by Muslim clerics, often simultaneously agents of Soviet intelligence (Prokhvesora, 2023b). They persuaded the people to submit to deportation.

During the forced resettlement, the Chechens faced hunger, cold, disorganization, and humiliation. Mass deaths began on the way. According to Mayrbek Taramov's estimates, the deportation claimed the lives of about half of the Chechen people. During his years in exile in Kazakhstan at the age of six, he barely survived. He was saved by the recently invented drug at the time, penicillin (Prokhvesora, 2023b).

As a talented writer and the author of several books on the history and modernity of Chechnya, Mayrbek Taramov left poignant memories of his childhood in Kazakhstan (in the town of Mikhaylovka, Jambul region) in the book "Nothing is Forgotten, Nobody is Forgiven!" Among other things, the publication includes a story about how the hero's family's cow, Chernushka, was abducted – the only nurse for nine children. The search for the cow brought together all local Chechens led by elders. Gypsies living nearby also joined them. "The tragic news instantly spread throughout the village, and all Chechens from the same village began to gather in our yard, led by the elders. Gypsies from the camp in the valley also joined. The elders suggested creating three groups of people who should go in three directions. The southern side was bordered by a river that the cattle thief was unlikely to cross. Somewhere after noon, messengers started returning. One of the groups brought the stolen cow and the cattle thief" (Prokhvesora, 2023b), the author noted.

In turn, the homes abandoned by the warm previous owners were often resettled by other unfortunate people – forcibly deported ones. It is worth noting that Stalin mixed the indigenous peoples of the Caucasus as he pleased. The Kumyks – a Turkic indigenous people who lived in separate areas of Chechnya, Ossetia, and Ingushetia – were settled massively in place of the Chechens. In April 1944, the Kumyks began to be resettled in the villages from which the Chechens had been expelled (Prokhvesora, 2023b).

April 1944 became tragic for another freedom-loving indigenous people of Crimea – the Crimean Tatars, also broadly accused by the Stalinist regime of collaboration with German Nazism. In the 1930s, Crimean Tatars were one of the nations most systematically subjected to repression, but the worst was yet to come. On May 11, 1944, Stalin signed a special decree of the State Defense Committee of the USSR No. 5859 titled "On the Crimean Tatars," which envisaged the eviction of the indigenous Crimeans under the pretext of their "betrayal of the homeland" (Hrabovskyi, 2008).

The next day, Red Army units occupied the entire territory of the peninsula, and on May 18, the so-called "special operation" began, during which 191 thousand Crimean Tatars were deported from Crimea in just two days. Their new, unwelcome destinations were Uzbekistan, Kazakhstan, the Mari Autonomous Republic, and six other regions of Russia. The elderly, women, and children were transported in freight cars, and once again, the relocation was accompanied by mass deaths (Hrabovskyi, 2008).

The deportation of Crimean Tatars followed the patterns of scenarios tested a few months earlier in Kalmykia and the Caucasus. Upon arrival at their destinations, the evacuees were given the status of "special resettlers" and were placed in special "ghettos" or "special settlements," where leaving the territory was prohibited without a special pass. The indigenous Crimean Tatars were forced to work in logging, construction, mines, and local collective farms. Demobilized soldiers and officers returning from the Red Army front also obtained the aforementioned status. The incredibly harsh living conditions of the deported people led to the death of approximately half of those forcibly removed from Crimea. The tragedy of the Crimean Tatars, in which about 46% of the indigenous people perished, received the name "Sürgün" (from the Crimean Tatar "Sürgün" – "exile") (Hrabovskyi, 2008).

Simultaneously, the diabolical "Stalinist mixer" was at work. In the fall of 1944, 64 thousand collective farmers from Russia, Ukraine, and Belarus were hastily settled in place of the deported Crimean Tatars (Hrabovskyi, 2008).

As noted by the well-known Crimean activist Ayder Muzhdabaev, the forced deportation of his people in 1944 became a reliable "vaccination" against any "charm" and longing for Soviet times. It was the Crimean Tatars, allowed to return to Crimea in the late 80s and early 90s, who became staunch supporters of independence, voting massively for Vyacheslav


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Chernovil in the first presidential elections in Ukraine in 1991. It was the indigenous Crimean Tatars who first opposed Putin's intentions to annex the peninsula in 2014 (Prokhvesora, 2022a).

Next were the Ukrainian people, who, according to a fairly reliable historical legend, Stalin was ready to deport entirely but refrained due to the sheer number of Ukrainians. They had already experienced partial forced relocations in the early 1930s, during the height of forced collectivization. In the late 1929 to spring 1930 period, about 200 thousand peasant farms were dekulakized in the republic, with most owners being resettled to remote areas of the USSR.

In the early post-war years, residents of the recently annexed western regions, where the support for the Ukrainian Insurgent Army (UPA) was strong, were subjected to deportations. In these regions, the entire arsenal of methods against the national movement, previously tested in Chechnya, Kalmykia, or Crimea, was employed. NKVD employees who had previously participated in the deportation of the aforementioned indigenous peoples were involved in "solving" this issue (Ofitsinsky, 2021).

At the same time, the Stalinist national mixer was actively at work, saturating rebellious territories with loyal newcomers from the eastern regions of Ukraine. These newcomers were attracted to party work, the fight against nationalist partisans, law enforcement, teaching, leadership roles in rural areas, and industry. In eastern Ukraine, existing and newly established educational institutions and training centers worked to meet the staffing needs.

In particular, the authors of these lines had the opportunity to work for some time in a small town in modern Luhansk region called Starobilsk, known for operating a concentration camp for Polish prisoners of war in 1939-1940, captured during the "liberation campaign" of the Red Army in the western Ukrainian lands. Simultaneously, in 1940s, a teacher training institute was opened in the historic building of the former women's gymnasium, which trained teachers primarily for the conquered territories until 1954.

In turn, the training of agronomists to implement Stalin's collective farm policy in the western Ukrainian lands was the focus of the Voroshilovgrad (Luhansk) Agricultural Institute.

Simultaneously, in the 1940s, a massive wheel of mass deportations was set in motion, conducted both directly by Soviet punitive organs and by the corresponding structures of Soviet satellite countries. The first to implement such methods of combating the UPA was the pro-Soviet Polish regime. In April 1947, Warsaw began the implementation of Operation "Vistula," which envisaged the mass deportation of Ukrainians to the Greater Poland regions. These regions, due to diplomatic border manipulations between the USSR and the Polish People's Republic, found themselves detached from the main array of western Ukrainian lands. We are talking about such regions as Lemkivshchyna, Nadsiannia, Pidliashshia, and Khomshchyna. Since the Soviet-Polish border was transparent for a long time, these territories were used by the UPA as a support base. The local population actively supported the insurgents, who dealt sensitive blows to both Soviet and Polish authorities. In March 1947, the Polish government decided on deportation.

On April 28, 1947, at four in the morning, Polish punitive forces, consisting of about six divisions and units of the Public Security Corps, surrounded the areas where Ukrainian border settlements were located. At the same time, acting synchronously, units of the NKVD and the Czechoslovak army closed their sections of the border with Poland (Ryabenko (s.f)).

The eviction scenario was standard and likely shaped based on the deportation experience of colleagues from the Soviet NKVD. Polish forces surrounded villages, informing the population of immediate relocation. Gathering time ranged from half an hour to four hours. After that, Ukrainians, under armed escort, were sent to assembly points where filtering took place. "Unreliable" elements, primarily sympathizers of the Ukrainian Insurgent Army (UPA), were identified and immediately arrested. Registries of the property of the deported were also compiled (Ryabenko (s.f)).

Then, Ukrainians faced the journey to the deep regions of Poland, at least a hundred kilometers from the border. They were resettled in groups that should not exceed 10% of the local Polish population. The majority of the deported were resettled in the northern or western regions of Poland, which had previously belonged to Germany and from which Germans were expelled after the end of World War II.

Movements of the deported were monitored. In case of unauthorized attempts to return to their



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homes, violators were placed in a "transit camp" in Yavozhny. In total, about 140 thousand people were deported during Operation "Vistula." In Yavozhny, 3,936 people were held, including 823 women and 27 priests. As a result of torture in the camp, 665 people were killed. Thirteen Ukrainian villages were completely destroyed, and one partially (Ryabenko (s.f)).

Operation "Vistula," which lasted until August 12, 1947, significantly undermined the capabilities of the UPA to continue the struggle. During its implementation, 2,800 insurgents were arrested, and another 1,509 were killed. A total of 1,178 bunkers and "krivoks" were destroyed.

In the fall of 1947, Soviet punitive organs decided to crush the insurgents by conducting their own partial deportation of the Ukrainian population from the western Ukrainian lands.

At the end of May 1947, Deputy Minister of State Security of the USSR, Lieutenant General Ogoltsov, and Minister of State Security of the Ukrainian SSR Savchenko prepared a joint appeal to the Minister of State Security Abakumov, justifying the need for mass deportations in western Ukrainian lands. The initiative, aimed at striking a blow to the "nationalist underground," was supported by the Politburo on August 13, 1947. On August 22, 1947, Abakumov signed Order No. 00430 "On the eviction of families of convicts, killed, and those in an illegal position of active nationalists and bandits from the territory of the western regions of Ukraine" (Bazhan, 2013).

Preparation for this punitive action, named "Zapad" (West), took two months and was carried out in October 1947. In Lviv, the operation began at 2 am on October 21, and in the following two hours, Chekists interrupted the sleep of thousands of peaceful people in villages and towns in Galicia and Volhynia.

In general, the deportation was carried out in 2-3 days. In total, 26,682 families of "nationalists" or 76,192 people were resettled to Siberia, the majority of whom were women (35,152) and children (22,174) (Bazhan, 2013).

## Conclusions

Mass deportations of indigenous peoples of the USSR became an important mechanism for overcoming their national consciousness and identity. This repressive method of the imperial totalitarian regime involved those peoples who resisted Moscow the most in pre-war times: Karachay-Balkars, Oirat-Kalmyks, Checheno-Ingush, Crimeans and Ukrainians. The weakening of Stalin's regime during his war with Hitler's Germany was the cause of a new wave of national liberation movements, which were directed against collectivization, Soviet repression, and the anti-religious company.

The described punitive operations had positive results for the totalitarian Soviet regime. Deportations undermined the will of the indigenous peoples to resist for several decades, although it was continued by a small number of pensioners who were ready to resist Soviet power even while in camps. In general, by relying on the social unconscious, the indigenous peoples were forced to demonstrate loyalty to the Soviet system, which was at the peak of its power. At the same time, the basis of national identity became an underlying distrust of Moscow, a potential hostility that manifested itself in conditions of its weakening. These aspects will be discussed in our next scientific articles.

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# Innovative dimension of effectiveness in physical education student learning

## Інноваційний вимір ефективності навчання студентів фізкультурного напряму

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**Abstract**

The article elucidates the basics of effectiveness in physical education student learning using innovative technologies aimed at realizing the intended goals and objectives, improving the educational level of those seeking education – improving educational services and the quality of education; the reasons for the need to introduce innovative technologies are determined; essential signs of innovation are shown; we will single out the integral qualities that characterize innovation; modification and combinatorial innovations are considered. The purpose of the article is to find out the basics of effectiveness in physical education student learning using innovative technologies aimed at realizing the set goals and objectives, increasing the educational

**Анотація**

У статті висвітлено основи ефективності навчання студентів фізичної культури з використанням інноваційних технологій, спрямованих на реалізацію поставлених цілей і завдань, підвищення освітнього рівня здобувачів освіти – підвищення освітніх послуг та якості освіти; визначено причини необхідності впровадження інноваційних технологій; виявляються істотні ознаки інноваційності; виділимо інтегральні якості, що характеризують інноваційність; розглянуто модифікаційні та комбінаторні новотвори. Мета статті – з'ясувати основи ефективності навчання студентів фізичної культури з використанням інноваційних технологій, спрямованих на реалізацію поставлених цілей і

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level of education seekers – and improving educational services and the quality of education. The methodology concept offers fundamental ideas for effectiveness in physical education student learning. The main tasks of effectiveness in physical education student learning are revealed and the algorithm for the effectiveness of the education process is shown; we will highlight the requirements necessary for high-quality professional training; effective forms of introducing digital competence, innovative teaching methods, and technologies into the educational process are grouped.

**Keywords:** professional training, physical education student learning, innovative technologies, improvement of the educational level of education seekers, quality of education.

завдань, підвищення освітнього рівня здобувачів освіти – покращення освітніх послуг та якості освіти. Концепція методики пропонує фундаментальні ідеї щодо ефективності навчання студентів фізичного виховання. Розкрито основні завдання ефективності навчання студентів з фізичного виховання та наведено алгоритм ефективності навчального процесу; виділимо вимоги, необхідні для якісної професійної підготовки; згруповано ефективні форми впровадження в навчальний процес цифрової компетентності, інноваційних методів і технологій навчання.

**Ключові слова:** професійна підготовка, фізичне виховання студентів, інноваційні технології, удосконалення освітнього рівня здобувачів освіти, якість освіти.

## Introduction

The requirement to transition to innovative education, in particular in higher education, is determined by today's challenges and belongs to the priority areas of state policy in Ukraine in the context of the integration of the educational sector into the European space. Currently, higher educational institutions face the task of improving the quality of education, developing and implementing information technologies, and creating conditions for training specialists at a high professional level (Telekalo, 2018).

The use of innovative technological means logic in the educational process is aimed at improving the professional training of students. In such a way, in modern conditions of global transformations, the educational environment is of particular importance to improve professional training based on the practice development of innovative learning technologies, this is and future physical education teachers (Telekalo, 2018).

Therefore, the modernization of physical education is conditioned by the need to overcome a problematic situation in which two contradictions are evident: between the requirements of social practice for the implementation of the already created values of physical culture and sports and the need to create new types of physical culture and sports activities; between the information-productive (passive) nature of education and the need to introduce new forms, methods, and means of physical education.

In our opinion, the physical education of students deserves special attention, because the years spent at a university are an important stage in the formation of future specialists. It is no accident that in the complex system of the educational process in higher education institutions, sufficient attention is paid to the physical education of students. The physical culture of students is of great importance for the professional training of future specialists.

To determine the effectiveness of physical education student learning, we considered in the article: reasons for innovative pedagogical activity in a higher educational institution; directions for the use of innovative educational technologies in the higher education system in the professional training of future physical culture and sports specialists using innovative technologies; the task of effectiveness in physical education student learning in the modern innovative society; requirements necessary for high-quality effectiveness in physical education student learning; algorithm of the process of organizing physical education student learning in the modern innovative society; group of innovative educational technologies to use of innovative technologies that improves the quality of education; types of electronic educational resources for effectiveness in physical education student learning.

## Literature review

The analysis of the latest researches and publications shows that the consideration of the requirements for professional training of the effectiveness in physical education student learning in the conditions of informatization of education, as well as the problems of improving


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the training of teachers for the use of information technologies in pedagogical activity, is devoted to the research of many authors. O. Bezkopylnyi (2020) characterized the possibilities of forming the readiness of future physical culture and sports specialists to work in primary school; developed ways and experimentally tested the effectiveness of training future specialists in physical culture and sports using innovative technologies; revealed the indicators, criteria, and levels of readiness of future specialists for health care activities; proposed a model and developed a concept of a training system for effectiveness in physical education student learning for health-preserving activities in primary schools; characterized the specifics of training future physical culture and sports specialists in higher education institutions in Germany; the Netherlands; Poland; theoretically substantiated the identified pedagogical conditions for the training of specialists and analyzed the main methodological approaches to the training of future specialists in physical culture for work in primary schools.

According to research by scientists O. Bida, O. Shevchenko, O. Syroiezhko, K. Shovsh, & V. Vizaver (2023) occupies a special place in the level of physical fitness, physical development of a person, and the constantly deteriorating state of health of students, they developed ways of quality training of physical culture and sports specialists and showed the advantages of organizing sports events at school when organizing group interaction of students in team sports (implementing intellectual education of participants in the educational process). The main ways of organizing group interaction of physical culture and sports specialists in team sports and preparing them for organizing sports events at school have been clarified. The functions of sports referees, competition organizers, physical culture and sports specialists, and their group interaction in team sports were clarified, and the importance of sports competitions, which contribute, if they are held regularly, to the growth of sports results.

At the same time, taking into account the significant number of scientific works, innovative teaching technologies have not yet gained mass application in the professional training of future teachers of physical culture. In the field of physical culture and sports, the passive form of organization of student education still prevails. While preserving the existing academic traditions, it is necessary to bring and adapt new, innovative ones that will be able to improve the existing state in this field. In the theory and practice of team building, V. Horbunova (2014) revealed the value-role approach, within which several value-role team-building technologies were presented and the author's value-role concept of team development and formation was developed. In the value-role approach, paradigmatic boundaries are revealed, which are represented by role theories of personality and subject-oriented theories, in which a unique value consciousness is formed and the uniqueness and striving for role self-realization of each person is analyzed.

S. Smoliuk (2022), to train a future specialist in a higher education institution, theoretically substantiated the possibilities and presented the ways of using innovative pedagogical technologies in the learning process. The essence of the conceptual apparatus "innovative pedagogical technology" is revealed, and the author's definition of the concept is presented, which is interpreted as an ordered set of operations, actions, and procedures, to ensure the achievement of the diagnosed and predicted result under the condition of constant improvement and positive changes in the educational process.

According to the studies of scientists, a special place is occupied in the formation of the knowledge and qualities that a future specialist in physical education should possess. This is explained by the fact that it is impossible to build a sports career (be it a teacher of physical education in a general educational institution or a professional athlete) without having the basic abilities and experience that are necessary to realize the optimal conditions of this profession.

V. Pavlenko et al., (2020) outlined in any sport the main directions of the organization of the process of training activities aimed at mastering the skills, professional and pedagogical knowledge, and skills that are necessary for the training of qualified athletes in the work of a coach-teacher. To form a professional worldview, the data used in the chosen sport in the process of studying and analyzing innovative training technologies are systematized.

In turn, scientists from Latin American countries consider the problem of the effectiveness of teaching physical education students and draw attention to the importance of innovative technologies in the training of physical education students at universities.

According to the scientists of Latin American countries, attention is focused on the need to use


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innovative technologies in the entire educational process, which will make it possible to form a highly information culture of the world's youth. The formation of innovative technologies in the training of physical education students requires, first of all, a high level of the teacher's information culture and methodical literacy in the training of physical education students.

In particular, V. Padrón, & Y. Palacios (2022) emphasize that the study is based on a diagnosis test that confirmed the problems during the teaching-learning process of Physical Education and on the use of empirical methods such as scientific observation, survey, and documentary review. V. Fiuza, I. Nascimento, A. Torres, P.Soares & H. Ferreira (2023) in their following work the objective to analyze, in basic education student's perception, which tools and digital resources implemented in Physical Education classes were most favorable and significant for their learning.

At work, V. Quilindo (2023) revealed teachers' conceptions about physical education. It was found that the physical education class mediated by ICT requires configuring the contents according to the needs of the health emergency context, that there are strengths in the digital tools for the teaching-learning process, as well as weaknesses of the teachers in their management, it is evident that there are students with accessibility and limitation for the connection, which affects the monitoring of progress both in synchronous and asynchronous phases.

The problem of the formation of professional skills of physical culture specialists is constantly in the field of view of special research institutions, scientific teams, and individual researchers, only in recent years, have several scientific and practical conferences devoted exclusively to this problem been held in Ukraine, or this issue was discussed along with other areas of scientific research. However, the analysis of the main directions of introducing innovations into the process of effectiveness in physical education student learning as a pedagogical problem remains an unresolved part of this rather urgent issue.

The analysis and discussion of the problems of effectiveness in physical education student learning speak of the need to introduce innovative technologies in a personal and professional context. This emphasizes the importance of realizing the contradictions between the rapid growth of the knowledge of education seekers in the modern innovative society and the limited possibilities of their application due to insufficient use of the personal resource of their assimilation by future specialists; the need to train a competent specialist in physical culture by the requirements of modern reformation processes and the imperfection of technologies for the formation of effectiveness in physical education student learning using innovative technologies.

In connection with the above, the need to develop theoretical and methodological principles in creating an effective system of effectiveness in physical education student learning using innovative technologies in the process of training a competent specialist becomes of great importance.

**Purpose:** to find out the basics of effectiveness in physical education student learning using innovative technologies, aimed at realizing the intended goals and objectives, improving the educational level of education seekers – improving educational services and the quality of education.

**Methodology**

The methodological concept offers fundamental ideas for the effectiveness of physical education student learning using innovative technologies.

The methodological concept provides for the provision of effectiveness in physical education student learning with a complex of didactic and methodical support (diagnostic, educational and methodological, monitoring, technological), aimed at the realization of the intended goals and objectives, improvement of the educational level of those seeking education, the selection of forms and methods that were aimed at implementing and ensuring the process of improving educational services and the quality of education. For the research, we used qualitative methods of research, which are non-standardized and were aimed at personal expectations, identifying aspects of the motivational behavior of respondents, their values, and ideas. Qualitative research was focused on the disclosure of cause-and-effect relationships and aimed at studying a wide range of manifestations of the object. This allowed the respondents to express themselves freely and contribute to the disclosure of their experiences and inner values, stimulating their creative potential.

Achieving the set goal and checking assumptions is ensured by research methods:



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- analysis and generalization of psychological-pedagogical, philosophical, educational-methodical, sociological literature, dictionary publications, scientific articles, and papers, dissertation works to reveal the essence, clarifying the state of development of the problem, choosing conceptual ideas that are methodical and theoretical-methodological the basis for the introduction and development in the educational process of a system of effectiveness in physical education student learning using innovative technologies aimed at realizing the intended goals, tasks, and improving the educational level of education seekers;
- modeling, and synthesis, which provided an opportunity to systematize and generalize information about the object of research, to form a terminological apparatus, and to develop a system of effectiveness in physical education student learning using innovative technologies aimed at improving the educational level of education seekers.

The study of the methodological process, to ensure reproducibility, included the following steps:

- converting or transcribing recorded data into text, which was the first stage of qualitative data assessment;
- to reveal the patterns of professional training of future specialists in physical education and sports effectiveness in physical education student learning using innovative technologies, topics, and categories, data coding was used, which assumes that the student of education reads and rereads the data, to improve this process, using software;
- formation by the student of topics and subtopics that emerge from the data after they have been coded.
- depending on the collected data, at the last stage, the student evaluated topics and subtopics, made suggestions, and drew conclusions.

The study proved the validity of the theory of effectiveness in physical education student learning using innovative technologies, that is, its plausibility was substantiated. We consider the measurement to be valid because, with its help, the concepts and properties that are planned for measurement were recorded.

The scope of validity is between the tool and theory, and the scope of reliability is between reality and the tool. In our case, measurement and research appear as equal concepts, as measurement is embedded in the theory.

When determining the sample of subjects, the general specificity of the subject of the study was taken into account. The total sample size is 96 subjects, among whom are students of physical education. When forming the sample, the criteria of meaningfulness, representativeness, and equivalence were taken into account. The sample was formed by random selection using the technical procedure for calculating the selection step.

During the experiment, the target, substantive, and procedural components of the effectiveness of teaching physical education students were implemented.

The implementation of the pedagogical experiment was carried out in three stages: preparatory, main, and final.

At the preparatory stage, the purpose and tasks of the research were determined, the experimental plan was developed, methods of measurement and processing of results were selected, control and experimental groups were selected, and their homogeneity was checked.

At the main stage, an experiment was conducted. At the final stage, the results of the experiment were analyzed, their reliability was confirmed, and conclusions were drawn about the pedagogical effect of the experiment.

The reliability and validity of the obtained results, and the objectivity of their assessment were ensured by the methodological soundness of the initial positions and the qualitative mechanism for evaluating the quality under study, the use of a complex of complementary research methods, and the involvement of a group of respondents from a higher educational institution in the analysis of its results.

To assess the homogeneity of experimental and control data, statistical processing was performed using MS Excel and SPSS (Statistical Package for Social Science).

**Results and discussion**

Innovations in education are dynamic in nature and developmental in results, a natural phenomenon. Their introduction into the educational process allows us to resolve the contradictions between the need for qualitatively


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new education and the traditional system (Borova et al., 2021).

"Innovations in education is the process of creation, introduction, and dissemination in educational practice of new ideas, tools, pedagogical and management technologies, as a result of which indicators (levels) of achievements of structural components of education increase, the system transitions to a qualitatively different state" (Dubaseniuk et al., 2009).

Translated from Latin, the concept of "innovation" means "updating, changing, introducing" (Telekalo, 2018).

**Reasons for innovative pedagogical activity in a higher educational institution.**

In the modern conditions of the development of culture, society, and education, there is a need for innovative pedagogical activities and digital competence in the institution of higher education, which is determined by several reasons.

1. Socio-economic transformations necessitate a significant renewal of the higher education system. The innovative orientation of the activities of teachers of higher education institutions includes the development, creation, and use of pedagogical innovations to update educational policy.
2. Strengthening the humanization of the content of higher education, continuous changes in the composition and scope of educational disciplines, and the introduction of new educational subjects, all require a constant search for innovative learning technologies and new organizational forms in education.
3. Changing the role of the teacher himself to the initiator of innovations from just a person who uses the recommended innovations (Telekalo, 2018).

An essential feature of innovation is the expansion of the innovative field of the educational environment in the institution of higher education, and the ability to influence the general level of the teacher's professional activity (Puhach et al., 2021).

Let's distinguish the integral qualities that characterize innovation: innovative activity, innovative process, innovative environment, and innovative potential. The introduction of innovations into the educational process of a higher education institution for high-quality training of a specialist forms between the subjects of the educational process and a high-quality level of cultural relations, in the educational environment contributes to the improvement of the microclimate. Innovations contribute to overcoming the stereotypes of a conservative management style, ensure the introduction of modern forms and methods of management, and form new partnerships.

The spread of system-methodological level innovations in the professional training of future specialists in physical education and sports are introduced within the framework of the general system.

The local-technological level of innovation involves the approbation of a high-quality educational system in the effectiveness of physical education student learning using innovative technologies, aimed at the implementation of improving the educational level of education seekers, intended tasks, and goals, improving the quality of education and educational services of personally oriented digital competence and innovative systems and methods.

Innovations in education are introduced based on radically new means (neuro-linguistic programming, information, computer technologies, etc.).

Innovations aimed at improving the methods, forms, and content of the educational process, and the organization of education are modifications.

Modern innovations – educational and pedagogical, adapted to the socio-cultural new environment are called – combinatorial (Kuchai, 2013).

**Directions for the use of innovative educational technologies in the higher education system in the effectiveness of physical education student learning using innovative technologies.**

The use of innovative educational technologies, and digital competence is considered in the system of higher education in effectiveness in physical education student learning using innovative technologies in the following areas:

– the content of education – the formation of national educational concepts, the development of new state standards of higher education, the creation of original



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curricula and programs for the professional training of future physical culture specialists, the development of a new quality assessment system for the training of future physical culture specialists;
- methods, forms, and technologies of the educational process of effectiveness in physical education student learning – the priority of dialogue methods of training and education; the emergence of distance learning; introduction of innovative technologies, etc.;
- education management system – introduction of consultative and prognostic modernized management functions of the head.

In the process of physical education student learning in the modern innovative society, the formation of professional competence is of significant importance, "the ability of a teacher to solve the tasks of professional activity based on professional knowledge and skills, integrated with the development of personal professionally significant qualities, is one of the leading who have a love for the younger generation combined with demandingness, empathy, and communication".

Professional training of future specialists in physical culture and sports in the modern innovative society is the ability of a specialist to implement his knowledge in practice; is the result of a complex educational process, is based on a general outlook and a high general culture of the individual, professional knowledge of theory, methodology, psychology, pedagogy, scientific foundations of management; this is the ability to apply the entire complex of managerial and pedagogical skills, innovative and traditional methods of social, psychological and pedagogical research.

In the modern innovative society, an integral component of the professional training of specialists is the formation of professional qualities, which act as the most important factor of professional suitability and briefly characterize certain abilities and are organically included in their structure, developing in the process of practical activity and training.

The main task that is solved in the process of professional training is self-awareness as a person and respect for another person as a social value, development of professional interests of future specialists, and professional self-awareness.

**Tasks of effectiveness in physical education student learning in the modern innovative society.**

The professional training of future physical culture and sports specialists in the modern innovative society is considered by scientists as a multifactorial structure, the important tasks of which are:

- formation of professional skills;
- acquiring the meaning of pedagogical activity;
- education of personal qualities necessary for future work;
- acquisition of professional competencies by each student of education.

The professional training of future physical culture specialists in the modern innovative society includes in its content a system of pedagogical and organizational measures that should ensure the formation of a person's system of knowledge, professional orientation, abilities, skills, and professional readiness, which is defined as the subjective state of a person, who considers herself prepared and capable of performing the intended professional activity and strives to perform it (Hurniak, 2018).

The application of competency-based, integrative, activity-oriented, personally oriented approaches in the effectiveness of physical education student learning, by the requirements of employers, will ensure a high level of training of a competitive, creative, personality of the future specialist (Anishchuk, 2020).

**Requirements necessary for effectiveness in physical education student learning using innovative technologies.**

We will single out the following requirements that are necessary for effectiveness in physical education student learning using innovative technologies:

1) creation of an emotionally stimulating educational environment, providing students with an initiative in educational and cognitive activities, development of future physical culture specialists in freedom and self-regulation, rooted in awareness and a sense of personal responsibility;
2) solving educational tasks in an atmosphere of emotional community and interaction;
3) performance of the role of a consultant by a teacher who creates opportunities for self-realization and the choice of cognitive


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alternatives for those seeking education (Dubaseniuk et al., 2009).

The conducted study shows that the majority of education seekers say that the educational process of higher education institutions is insufficiently prepared for the use of innovative technologies in professional activities (63%), and only 7% of respondents say that they are well prepared for this type of activity, and moderately prepared – 30%. The reasons for such a low state of professional training are the lack of theoretical training specifically for the use of innovative technologies in the educational process (28%), practical experience of using innovative technologies (42%), methodological training (20%), educational and methodological support (10%) (Borova et al., 2021).

Effective forms of introducing digital competence, innovative teaching methods, and technologies into the educational process and, based on them, the formation of key professional competencies of future physical culture specialists, are the use of modern information and interactive technologies, video and audio tools, electronic educational complexes that contribute to the development of education seekers, provide individualization education, as well as serve the personal orientation of students, that is, there is a transition to innovative and active learning from explanatory and illustrative.

**Algorithm of the Process of organizing the professional training of future specialists in the modern innovative society.**

The process of organizing the professional training of future specialists in the modern innovative society will be effective according to the algorithm:

1) the introduction of information and communication technologies contributes to the formation of an understanding of the goals of the future specialist's activity, activation of cognitive activity, and positive motives;
2) possession of facts, acquisition of theoretical foundations, formation of a body of knowledge, interest in scientific issues;
3) focus on mastering future specialists the method of applying information and communication technologies, interactive learning methods during practical classes, independent work, and pedagogical practice;
4) use of test tasks to guide the amount of acquired knowledge, increase the reliability and objectivity of the quality of education;
5) orientation in various information programs, practical assimilation of knowledge, and application of information and communication technologies (Boliubash, 2012).

**Innovative educational technologies have been defined as to use of innovative technologies that improve the quality of education.**

Using digital competence and innovative technologies improves the quality of education. Let's name groups of innovative educational technologies:

– training technologies – focused on the actualization of accumulated theoretical knowledge, the conceptualization of practical experience of education seekers (modifications: analysis of specific situations, thematic and complex training, game technology);
– programmed learning – aimed at memorizing logically constructed and structured frames, which are accompanied by reinforcement and step-by-step control;
– multimedia technologies, where the functions of the teacher are performed by technical means of education (dynamic visualization of the content, provision of reference, informative, illustrative plan information, performance of test tasks, exercises, record keeping, etc.) (Smoliuk, 2022);
– integration technologies – such didactic systems created to ensure the integration of different types of activities, skills, and knowledge at the level of initial topics, integrated courses, educational problems, etc.;
– structural and logical technologies, which represent the organization of choosing a method of solving problems, step-by-step setting of didactic problems, diagnostics, and monitoring of the obtained results;
– computer technologies are implemented based on teacher-computer-learner interaction in didactic systems of computer education with the help of various educational programs (training, information, control, development, etc.);
– game technologies – a form of interaction between the teacher and students of education that contributes to the formation of the ability to solve tasks in the form of a didactic game through the implementation of a certain plot based on a competent choice of alternative options. Simulation exercises are used in the educational process;


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business, theatrical, computer games; role-playing, game design, etc.;
– dialogue technologies depend on the existence of a communicative environment, and contribute to the expansion of the space of cooperation at the subject-subject level: "teacher-author", "educator-teacher", "educator-author", etc. (Dychkivska, 2004).

Practicing teachers develop proprietary technologies that combine elements of proven technologies in various variants, which are oriented towards achieving the goal and implementing the content of multi-disciplinary and multi-level education (Kolesnyk, 2016).

These innovative technologies allow each teacher to find for his subject favorable means of activating the education of students (Bezkopylnyi, 2020).

Therefore, in an institution of higher education, professional training should take place in an environment that is specially created and in which future specialists independently develop the necessary business qualities, from the ability to independently master new knowledge, and acquire the necessary professional competencies in the course of future professional activity. Therefore, in the professional training of future specialists, it is necessary to shift the emphasis from the tasks of forming professional skills, abilities, and knowledge to the tasks of forming their professional competencies. Among professional competencies, the main ones are the ability for self-improvement, self-education, and self-development. Innovative technologies are an effective means of accomplishing this task (Smoliuk, 2022).

To increase the physical fitness of the individual, the level of physical development of the person, the state of health of the students of education, which is constantly deteriorating, it is necessary to carry out high-quality organization and preparation of sports events in educational institutions of all levels, to instill a love for sports, to organize group interaction of students of education in team sports sport During sports competitions, tasks are improved to improve theoretical and physical training of the individual (Bida et al., 2023).

All types of human activity are represented in team sports during the group interaction of higher education students: value-oriented, cognitive, communication, etc., which actively shapes the behavior and consciousness of students in the right direction. In the process of such sports events, there are two types of communication: mediated and direct, mental education of the participants is carried out (Bida & Shevchenko, 2018).

Innovativeness, informatization, and technology in the modern educational environment lead to solving the problem of health care for young people. The activity of physical culture specialists is of particular importance in this process (Bezkopylnyi, 2020).

The wide application of innovative educational technologies in the practice of a higher school can significantly improve the quality of professional training of physical culture specialists in all forms of organization of the educational process (Lytvynova, 2011).

Reducing the number of classroom hours, the need for active interaction between participants in the education process, the growing role of independent work of education seekers, a significant flow of information, the shortage of study time in the conditions of the rapid development of information and communication technologies requires the development of appropriate systems and forms of education, changes in the role of the teacher. This approach increases the significance of the virtual educational space and electronic educational resources in training future specialists in physical education and sports. Today, information and communication technologies are an important component of education. They significantly expand the possibilities of processing various information necessary to improve the quality of education, the ways of obtaining it, the efficiency of assimilation of software material, the ability for mobile learning, contribute to the development of cognitive abilities and the formation of professional competencies of future specialists (Bezkopylnyi, 2020).

An electronic educational resource, which is an important element of the educational process, is a means of processing, storing, and transmitting information, and contributes to the acquisition of systematized knowledge in the effectiveness of physical education student learning.

In the educational process, the use of information and communication technologies allows you to manipulate existing information, promotes creative learning to create a new "product", and does not duplicate the information received. In this regard, we are talking about the need to "ensure meaningful and informative filling of the educational space with the necessary electronic


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resources, such as electronic books, libraries, educational portals, distance educational services, etc." (Konevshchynska, 2014).

Describing the various technologies and their advantages, the results are discussed in comparison with previous studies. In particular, the analysis of scientific research and regulatory documents confirms that the problem of improving the effectiveness of physical education student learning using innovative technologies has not received a systematic study in the world, as a result, there is no holistic justification of the theoretical and methodological foundations of effectiveness in physical education student learning using innovative technologies innovative technologies. Therefore, in our study, we identified the reasons that make it necessary to introduce innovative technologies; essential signs of innovation are shown; we will single out the integral qualities that characterize innovation; modification and combinatorial innovations are considered. Areas contributing to the use of innovative educational technologies in the system of higher education in the professional training of future specialists in physical education and sports using innovative technologies are named.

To determine the entry level of the use of innovative educational technologies in the system of higher education in the professional training of future specialists in physical culture and sports, during the pedagogical experiment, at the ascertaining stage, indicators of the levels of development of digital competence of future specialists in physical culture and sports were determined, according to the components that will be used in the future for the organization the next stages of the experiment. Therefore, the accuracy and reliability of the results obtained at the ascertainment stage will influence the subsequent stages of the pedagogical experiment. 96 respondents were involved in the ascertainment stage of the experiment: numerically, the control group (CG) included 46 physical culture and sports specialists, and the experimental group (EG) – 50 people, respectively.

To ensure the reliability of the results of the pedagogical experiment, the creation of CG and EG was based on the principles of homogeneity of quantitative and qualitative indicators of respondents in groups and the identity of samples.

Investigating the development of the motivational and value component of the digital competence of future physical culture and sports specialists at this stage of the experiment, we observe: a high level of development in the CG of the digital competence of future physical culture and sports specialists is 14.9%, and in the EG – 15.4%, which is on average is 15.1% of respondents. A significant number of respondents, 38.5% in CG and 39.4% in EG, on average 39%, have an average level. The obtained results also showed that 46.6% of the CG and 45.2% of the respondents in the EG have a low level of development of the motivational and value components, respectively (45.9% on average), which is almost half of all respondents. During the study of the motivational-value component, we can claim that the difference in the number of teachers assigned to different levels of development of the cognitive-educational component is a small percentage (0.4-1.4%), which also proves the homogeneous nature of the groups. Therefore, the analysis of the results gives reason to state that at a high level of development of the cognitive-learning component, the number of respondents in the CG is 7.2%, and in the EG – 6.8%, which is an average of 7%.

At the average level of development of the cognitive-educational component of the digital competence of future specialists in physical culture and sports, 45.2% were in the CG, and 44.2% in the EG, which is an average of 44.7% of the respondents. At the same time, at a low level of development of the cognitive-educational component of the phenomenon under study, CG – 47.6%, EG – 49%, and the average value – 48.3%. We take into account the average percentages since this trend is observed both in the control and in the experimental group.

The analysis of the experimental results at the ascertaining stage of the pedagogical experiment gives grounds for asserting that the cognitive-learning component of the digital competence of future physical culture and sports specialists is at a low and medium level of development, therefore the urgency of improving the educational process appears.

At this stage of the pedagogical experiment, the homogeneity of CG and EG was checked. We determined the reliability of the sample using the Student's t-test for independent samples (criterion of the reliability of differences in mean values).

Application of the Student's t-test made it possible to determine whether there are differences and how statistically significant they



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are between the two data samples. And, accordingly, how well-argued the conclusions about these differences will be.

We proposed two hypotheses: null (H0) and alternative (H1). Bearing in mind the null hypothesis (H0), we assume that the distribution of respondents according to the level of development of digital competence in the control and experimental groups is the same, that is, the sampling was carried out correctly. Accordingly, in the alternative hypothesis (H1) we accept that the difference between CG and EG is significant. If text < tkr., then the null hypothesis is accepted if tex. > tkr., then the alternative hypothesis is accepted. Where tkr. – table value, tex. is the result of mathematical data processing.

This gives reason to assert that in the process of conducting the pedagogical experiment, we observed all the necessary restrictions of the Student's t-test, which, in turn, ensures the reliability of the results of our research. The results obtained by us from the ascertaining stage of the pedagogical experiment formed the basis for the preparation and conduct of the next (formative) stage of the experiment.

We, having conducted an ascertaining experiment, found out the basics of professional training of future specialists in physical education and sports using innovative technologies aimed at realizing the intended goals and objectives, improving the educational level of those seeking an education – improving educational services and the quality of education; the reasons for the need to introduce innovative technologies are determined; essential signs of innovation are shown; we will single out the integral qualities that characterize innovation; modification and combinatorial innovations are considered. Areas contributing to the use of innovative educational technologies in the system of higher education in the professional training of future specialists in physical education and sports using innovative technologies are named; the main tasks of the professional training of future specialists in physical culture and sports in the modern innovative society are named and the algorithm of the effectiveness of the educational process is shown; we will highlight the requirements necessary for high-quality professional training; effective forms of introducing innovative teaching methods and technologies into the educational process are grouped; the most important groups of innovative educational technologies and types of electronic educational resources for the training of future physical culture and sports specialists are given and their advantages are shown; the importance of digital competence, blended learning technologies and the importance of cloud technologies have been proven.

At the formative stage of the experiment, respondents who were improving their qualifications according to an established educational program without special courses developed by us entered the CG. The EG was completed by respondents who took advanced training courses and mastered the special course "Digital competence as a factor in improving the specialist's professional skills".

The analysis of the results shows a significant decrease in the number of respondents with a low level of development of the studied component to 4.3% of EG respondents against 38.5% in CG, and 67.3% of EG respondents reached the average level of the operational component. In comparison, in CG their number is equal to 50.9% of people.

We assume that the level of development of the components of digital competence of future physical culture and sports specialists increased due to the formative stage of the pedagogical experiment, and not by chance. For evidentiary testing of our assumption, we put forward null (H0) and alternative (H1) hypotheses.

The tabular value of the Student's t-criterion is 1.98. For each of the components of the digital competence of future physical culture and sports specialists, we obtained indicators that are higher than the tabular value, which reflects significant deviations in the levels of development of the components of the digital competence of teachers in the studied groups, and, accordingly, the alternative hypothesis (H1) will be true. So, we proved the effectiveness of the conducted formative measures of the pedagogical experiment in the experimental group.

**Conclusions**

The basics of effectiveness in physical education student learning using innovative technologies aimed at realizing the intended goals and objectives, improving the educational level of those seeking an education – improving educational services and the quality of education; the reasons for the need to introduce innovative technologies are determined; essential signs of innovation are shown; we will single out the integral qualities that characterize innovation; modification and combinatorial innovations are


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considered. Areas contributing to the use of innovative educational technologies in the system of higher education in the professional training of future specialists in physical education and sports using innovative technologies are named.

In the article, we considered the reasons for innovative pedagogical activity in a higher educational institution; showed directions for the use of innovative educational technologies in the higher education system in the professional training of future physical culture specialists using innovative technologies; showed the tasks of effectiveness in physical education student learning in the modern innovative society; highlighted the requirements necessary for high-quality professional training of future physical culture specialists using innovative technologies; determined the algorithm of the Process of organizing the professional training of future specialists in the modern innovative society; groups of innovative educational technologies have been defined to Use innovative technologies that improve the quality of education; types of electronic educational resources for the training of future specialists in physical education and sports are outlined. The effectiveness of the process of organizing the professional training of future specialists in the modern innovative society is shown by the algorithm. Groups of innovative educational technologies are given. The most important types of electronic educational resources for the effectiveness in physical education student learning are highlighted and their advantages are shown.

Further research requires a detailed consideration of cloud technologies, regarding their importance for the training of future specialists.

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# Teaching students in high school using multimedia technologies

## Навчання студентів у вищій школі засобами мультимедійних технологій

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**Abstract**

The peculiarities of the training of specialists in higher education using multimedia technologies are clarified and their importance and necessity for modern education are shown. Based on the recorded didactic and technical pedagogical capabilities of multimedia, we will identify potential functions that can be differentially implemented in the educational space. Manipulation, deformation, contamination, toning of images, discrete presentation of audiovisual information is considered; fixation of a selected part of visual information for movement, its further examination "under a magnifying glass", demonstration of processes and events in the real-time, multi-window presentation of audiovisual information, which intensify the educational process and strengthen the motivational effect in the educational field. Research and experimental work were carried out, which made it possible to find out the peculiarities of the training of specialists in higher education using multimedia technologies

**Анотація**

З'ясовано особливості підготовки фахівців у вищій школі засобами мультимедійних технологій та показано їх важливість та необхідність для сучасної освіти. На підставі зафіксованих дидактичних і технічно-педагогічних можливостей мультимедіа виокремимо потенційні функції, які можуть бути диференціювано реалізовані в освітньому просторі. Розглянуто маніпулювання, деформація, контанімація, тонування зображень, дискретне подання аудіовізуальної інформації; фіксація вибраної частини візуальної інформації для переміщення, її подальшого розгляду «під лупою», демонстрація процесів і подій у реальному часі, багатовіконне представлення аудіовізуальної інформації, що інтенсифікують освітній процес й посилюють мотиваційну дію до освітньої галузі. Проведено дослідно-експериментальну роботу, яка дала можливість з'ясувати особливості підготовки фахівців у вищій школі засобами мультимедійних технологій та

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and to prove their importance and necessity for modern education. We have reasonably identified the stages that are important for the educational space for the qualitative application of knowledge and skills in the training of specialists; advantages of the introduction of multimedia technologies; various aspects of the use of computer software multimedia tools in the process of professional training of a specialist are named.

**Keywords:** training of students, improving the quality of specialist training, multimedia technologies, higher education, higher education institutions.

довести їх важливість та необхідність для сучасної освіти. Обґрунтовано виокремлені нами етапи, що важливі для освітнього простору з метою якісного застосування знань і вмінь при підготовці фахівців; переваги впровадження мультимедійних технологій; названо різні аспекти використання комп'ютерних програмних мультимедійних засобів у процесі фахової підготовки спеціаліста.

**Ключові слова:** підготовка студентів, підвищення якості підготовки спеціалістів, мультимедійні технології, вища освіта, заклади вищої освіти.

## Introduction

The problem of using multimedia technologies in higher educational institutions occupies an important place in the training of modern specialists with a high level of knowledge, practical skills and professional skills. This is due to the fact that students' acquisition of skills in the use of modern multimedia technologies is an integral component of their studies in higher educational institutions in order to conduct classes on subjects at a high professional level. Improving the quality of training of future technical specialists, ensuring their practical orientation in order to increase the level of competitiveness of Ukrainian graduates on the world labor market requires the improvement of the organizational and educational process in higher educational institutions of a technical profile (Potapchuk, 2018).

As you know, multimedia technologies are constantly improving, becoming more saturated, unified, flexible and productive. They are aimed at various needs of society. The use of multimedia technologies in the educational process ensures both visual and auditory perception of the material, active participation of students in classes, and return to topics that require additional processing.

The main condition that determines the successful functioning of the educational system is the active interaction of the participants of the educational process in the modern information environment, which is characterized by the rapid development of the latest information and telecommunication technologies, information systems, and the appearance of various software products.

So, the result of professional training of future teachers is the readiness to use multimedia educational systems in professional activities, which is determined by the actual problem of pedagogical science and practice (Markus, 2021).

The outlined trends caused a number of changes in the education system, not only in the methodology, structure, technology of the learning process, but also in its strategic orientation. Currently, the development of scientific approaches to the use of the pedagogical potential of multimedia tools for the purpose of developing the student's creative personality, forming his ability to alternative thinking, which contributes to the improvement of the quality of education, is being updated.

As a result, in the article we revealed: the main areas of practical use of multimedia technologies in education; potential functions that can be differentially implemented in the educational space; modern innovative means of processing multimedia audiovisual information, which intensifies the educational process and strengthens the motivational effect in the field of education, especially higher education; stages characteristic of the educational space for the qualitative application of knowledge and skills in the training of specialists; advantages of the introduction of multimedia technologies, which contribute to the improvement of the quality of training of specialists; factors of working with a multimedia program; features of multimedia technologies; the main functions performed by multimedia technologies in the educational process.

## Literature review

In the education of Ukraine, theoretical and practical aspects of multimedia learning


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technologies are being developed, as evidenced by numerous studies on the informatization of higher education and the introduction of multimedia technologies in the process of professional training of specialists of various profiles. Such scientists as: R. Horbatiuk et al., (2022) substantiated the meaning of the concept of "professionalism", showed different meanings of the concept, and derived the actual concept. The technology of forming professionalism is substantiated; directions and ways of formation of professionalism in future specialists using multimedia technologies were investigated. The technology of forming professionalism with the use of multimedia technologies was developed and implemented in stages for students of higher education.

The problem of the introduction of ICT into the educational process of educational institutions is highlighted in scientific works: L. Shevchenko (2016) in the process of technological preparation analyzed the peculiarities of using multimedia tools. I. Markus (2021), the process of formation of professional competence of future specialists was considered using multimedia technologies.

A description of the practical experience of using multimedia tools can be found in the works Marta-Lazo, Gabelas-Barroso, Nogales-Bocio & Badillo-Mendoza (2022). They emphasize that the last decade, several activities have been carried out that have aimed to implement, in various undergraduate and graduate courses, learning from a holistic perspective using a multimedia dimension. Castro-Alonso, Wong, Adesope & Paas (2021) conducted a meta-analysis to test hypotheses from diverse theories predicting the effects of these agents' characteristics. We tested predictions of cognitive load theory, cognitive theory of multimedia learning, computers are social actors, social agency theory, uncanny valley, and the action observation network. They conclude that multimedia pedagogical agents help learning through multimedia, and that students may be able to learn similarly from different types of agents.

The problem of new multimedia resources versus traditional notes was considered by Halpern, Piña & Ortega-Gunckel (2020). With the increasing adoption of information and communication technologies among youngsters, it has become common for high school students to incorporate the use of multiple devices and digital platforms in their study habits. Although these digital resources support and motivate them to learn, these are also a source of continuous distraction. This research analyzes the impact of studying with handwritten notes, WhatsApp, YouTube and searching the Internet in academic performance, through a mixed method. M. Fan (2021) considered the meaning of the concept of "multimedia" and clarified the content of multimedia technologies in higher education. Types of multimedia courses are shown in the training of music specialists: multimedia lectures, video lectures, and analog educational publications. It has been proven that the introduction of multimedia technologies into the educational process contributes to the innovative training of music specialists and their quality improvement.

The analysis of scientific literature and dissertation studies showed that in the works reviewed above, the following issues are poorly researched: 1) improving the qualifications of pedagogical workers for the use of multimedia technologies in professional activities; 2) aspects of the introduction of multimedia technologies in higher education; 3) the use of multimedia technologies by pedagogical workers to form the social competence of students; 4) increasing the level of competence of pedagogical workers in the use of multimedia technologies in the formation of social competence.

We believe that these issues are relevant and require specially organized scientific research.

Despite the large number of scientific studies using multimedia technologies in the field of education, the question is not exhaustive. The relevance of this study is due to the fact that multimedia technologies make it possible to actively use computers, programs and a wide variety of modern technologies in the learning process.

**Goal:** to find out the specifics of training specialists in higher education using multimedia technologies and to show their importance and necessity for modern education.

**Methodology**

The research methodology is scientific methods were used: theoretical (analysis of sociological, philosophical, historical, psychological, and pedagogical, literature), to substantiate the initial provisions of our research; empirical (analysis of activity results, observations) to clarify innovative approaches for training future specialists and identify the level of the educational process in higher education;



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interpretative and analytical method, based on which scientific sources were studied using analysis, synthesis, generalization, and systematization; the method of comparative and historical analysis, which made it possible to identify trends in the development of education at different historical stages; concrete scientific methods (generalization and analysis of foreign modern approaches to the organization of professional training of specialists): comparative-semantic-terminological; historical analysis; search; statistical.

The research was carried out taking into account the results of comparative, pedagogical, and pedeutological studies, based on anticipatory and interdisciplinary approaches aimed at understanding the problems of the specialist and a holistic vision of the problem of education. Therefore, we substantiated the conceptual foundations of the research at the methodological and theoretical levels.

The methodological level is based on the following approaches: the synergistic approach ensures the development of personality and contributes to the enrichment of the educational process with dialogue methods and means of educational and pedagogical interaction; the anticipatory approach promotes the orientation of future specialists to innovative professional activity, ensures the fundamentalization of the training of future specialists; the system approach ensures the interconnection and interdependence of all components of education, as a result of which human education is a system; the cultural approach directs the educational process to take into account the historical traditions of its people, and its culture; the partnership approach contributes to increasing the effectiveness of educational activities, providing practical professional training, and enriching the content of education and the methodology of pedagogical practice; the technological approach provides an opportunity for high-quality practical training of specialists in universities and makes it possible to ensure the effectiveness of theoretical training of specialists.

We conducted an experimental work, in which we used various aspects of computer program multimedia tools in the process of professional training of the future specialist and were organized in the following forms of work during our experimental research, we considered multimedia means to be a set of different learning technologies, software, and hardware, graphic images, music and video, texts, and equipment, in the process of using the skills and abilities of the students of education are improved, and new knowledge is acquired.

The category of tasks that needed to be solved using multimedia technologies had good results before the experiment, but after the experiment, they rose to a higher level. Tasks whose solutions required knowledge of multimedia technologies were solved before the experiment in the CG by 4.5% of students, and in the EG by 4.1%. After the experiment, the percentage of people able to use multimedia technologies in the CG increased by 15.4%, and in the EG by 60.3%. As for the category where it is necessary to make decisions using professional multimedia programs, there was a zero result before the experiment, since the students had no idea about the use of multimedia technology programs before the experiment since they had not been studied at all. After teaching the developed materials, the percentage of those able to solve professional problems using professional programs in the CG increased by 5.9%, and in the EG by 32%, which indicates good results.

The goal and result of training future specialists to use multimedia technologies is their readiness for this type of activity. In this regard, at the formative stage, the next step of the experiment was to carry out statistical “measurements” (zero cuts) of the levels of the studied type of readiness among students in the control and experimental groups to become competitive in professional activities with the ability to use multimedia technologies.

**Results and discussion**

In the system of higher education, multimedia teaching aids cannot replace the teacher or partially fulfill the role of a teacher. Still, their use in the educational process of a higher school will contribute to the improvement of the activity of the teacher, increase the quality of training of future specialists, and the efficiency of the entire educational process (Potapchuk, 2018).

Institutions of higher education face the task of training a professional with flexible thinking, a well-rounded personality, capable of successfully performing a variety of professional tasks, and ready to independently acquire new knowledge throughout his life. With such an approach, multimedia learning tools are indispensable in the higher education system, which increases the effectiveness of the educational process, contributes to the improvement of the activity of the teacher


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himself, and increases the quality of training of future specialists. The use of multimedia technologies in the modern educational space during the training of specialists stimulates the thinking of students of higher education and the development of imagination, contributes to the intensification of the educational process, allows to increase the volume and quality of educational material, to make independent decisions in problematic situations, to form research and analytical skills, etc. (Fan, 2021).

Let's consider the main two areas of practical use of multimedia technologies in education:

- creation of autonomous educational complexes and multimedia programs, which are distributed using electronic media with preliminary installation on local network servers, and workstations for use in the educational process;
- using the possibilities of telecommunications or other innovative technologies to create a multimedia environment, combining several multimedia projects with a scalable and flexible structure Manrique, (2020).

Based on the recorded didactic and technical-pedagogical capabilities of multimedia, we will single out potential functions that can be differentially implemented in the educational space:

- informational function;
- developmental function;
- explanatory function;
- systematization function;
- heuristic function;
- motivational function.

Through the use of modern innovative means of audiovisual information processing, multimedia intensifies the educational process and strengthens the motivational effect in the field of education, especially higher education:

- "manipulation" (movement, overlay) within the field of three screens (next, middle, previous) with visual information;
- deformation of visual information (compression or stretching of the image, decrease or increase of the linear parameter);
- contamination (mixing) of various audiovisual information; implementation of educational animation effects;
- toning of images;
- discrete presentation of audiovisual information;
- fixation of the selected part of visual information for movement, its further consideration "under a magnifying glass";
- demonstration of processes and events in real-time;
- multi-window presentation of audiovisual information on one screen (for example, text in one "window", video in the other) with the ability to activate any part of the screen.

Today requires from specialists practical skills and theoretical knowledge in the field of mastery of progressive means and methods of modern science and, application of the latest pedagogical technologies. The use of multimedia technologies in the educational process helps to acquire practical skills and theoretical innovative knowledge in the field of one's professional training.

Let's consider the stages that are characteristic of the educational space for the qualitative application of knowledge and skills in the training of specialists:

- planning, in the training and own work of education seekers, the way to use multimedia technologies;
- organization of the method of introduction of tools and resources to the education process;
- monitoring the impact on increasing the effectiveness of education and training of multimedia technology education seekers (de Almeida et al., 2023).

We will show the advantages of the introduction of multimedia technologies, which contribute to the improvement of the quality of training of specialists:

1) to form practical skills and abilities in communicative and informational interaction;
2) based on the inherent personality, individual abilities, and psychological features to develop the acquired experience;
3) make optimal decisions, develop research skills, and increase your level of multimedia literacy;
4) optimally use your study time, apply and develop innovative methods for professional activity;
5) to develop the ability to use multimedia technologies in future professional activities; and to increase the amount of



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educational material for creative assimilation and use.

So, we can see that the introduction of multimedia technologies contributes to the improvement of the quality of training of specialists (Fan, 2021).

The use of multimedia computer software in the process of professional training of the future specialist contributes to the in-depth study of the content of specialized subjects, effective solving of the main tasks, optimization of self-development and self-education of future specialists based on the individual way of perceiving information, the level of training, taking into account personal characteristics. Students of higher education master the ability to make objective conclusions, intellectual knowledge, comparison of information, and the ability to synthesize, analyze, and effectively use the results of information analysis in their own professionally directed activities. For such a high-quality completion of the educational process, its special organization, search, and implementation of innovative methods, methods, teaching tools, substantiation of a complex of pedagogical conditions that correspond to the level of development of the information society, educational innovation trends are necessary (Seiko et al., 2021).

Having clarified the peculiarities of the training of specialists in higher education using multimedia technologies and proving their importance and necessity for modern education, substantiating the stages characteristic of the educational space with the aim of qualitative application of knowledge and skills in the training of specialists; advantages of the introduction of multimedia technologies, which contribute to the improvement of the quality of training of specialists, we conducted an experimental study.

To study the skills of using multimedia technologies in solving professional problems, students were offered educational and professional tasks. They represent tasks of a professional nature, but the ways to solve these problems can be very different, in this case, the use of multimedia technologies, from execution on paper to solving them using professional programs. The percentage of students who correctly solved educational and professional tasks is presented in Table 1.

**Table 1.**
*Use of multimedia technologies by students to solve professional problems*

| **Problems that need to be solved using...** | **Before the experiment** | | **After the experiment** | |
|---|---|---|---|---|
| | **CG** | **EG** | **CG** | **EG** |
| creation of autonomous educational complexes and multimedia programs, which are distributed using electronic media with preliminary installation on local network servers, on workstations for the purpose of use in the educational process | 82% | 79% | 91,5% | 98% |
| "manipulation" (movement, overlay) within the field of three screens – (next, middle, previous) with visual information;<br>deformation of visual information (compression or stretching of the – image, decrease or increase of the linear parameter) | 4,5% | 4,1% | 21,4% | 60,3% |
| using the possibilities of telecommunications or other innovative technologies in order to create a multimedia environment | 2,3% | 3,5% | 22,5% | 45,1% |
| combining several multimedia projects with a scalable and flexible structure | 0% | 0% | 5,9% | 32% |
| contamination (mixing) of various audiovisual information; –<br>implementation of educational animation effects;<br>toning images; –<br>discrete presentation of audiovisual information; –<br>fixation of the selected part of visual information for movement, its – further consideration "under a magnifying glass";<br>demonstration of processes and real-time events, etc. – | 45% | 46,4% | 57,1% | 79,9% |

In the experimental work, we used various aspects of computer program multimedia tools in the process of professional training of the future specialist and were organized in the following forms of work:

– in face-to-face distance learning: in which some modules, blocks, and topics are offered for distance study, or (if necessary) the student, interacting with the teacher and other students by e-mail in blogs, on forums, can study part of the course remotely;


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- in face-to-face education: in the preparation of telecommunications projects, in individual classes, for participation in contests, remote Olympiads, for the performance of individual tasks;
- in distance learning using case technologies.

A complex of tasks, professionally-oriented exercises aimed at the gradual formation of skills as part of the professional training of students, which are aimed at the gradual formation of the skills of higher education seekers in the high-quality use of computer multimedia software tools not only in the system of professional training but also during the whole life:

***Stage 1***, the tasks provide for the possibility of systematization of skills and knowledge acquired in the process of bachelor training of specialists, and to be aimed at the acquirers of the educational space of knowledge about the types and types of software computer multimedia tools;
***Stage 2***, the possibility of selecting technologies for effective work with software computer multimedia tools;
***Stage 3***, the ability to use software computer multimedia tools in one's own professionally oriented activities.

We proceed from the fact that multimedia technology is a technology that allows using a computer to process, integrate, and reproduce different environments, different types of signals, methods, and means of data exchange at the same time; it is based on hypermedia (working with combinations of video, sound, graphics, animation) and the hypertext system (working with combinations of text materials); with its help, real processes are simulated and modeled; visibility in the presentation of information improves; sounding and enlivening of objects, verbal accompaniment of visual information is carried out; a virtual educational environment is created; interactivity of software tools is ensured.

The means of multimedia technologies are based on:

- use of multimedia technologies (real video fragments, virtual objects, animated graphics, audio fragments, etc.);
- interactions – means of asynchronous interaction, online mode (electronic educational materials, webinars), synchronous interaction (video conferences) (Buinytska, 2012).

One of the essential advantages is the development of multimedia by the author's means and the creation of presentations based on them – the simplest type of multimedia technology.

Students used the following stages of creating a multimedia presentation:

- formulation of the thematic direction of the presentation;
- a selection of materials on a certain defined topic (pictures, text, video, animation, sound);
- distribution of topic materials on the expected number of slides, which is planned in the presentation;
- selection of slide design and selection for creating a program presentation;
- placing the necessary information on the slides, determining the markup for each made slide;
- adding background music, animations, video, and audio materials;
- viewing the presentation and its correction, saving the presentation.

Multimedia tools in the educational process help reproduce specialized educational material, but at the same time do not provide an opportunity for direct interaction with the object being demonstrated (Liu, 2023).

A technical and effective teaching tool that helps to qualitatively solve modern educational tasks is a set of technical tools, which consists of a computer, a multimedia projector, and a SMART Board (a flexible tool that combines the capabilities of a computer with an ordinary marker board). SMART Board, combined with a multimedia projector, becomes a touch-sensitive large screen where you can control the computer by touching the surface of this innovative screen. Without deviating from the explanation of the material, it is possible to demonstrate the necessary information, open any computer program, and make the necessary selections and notes at the same time, which emphasizes the attention of the acquirers of the educational space. The SMART Board includes a set of files, and SMART Notebook software with the content of practical and lecture classes (Jordán Naranjo et al., 2022).

So, during our experimental research, we considered multimedia means to be a set of different learning technologies, software, and hardware, graphic images, music and video, texts, and equipment, in the process of using the


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skills and abilities of the students of education are improved, and new knowledge is acquired.

Observation of the practical activities of future specialists was carried out during industrial practice. An integral part of the professional training of future specialists is the practical mastery of all elements of professional activity using multimedia technologies. Therefore, observation of the practical activities of students ensured the study of the characteristics of professional skills, personal qualities, creative attitude to professional activities, and theoretical training.

Based on the results of the final diagnostics, it was revealed that there is a positive trend in the use of multimedia technologies to solve professional problems.

The category of tasks that needed to be solved using multimedia technologies had good results before the experiment, but after the experiment, they rose to a higher level. Tasks whose solutions required knowledge of multimedia technologies were solved before the experiment in the CG by 4.5% of students, and in the EG by 4.1%. After the experiment, the percentage of people able to use multimedia technologies in the CG increased by 15.4%, and in the EG by 60.3%. As for the category where it is necessary to make decisions using professional multimedia programs, there was a zero result before the experiment, since the students had no idea about the use of multimedia technology programs before the experiment since they had not been studied at all. After teaching the developed materials, the percentage of those able to solve professional problems using professional programs in the CG increased by 5.9%, and in the EG by 32%, which indicates good results.

Based on the observation and results of a formal experiment to determine the activity component of readiness, that is, readiness to solve professional problems using multimedia technologies, the experiment data were processed and students were divided by readiness levels.

**Table 2.**
*Table of student readiness levels before and after the experiment*

| **Levels of readiness of students to implement multimedia technologies in professional activities** | **Before the experiment** | | **After the experiment** | |
|---|---|---|---|---|
| | **CG** | **EG** | **CG** | **EG** |
| High | 14% | 17% | 22% | 65% |
| Average | 29% | 31% | 45% | 24% |
| Low | 57% | 52% | 33% | 11% |

The table shows that the percentage of students with a high level of readiness for competitiveness in professional activities in both groups before the experiment was approximately the same, but after that, there was a significant difference, in the CG – 22%, and in the EG 65%, which undoubtedly indicates the formation in students' readiness to solve professional problems using multimedia technologies. The average level also has changes, so the percentage of students before the experiment in the CG was 29%, and in the EG – 31%, but after completing the course in the CG with an average level it increased, and in the EG it decreased. As for the low level, the results are approximately the same; the percentage of students with a low level decreased to 33% in the CG, and 11% in the EG.

It can be concluded that the readiness of students to become competitive in professional activities with the ability to use multimedia technologies can be considered fully formed since the experimental study revealed the presence of an established structure of professional action using multimedia technologies (the presence of the ability to solve problem situations that arise in process of professional activity using multimedia technologies, the ability to organize work using the capabilities of multimedia technologies).

The goal and result of training future specialists to use multimedia technologies is their readiness for this type of activity. In this regard, at the formative stage, the next step of the experiment was to carry out statistical “measurements” (zero cuts) of the levels of the studied type of readiness among students in the control and experimental groups to become competitive in professional activities with the ability to use multimedia technologies.

The research was carried out in the following areas:


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- determining the level of interest in multimedia technologies in the process of professional education at a university;
- study of the level of knowledge formation on the problem of higher professional education under study;
- identifying the level of mastery of professional skills in using multimedia technologies in the studied aspect of university education.

In the process of our research, the conditions that ensure the development of the professional interests of education seekers and the activation of their educational activities in the process of learning technologies have been singled out:

- use of innovative methods of the educational process;
- creation of a special educational environment for cognitive interest and the formation of the need of education seekers to use ICT;
- solving professionally oriented problems using multimedia tools.

Systematic use of multimedia provides:

- establishment of interdisciplinary connections during the educational process;
- increasing the quality and professional level of the use of visibility;
- logical construction of educational material, which has a positive effect on the level of knowledge of education seekers;
- organization of project activities for education seekers with the creation of educational programs under the guidance of teachers;
- change of attitude towards the computer;
- increasing the motivation of education.

Educators begin to perceive multimedia tools for work in any professional field as a universal tool. It should be noted that at different stages of the lesson, the professional method of using multimedia tools can differ significantly. The task is to find such innovative methodical tools and techniques that will help generalize, systematize, deepen, and supplement knowledge, and not just reproduce the acquired. What is valuable in the use of multimedia educational tools is that they bring an "interesting innovative novelty" to the lesson, that by the form and content of their application, they make it possible to understand the material in a new way in a short period, to reproduce a significant amount of material, to clarify unclearly formed concepts, to evoke new images in the students of education, to deepen the acquired knowledge (Shevchenko, 2016).

We agree with the opinion of O. Pinchuk (2010), that the use of multimedia technologies during the summarization and repetition of educational material can be calculated for comparison, independent work, and solving cognitive tasks, where students should better clarify the essence and importance of events, processes, and phenomena, make certain generalizations and conclusions. In this case, according to its didactic purpose, the applied information acts as a valuable material for the independent work of education seekers. The didactic role of multimedia technologies at the stage of explaining new material, in the process of generalization and repetition differs from their use. The difference is that the material is no longer used as a source of knowledge and repetition, at the same time, the material can cover several topics, and the purpose of the material is an additional or main illustration or a means of systematization and reproduction of already acquired knowledge. The method of working with a multimedia program depends on the following factors:

- is it known to the students of education;
- whether the students are getting acquainted with such a means of education for the first time.

When students of education use multimedia programs, it helps in the reproduction of the educational material and its systematization, generalization, and deepening (Polishchuk et al., 2022).

In the case of previous non-use of multimedia tools, their didactic purpose changes: they present known material in a new light, and not only reproduce it, and supplement it with new facts, but help to systematize and generalize knowledge. In classes at institutions of higher education, not only the multimedia educational program can be used in its entirety, but also individual fragments of education, if students need to simulate a phenomenon or a complex process that students have not mastered enough. At the same time, during the repetition of the material, to systematize the topics studied in other disciplines and summarize the significant material, separate multimedia programs can be successfully used. By the purpose and content of material repetition, multimedia tools can be used: during individual classes as a guide to independent work, visualization or as a means of


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repetition, illustration for repetition, generalization, and systematization of knowledge; while explaining with elements of the current iteration. Accordingly, methodological techniques, the place of multimedia information, and its application are changing. Therefore, the use of multimedia technologies is carried out in different ways, depending on the level of ownership of various programs and the availability of certified programs, according to the needs of a specific type of activity (Shevchenko, 2016).

An experimental test that made it possible to find out the peculiarities of training specialists in higher education using multimedia technologies and to prove their importance and necessity for modern education, to substantiate the stages that are characteristic of the educational space with the aim of qualitative application of knowledge and skills in training specialists; name the advantages of the introduction of multimedia technologies, which contribute to the improvement of the quality of the training of specialists and highlight the characteristic features of modern multimedia technologies. These are the features of multimedia technologies:

- provide opportunities for independent activity to education seekers;
- ensure joint creative activity of the teacher and students of education;
- make it possible to change the role of teachers and students of education to participants in productive activities, from authoritarian carriers of information;
- create a favorable environment for the professional competencies of future specialists, and the formation of the own intelligence of the students of education.

Modern multimedia technologies of the educational space are based on the principles of optimization, which are aimed at improving the quality of education and the entire process of the educational space.

Future competitive specialists, as subjects of the educational process, based on the acquired competencies, should possess the latest information technologies that contribute to the solution of professional problems at the methodologically appropriate level (Liu, 2022). Modernity demands from future professionals such personality traits as the ability to adapt to rapid changes in the world, activity, creativity, and independence, the formation of which requires the use of modern multimedia technologies in the educational process based on the implementation of the competence approach (Nastas & Vember, 2021).

The study made it possible to find out the main functions performed by multimedia technologies in the educational process:

- reproduction of educational information that reflects the essence of objects, phenomena, and processes being studied;
- ensuring visibility of multiple uses in the educational process and educational information materials;
- modeling of physical, geometric, and mathematical schemes that provide an opportunity to investigate and demonstrate the processes under study and dynamic systems;
- ensuring self-education of education seekers;
- ensuring control and self-control of education seekers, and their perception of educational information;
- indirect management of cognitive activity of education seekers;
- the use of audio materials is an effective and necessary means of education;
- involvement of education seekers through listening and direct communication;
- application of educational visual materials consisting of models, objects, tables, diagrams, animations, graphs referring to slides, illustrative instructions, and animation;
- use of video tools to motivate future specialists to develop professional competence.

So, in the process of forming the professional competencies of future specialists, multimedia technologies are used to achieve specific goals: explanation generalization, and abstraction, which are the main criteria of the educational process and provide an opportunity to prepare a competitive specialist (Potapchuk, 2018).

**Conclusions**

The peculiarities of the training of specialists in higher education using multimedia technologies are clarified and their importance and necessity for modern education are shown. The main areas of practical use of multimedia technologies in education are considered.

Based on the recorded didactic and technical pedagogical capabilities of multimedia, we will identify potential functions that can be


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differentially implemented in the educational space.

Manipulation, deformation, contamination, toning of images, discrete presentation of audiovisual information are considered; fixation of a selected part of visual information for movement, its further consideration "under a magnifying glass", demonstration of processes and events in the real-time, multi-window presentation of audiovisual information, which through the use of modern innovative means of processing audiovisual information, multimedia intensifies the educational process and strengthens the motivational effect in the educational field, namely higher education.

Research and experimental work were carried out, which made it possible to find out the peculiarities of the training of specialists in higher education using multimedia technologies and to prove their importance and necessity for modern education. During our experimental research, we considered multimedia means to be a set of different learning technologies, software, and hardware, graphic images, music and video, texts, and equipment, in the process of using the skills and abilities of the students of education are improved, and new knowledge is acquired.

The goal and result of training future specialists to use multimedia technologies is their readiness for this type of activity. In this regard, at the formative stage, the next step of the experiment was to carry out statistical “measurements” (zero cuts) of the levels of the studied type of readiness among students in the control and experimental groups to become competitive in professional activities with the ability to use multimedia technologies.

The means of multimedia technologies are singled out based on: the use of multimedia technologies, and interaction; the stages of creating a multimedia presentation are considered; the conditions that ensure the development of professional interests of higher education seekers, the activation of their educational activities in the process of studying technologies and the characteristic features of modern multimedia technologies are named.

Various aspects of the use of multimedia tools in the process of professional training of a future specialist in distance learning require further research.

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# Historical evolution of civil service in Ukraine

## Історична Еволюція Державної Служби в Україні

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**Abstract**

The article investigated the processes of establishment, continuous development, and transformation of the civil service in Ukraine from the period of the establishment of Kyivan Rus to the present-day Ukrainian state. The historiographical components of the formation and institution of the civil service were identified, and the objective principles and significant differences in its developmental periodization were characterized. The methodological framework of this research was based on the institutional and structural methods, normative-legal description of events, the method of communicative support of historical consequences and facts, the functional and structural methods, and the professional and cultural substantiation of historical and state-building results. It was demonstrated that the progressive and complex development of the civil service system accompanied the physical development of the state. The research confirmed that the civil service and governance system received a significant impetus during the period of convergence and subsequent integration with the Russian Empire. The article proves that significant changes in the civil service system were introduced by the Austro-Hungarian

**Анотація**

У статті досліджено процеси становлення, постійного розвитку та трансформації державної служби в Україні від періоду становлення Київської Русі до сучасної української держави. Визначено історіографічні складові становлення та інституції державної служби, схарактеризувати об'єктивні засади та суттєві відмінності в її періодизації розвитку. Методологічну базу цього дослідження базували на інституційному та структурному методах, нормативно-правовому описі подій, методі комунікативного супроводу історичних наслідків і фактів, функціональному та структурному методах, професійно-культурному обґрунтуванні результати історико-державного будівництва. Показано, що поступальний і комплексний розвиток системи державної служби супроводжував фізичний розвиток держави. Дослідження підтвердили, що державна служба та система управління отримали значний поштовх у період конвергенції та подальшої інтеграції з Російською імперією. У статті доводиться, що значні зміни в системі державної служби запровадила Австро-Угорська імперія. Визначено, що інституційні основи державної

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Empire. It is determined that the institutional framework of the civil service appeared in Ukraine between 1917 and 1921 due to the activities of Hetman Petro Skoropadskyi. The authors substantiated the pathways and prospective consequences of modernizing and developing the civil service of independent Ukraine.

**Keywords:** civil service institution, civil service, public administration, society, government system, reforms, state authorities, historiography, historiographic process.

служби з'явилися в Україні у 1917–1921 роках завдяки діяльності гетьмана Петра Скоропадського. Автори обґрунтували шляхи та перспективні наслідки модернізації та розвитку державної служби незалежної України.

**Ключові слова:** інститут державної служби, державна служба, державне управління, суспільство, державна система, реформи, органи державної влади, історіографія, історіографічний процес.

## Introduction

Throughout history, the civil service has not been an authentic creation of self-organization within Ukrainian society. Along with the governance system, it was brought in for the convenient and efficient management of Ukrainian lands. Since the first territorial settlements and the XVI century, Ukrainian lands have had unstable but quite modern state structures and civil service models. Then, first on the Left Bank, and at the end of the XVIII century on the Right Bank of Ukraine, the self-government of the Polish gentry (shliakhta) was replaced by a cruel, centralized system of Russian Empire governance. This system brought to the Ukrainian lands both positive features (legislative framework and legal regulation of the civil service, high level of organization, system consistency, and retirement benefits) and negative ones (corruption and bribery, dependence, and insecurity of civil servants - "civil service slaves," unnecessary paperwork, etc.) (Averianov, 2006).

The creation and functioning of an effective system of state governance and organization of the civil service have always been the key elements of Ukraine's state development. Today, significant attention is given to the civil service reforms. It is primarily due to the phenomena and processes in our society and state since gaining independence in 1991. The main tasks that are currently being formed for Ukrainian society and the power system include:

- creating conditions for the further development of the civil service as an effective institution for the functioning of executive power and local self-government (Friedman, & Laurison, 2019);
- ensuring the rights and freedoms of citizens;
- providing quality public and civil services (Halay, 2019).

These tasks determine the relevance of this research.

The success of achieving the set goals for the development of the civil service in Ukraine largely depends on the level of systematization and scientific preparation of civil servants at all levels of governance, as well as the creation and implementation of scientific and information-tolerant approaches to the institution of the civil service (Kristalina, 2022). Successful performance of its functions requires the civil service to continue becoming a leading institution that realizes the great essence of public administration, shapes the nation's well-being, and ensures that public administration provides society with high-quality state services.

## Literature review

As the subject of comprehensive and historical research, the civil service occupies a prominent place in a state and legal research due to its functional purpose. In the studies by Fuenzalida and Riccucci (2019), and Gregory et al., (2020), it is stated and argued that "the civil service ensures the progressive participation of the most capable managers, the best citizens of society, in addressing the tasks that society faces in its development and expressed in the functions of the state" (Bason & Austin, 2022; Schuster, 2017). The works by Boyle, O'Leary, & O'Neill (2022), Zulkarnain & Prasojo (2021) suggest that the "institution of civil service coordination" represents a combination of organizational elements (a system of state bodies, procedural elements (rules and procedures established by law for recruitment, progression, and termination), and personnel components (a body of individuals assigned ranks of civil servants).

Several researchers (Kobzeva & Mykhailovska, 2018; Makedon et al., 2020) note that the


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formation and establishment of the civil service institution, including within the judicial authority system, have been greatly influenced by its history, legal traditions and peculiarities of Ukrainian public administration. An alternative scientific opinion should also be highlighted. It states that the features of the formation and functioning of the civil service in different countries are largely determined by the historical and cultural specifics of the country's internal development.

Prudyus (2016) outlines the components that influenced the choice and formation of a particular model of the civil service, such as:

1) "the specifics of the historical development of these countries (the emergence and normative-legal regulation of the professional civil service institution);"
2) "the specifics of the legal system (Anglo-Saxon (Anglo-American legal system) or Romano-Germanic legal systems);"
3) "the specifics of the political system (whether the state is federal or unitary, totalitarian or democratic)."

According to professional opinion (White et al., 2014), "some progressive experience of the world countries shows that effective organization of the civil service is the key to a successful implementation of the state policy since the civil service is a way to implement the functions of the state welfare through a combination of personal, group and public interests. The modern states that have achieved high levels of economic development and social welfare while respecting democratic standards, guarantees, and human rights could not have achieved these goals without consistent and effective development of professional civil service" (Hong & Kim, 2019).

Several studies (Persson, 2021; Yavorsky et al., 2019) suggest that by attracting and using positive foreign experience in the civil service, a certain increase in the level of professionalism and professional discipline and compliance with traditions in public administration can be achieved.

Reeve (2009) and Shevchenko & Starostiuk (2017) are among the researchers who have studied the organization of civil servants work in the courts of developed countries.

Thus, a detailed analysis of the theoretical, methodological, and descriptive components of the formation and organizational support of the civil service institution becomes the basis for further research on the building and development of the civil service institution in Ukraine.

**Aims**

This study aims to comprehensively and systematically substantiate the historical, legal, cultural, and organizational components that have contributed to the formation and development of the civil service institution in Ukraine.

The research goal shapes the circumstances for the scientific analysis of public administration and civil service concepts. The practice of public administration and civil service strongly demands considering the historical roots in the development of political, economic, social, and other development programs of Ukrainian society while addressing the current management tasks. The generalized historiographical experience becomes an invaluable source of professional knowledge about the organization and functioning of the civil service.

**Methods**

The following methods and practices will address the specifics of this study:

1) The method of institutional structure involves the set of public governance bodies and positions in the staffing table of state and municipal authorities. They are created on the legislative basis of the country, the administrative apparatus, and all defined levels of government administration. The institutional structure includes the administrative machinery and civil service that performs the functions of state and municipal authorities. It also encompasses state and municipal management institutions: the Office of the President of Ukraine, the apparatus and structure of the Verkhovna Rada of Ukraine, ministries, and other executive bodies. At the regional level, the institutional subsystem includes local self-government bodies. The method of institutional structure allows for determining who directly holds the governing powers, implements executive power, ensures the implementation of official state decisions, and provides control.
2) The normative-legal method is formed as a set of administrative and constitutional law norms based on which the institutional subsystem is built and functions. The activities of state institutions are more regulated than the activities of private



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individuals. The normative-legal component of the civil service consists of constitutional and legislative norms, as well as administrative-legal decisions of higher management bodies - at the "input" level of the system, and administrative-legal acts, management decisions addressed to the public (external) environment - at the "output" level, the effect of the state-administrative management system itself.

3) The method of communicative support. Its defining feature is the predominance of unequal, subject-object, and subordinate relations in the communication and interaction system of government institutions and "officials." Alongside official connections between management subjects regulated by provisions, statutes, regulations, and job instructions, there are also horizontal unofficial (business and informal) relations as balanced and discretionary interactions. Established communication within a government institution ensures results and efficiency of administrative activities as collective work of officials in preparing and implementing organizational and managerial decisions.
4) The functional-structural method is a fundamental component in the organization of the civil service institution. The state institutions differ in their management functions regarding the subject matter (content), scope, and methods of influence. It allows not only describing the types of activities of state institutions but also analyzing the distribution of functions between management bodies vertically and horizontally within the pyramid and within a state institution itself. Based on this analysis, the optimal structure of a state institution and its subdivisions can be determined, and a methodology for organizational changes can be proposed. The optimal functional-structural arrangement of a specific management body or the entire public administration system can also become a subject of scientific research and lead to socially significant results.
5) The method of professional-cultural description and substantiation. Its goal is to present public administration as a social phenomenon, which cannot be adequately developed without emphasizing its component, such as the professional-cultural subsystem. The culture of management and organization (governing body) largely determines the integrity and maturity of public institutions. The professional-administrative culture is a subjective factor in management, a fusion, and materialization of civil servants and state organizations' intellect and actions. It includes legal, political, and professional-qualitative culture: culture of communication, decision-making culture (management technologization), motivational and informational culture, etc.

**Results**

The study results will be based on the historiographic principle, highlighting the historical stages of formation and sophistication of the civil service mechanism in Ukraine.

***Public administration in Ancient Kyivan Rus***

The ancient Ukrainian state went through three stages in its development:

The prerequisites matured during the first stage of the formation of the Ancient Ukrainian state (from the VIII to mid-IX century), and inter-tribal alliances and their centers, known as principalities (princedoms), were established, as mentioned by the Eastern authors. By the IX century, the system of "poliudie" emerged. It involved collecting tribute from the community members to benefit the Knyaz. At that time, this tribute was still voluntary and perceived as compensation for military and administrative services. The formation of the Ancient Ukrainian state is associated with establishing the Kyivan state, a long and complex process that united various Eastern Slavic tribes.

When the Ancient Ukrainian state was formed, there were already several large cities, including Kyiv, Chernihiv, and Pereyaslav. In the IX century, there were 25 major cities in Kyivan Rus. At the same time, the consolidation of three major Slavic tribal alliances occurred:

– Kujawy - the lands around the city of Kyiv;
– Slavia - the area of Lake Ilmen with the center at Novgorod;
– Arthania - the exact area is not defined by historians but is called the Baltic States, the Carpathians, and Northeastern Rus.

Thus, a unified state was formed in the first half of the IX century. This period represents the earliest stage of the Ukrainian state and civil service development.

The second stage (2nd half of the IX–mid-X century) of state formation accelerated mainly due to the active intervention of external forces -


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the Khazars and the Normans (Varangians - Vikings). Currently, many scientists point to a long, unbiased process of state formation and a secondary, biased factor. Today, the failure of the "Norman theory" based on the thesis that it is possible to "teach a state" is quite apparent. In contrast, any state emerges only through long-term internal development and society's complexity. However, this statement does not deny the role of the Varangians and Scandinavians in contributing to the creation of the Kyivan Rus. Today we can assume that the chronicle story about the "calling up of the Varangians" led by Rurik accurately reflects the real events. The Varangian origin of the first Kyivan rulers is undeniable: Rurik, Oleh, Ihor, Olha, and Askold are Scandinavian names. Also, there are dozens of Scandinavian graves found in Eastern Europe.

It should be noted that the Scandinavians actively participated in the creation of the Ancient Ukrainian state, providing it with a ruling dynasty. However, they quickly dissolved among the local Slavic population: for example, Ihor and Olha's son bore the Slavic name Sviatoslav.

Modern researchers, overcoming the extremes of the Normanist and Anti-Normanist theories, have reached the following conclusions:

– the process of state and civil service formation began before the Varangians;
– the fact of their invitation to rule indicates that this form of power was already familiar to the Slavs.

Simultaneously, there was a consolidation of the local ruling-warrior elite, their integration with the Varangian warriors, and the Slavicization of the Varangians themselves. Oleh, who united the Novgorod and Kyiv lands and paved the trade route "from the Varangians to the Greeks," laid the economic base for the emerging state.

The third and final stage of state formation begins with the reforms of Kniahynia Olha (Olha of Kyiv). Seeking revenge against the Drevlyans for the death of her husband, she establishes a fixed tribute norm and sets up "tsvynitary" (outposts) for its collection, which became the backbone of Knyaz authority at the local level. The policies of her son, Sviatoslav (964-972), who gained fame for his victory over Khazaria and campaigns on the Danube that failed, required the mobilization of significant forces for external conquests. It slightly delayed the internal development of Kyivan Rus. During the reign of Volodymyr the Great (980-1015), the complete elimination of tribal principalities took place. In 981, continuing the policy of expanding the territory of the intertribal federation, he annexed the southwestern and western lands to it. The lands of the Vyatichs (the Oka River) were also incorporated into the Ancient Ukrainian state. The authority of Kyivan Rus extended further to the east.

***Public administration in Kyivan Rus during the Mongol-Tatar invasion***

The Golden Horde was a symbiosis of nomadic governance and traditional law institutions with the Islamic state-legal paradigm. At the same time, the Rus statehood was the institutionalization of an agricultural society and an Orthodox understanding of power and law. The formation of a unified Orthodox Kyivan State occurred in conditions of mobilizational development. It led to the preservation of military polygenesis and a shift from a polycentric system of governance to authoritarian rule by the Grand Knyaz and gradually increased centralization. An essential central governing body became the Knyaz and the council, whose activities were based on the principles of vassalage and functional differentiation. The administrative-territorial division and local governance were unified, aiming to centralize state administration (Melnychuk, 2021).

In terms of civilization, the synthesis of two qualitatively different spiritual, ethnocultural, and political systems was impossible. It is confirmed by specific historical studies that do not reveal any Horde traditions in Kyiv's state governance system and legal culture. The attempts to link the emergence of the feudal estates, Zemsky Sobor's (councils, parliament), and autocracy, based on certain analogies (sometimes far-fetched), with similar phenomena in the Mongol khanates are extremely unconvincing, if not ridiculous. These institutions' roots and evolution are clearly visible in Rus history. They find more straightforward explanations in national-Orthodox notions of statehood, property, etc. The borrowings were (as always during the interaction of different civilizations) of a purely technical nature - elements of military art, the tax system, the yam postal service (Mongolian postal service, “yam” means the “road”), etc. Another thing is that the Golden Horde, as one of the powerful foreign policy factors in the reorganization of the Ukrainian state, had no way of not influencing the pace and nature of Ukrainian political genesis.



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***Public administration in the XVI-XVII centuries***

At the turn of the XV and XVI centuries, the process of unifying Ukrainian lands around Moscow was completed. Kyiv lost its leadership in terms of state, cultural, and economic positions. The consolidation of lands also implied the creation of a centralized governance system. However, several factors prevented characterizing Ukraine's formed system of governance as centralized. These factors included:

– Underdevelopment of centralized state authorities.
– Central governing bodies lacked representation at the local level and were not duplicated.

There were also remnants of feudal disintegration, such as (Kobzeva, & Mykhailovska, 2018):

– feudal dominions;
– "hoduvannia" (lit. - "feeding" - a system of rewarding by the great and local lords of their viceroys or governors, who performed judicial and administrative functions and received the right to collect taxes, duties, etc., in their favor);
– the principle of patronage and localism in appointing to state positions;
– the relative autonomy of the church.

The Sobornoe Ulozhenie in 1649 (lit.- the "Council Code") solidified and propelled the further development of the administrative command system in governance. In the 1640s, there was a change in the generations of diaks (clerks), and the image of the clerical rank changed due to the arrival of people whose careers developed under the new dynasty. Among the prikaz judges (administrative, judicial, territorial, or executive offices), the number of nobles decreased. However, their role became more critical as the boyars, particularly close to the tsar, concentrated the leadership over several offices. By the middle of the XVII century, the civil service was separated from the service in general, which was predominantly military. These changes were reflected in the oaths of the officers, which were sworn during a change of tsar by the whole population and certain persons when taking office or being promoted.

At the end of the XVII century, the state monarchy's public administration system entered a problematic stage of modernization of the country's entire political system. It's institutions and administrative apparatus borrowed elements of European experience and rationalism but generally used its own civilizational basis. With its contradictions, the pace of this modernization did not keep up with the growing complexity of governance tasks, territory expansion, the process of estate transformation in society, and new geopolitical challenges. The urgent issue was a fundamental reorganization of the entire central and local governance system, which would determine the final choice between developing autocracy as an expression of estate interests and establishing absolutism.

***Public administration and civil service in the XVIII century***

The emergence of absolutism as a form of governance is determined by the genesis of bourgeois relations. In transitioning from a feudal, class-based society to a capitalistic civic one, the state authorities gain significant independence over different social groups. The decline of estate-representative institutions, which to some extent limited the monarch's power, occurs. The main features of absolutism include the following:

– The concentration of legislative, executive, and judicial powers in the hands of the hereditary monarch.
– The monarch's right to control state finances and establish taxes.
– The existence of a large, extensive bureaucratic apparatus that carries out administrative functions on behalf of the monarch.
– Centralization and unification of state and local governance, territorial division.
– The establishment of regular army and police.
– The regulation of the service and private life of the classes.

The affirmation of absolutism in the Russian Empire had several peculiarities. It arose under the complete domination of feudal bondholders and the absence of developed bourgeois relations, Russia's significant lagging behind the leading European countries, and the significant influence of oriental, or despotic, traditions on the state's political system. Unlike Western European countries, absolutism's social basis was the nobility's alliance with the towns. Absolutism relied on feudal bondholders and civil servants. Another characteristic feature of absolutism was a wide external expansion, which was a


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necessary condition for the accelerated modernization of the country and was often carried out by force. In the second half of the XVII century, estate-representative bodies at the center (Zemsky Sobor) and regions (gubernia and zemstvo institutions) were either abolished or deprived of autonomy. In 1700, the Patriarchate was actually canceled.

Peter I implemented the second reform of the central state apparatus. The Swedish state structure model was taken as an example during its implementation. The Swedish state system was based on the principles of cameralism - the doctrine of bureaucratic administration popular in Europe in the XVI-XVII centuries. The principles of cameralism include:

– functionalism, which provided for the creation of institutions specializing in any field (finance, justice, military administration);
– the structure of the institution based on collegiality;
– clear regulation of duties; specialization of clerical work;
– establishment of standardized departments and salaries (Dinca, 2021).

As a result of this reform, the vast majority of prikaz councils were canceled, and the collegiums were established.

In 1722, the Collegium of Little Russia was formed, which took over the functions of the Little Russia Prikaz. It was the only collegium formed not on a functional but on a territorial principle and dealt with affairs in Ukraine. The Little Russian Collegium was located in the same place, under the supervision of the Ukrainian Hetman, in the city of Hlukhiv. The system of collegiums was formed step by step: during the first half of the XVIII century, new institutions kept emerging or reorganizing the existing ones. Several collegiums have developed a system of local branch institutions. The local bodies' apparatus included the Collegium of Mining and the Collegium of Manufacturing (commissariats), the Collegium of Justice (courts of justice), the Collegium of State Income (chambers and regional collectors), the Collegium of War (governors), and the Collegium of State Expenses (treasurers). The Collegiums sent decrees to the subordinate institutions, and the Senate received "reports" from them (Havryltsiv & Lukianova, 2019).

***Public administration in Ukraine in the XIX century***

In the first half of the XIX century, the problem of reorganizing the management system became increasingly acute. The growing complexity of social life demanded the creation of a well-adjusted, efficiently functioning mechanism that would allow the emperor to rely on the collective intellect of the bureaucratic elite, reducing the likelihood of the monarch making wrong decisions (Bach & Veit, 2018). People's opinions developed three approaches to public administration reform, namely:

– The first is the traditionalist approach.
– The second is the liberal approach.
– The third is the radical approach.

The reform of the Senate, conceived by Alexander I, was intended to strengthen legality in public administration. At the beginning of the XIX century, the Senate lost its former grandeur bestowed upon it by Peter I and had a cumbersome structure with a weak operating apparatus.

The most significant changes during Alexander I's reign occurred in the central governance system. The collegial principle no longer met the demands of the new era. There was a need for a more efficient and centralized executive administration, which led to establishment of a ministerial system. The Ministry's system of governance had several undeniable advantages over the system of collegiums. This system was characterized by sole authority, personal responsibility, diligence, strict vertical departmental subordination, a clear framework of sectoral management, and the specificity of functions (Prudyus, 2016). As a result, the ministerial system proved to be viable and easily adaptable to changing circumstances.

The trend toward centralizing state administration found its embodiment in the activities of the Emperor's Chancellery. It was established by Alexander I in 1812. Initially, the Chancellery was engaged in correspondence with the Supreme Commander, the placement of war prisoners, and the recruitment and housing of the army. With the center consolidating administrative and executive powers, the Chancellery's role increased. It became the institution that connected the emperor with all government bodies on important political matters. In fact, from the mid-1820s, it became the institution that headed the entire public administration system.


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The structure of the Chancellery corresponded to its functions and became more complex alongside its expansion. There were six branches, each of which was headed by a governor responsible to the emperor, had its own staff, and kept its own paperwork.

***Public administration of the Russian Empire in the late XIX – early XX century***

By the end of the XIX century, autocracy seemed to be firmly established and unshakable. All higher branches of power (legislative, executive, and judicial) were concentrated in the hands of the emperor, but their implementation was carried out through a system of state institutions. The State Council remained the highest legislative body, endowed with advisory powers as before. It consisted of individuals appointed by the tsar and ministers. Mostly, these were well-known courtiers and officials, many of whom were very old, which allowed the public to refer to them as "elder statesmen." The State Council did not have a legislative initiative. Its meetings only discussed the proposals submitted by the monarch but drafted by the ministries. The Committee of Ministers served as the central executive body. It was headed by the Chairman, whose functions were very limited. The emperor was considered the head of the judiciary and the judicial administration, and all trials were conducted in his name. The specific judicial proceedings were not within the competence of the monarch; his role was that of the supreme and final arbiter (Ishchenko et al., 2019).

In administrative terms, Russia was divided into 78 provinces (gubernias), 18 regions, and the Sakhalin Island. There were administrative units that included several provinces, and general governments, usually located on the edges of the empire. The tsar appointed the governor upon the recommendation of the Minister of Internal Affairs. The cities had self-government in the form of city councils and administrations. They were responsible for administrative and economic tasks, such as transportation, lighting, heating, sewage, water supply, and maintenance of bridges, sidewalks, embankments, and public buildings, as well as overseeing educational and charitable affairs, local trade, industry, and credit. The right to participate in a city election was determined by property qualification. By the end of the XIX century, local self-government was introduced in 34 provinces of the European part of Russia (including Ukraine). Meanwhile, in other districts, government authorities carried out the administration. The local bodies mainly dealt with economic matters, such as constructing and maintaining local roads, schools, hospitals, charitable institutions, statistics, the handicraft industry, and organizing land credits (Solonar, 2014).

At the beginning of the XX century, the Russian Empire maintained a system of government characterized by significant bureaucratization. The State Council held the highest position among the country's higher state institutions. The tsar appointed the members and chairman of the Council, and the ministers were selected according to their rank. Before its reorganization in 1906, the Council was the supreme legislative body. The preliminary discussion of legislation introduced at the tsar's will took place in departments that played the role of preparatory commissions. Then the considered proposals were submitted to the general meeting of the State Council. If the State Council did not come to a consensus, different views were presented to the monarch. The monarch alone decided on them, and he could take the side of the minority (Ishchenko et al., 2019).

***Public administration in the USSR from 1917 to the 1980s***

The Soviet Union existed from February 1917 until the end of 1991 and is associated with the formation of the Soviet statehood basics during the revolutionary transformation of Imperial Russia into the Russian Republic. At the beginning of 1918, the old authorities and governments were liquidated, and the People's Commissariats were formed instead. On December 2, 1917, the Supreme Council of National Economy (SCNE) was established under the revolutionary committees to manage the country's economic life. In the first three years of Soviet rule, the size of the administrative apparatus increased almost fivefold. The Soviet state governance was restructured after a foreign military intervention and the civil war, based on the restoration and development of the principles of the Constitution of the RSFSR, considering the deep systemic crisis in power and society.

The experience of 1917-1920 proved the urgent need to accelerate the formation of new fundamental principles of state administration in the economic, social, political, and spiritual spheres based on the people's creativity. The authorities had to develop and organize this creativity as a decisive factor in reality to achieve values that were close and understandable to everyone.


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The state administration had long-term goals: to restore, develop, and transform the economy based on the state system, making it the basis for strengthening economic and political freedom. The administration system was united under the new approaches to its objects. The ideas of both total and stateless or weakened state governance and only public self-government were rejected. Russian state governance acquired new aspects in connection with the deepening integration of Soviet states (including Ukraine). However, the governance apparatus remained essentially the same, slightly "tainted by the Soviet world," and some of its branches worked against the authorities (Stets, 2020). The conceptual proposals aimed to radically adjust the state system and governance by strengthening the party's role.

The public administration functioned in a special way during 1939-1945 due to World War II, and in the post-war years. Each of the three periods manifested both the main features inherent in Soviet public administration and the peculiarities caused by the unusual and rapidly changing specific historical situation. The system of civil service governance, which was in the process of formation based on the 1936 Constitution of the USSR, needed to withstand the test of viability, the ability to adapt and function following the international and domestic situation. World War II qualitatively changed the activity conditions for the Soviet Union's governance bodies (Klenk & Reiter, 2019).

The concerns of governance were focused on strengthening labor and production discipline. The Presidium of the Supreme Soviet of the USSR issued a series of decrees aimed at organizing the work of commissariats, all state institutions, and industrial enterprises and strengthening the accountability of officials, workers, and managers of institutions and enterprises for the quality of work and compliance with the discipline (Bryman, 2016). State governance acquired specific characteristics such as militarism, extremity, extraordinariness, directive nature, etc.

***Public administration in Ukraine from 1991 to the present***

At present, Ukraine is strengthening its unified state service based on organizational, normative, legal, personnel, and informational foundations. The civil service should be regarded as a system of social connections and relationships rather than a mere aggregation of officials and institutions. Currently, several approaches to civil service exist in global practice. The term "civil service" was first legalized by the effective Law of Ukraine, "On Civil Service," in 1993. The civil service in Ukraine involves the professional activities of individuals holding positions in state bodies and their apparatus, who practically fulfill the tasks and functions of the state and receive remuneration from the state. The individuals performing these services are civil servants and possess corresponding official authority (Korchak, 2017).

As practice has shown, the definition of civil service formulated in the aforementioned Law allows for ambiguous interpretation. It is mainly due to the complex concepts used in its meaning, such as "professional activities," "positions in state bodies and their apparatus," and "fulfillment of tasks and functions of the state" (Law of Ukraine No. 117-IX, 2019).

The civil service is the activity of professional civil servants who serve in state bodies or their apparatus, engaging in the practical implementation of the tasks and functions of these bodies in state governance and regulation.

The Constitution of Ukraine, laws, and other regulatory acts provide the basis for classifying the civil service of Ukraine as a traditional bureaucratic system, as it is based on legislation and bears many similarities to the European civil services. Conceptually, the main goals and purposes of the civil service are the following:

- to protect the constitutional order;
- to create conditions for the development of an open society;
- to protect human and civil rights;
- to ensure the effective operation of state bodies under their powers and competence by providing professional management services to the political leadership of these bodies and the public (Havryltsiv & Lukianova, 2019).

The civil service must be built on certain core principles to achieve specific goals and tasks successfully. The legal establishment of the principles of the civil service determines the functioning of state bodies, the activities of civil servants (personnel), the stability of the state's legal regulation of civil service relations, and the justification of trends in developing legislation on civil service.

The principles of the civil service are determined by the existence of principles of state functioning, state bodies, and public



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administration, which are largely carried out by legal subjects such as civil servants, and reflect the most essential aspects of the organization and functioning not only of the civil service itself but also of the system of state bodies that define the content of complex relationships within this system. Thus, the principles of the civil service can be defined as follows:

- the fundamental ideas and establishments that express objective regularities and determine scientifically substantiated directions for the implementation of state functions;
- the powers of civil servants act within the system of state power, particularly the civil service (OECD, 2022).

The principles of the civil service establish the most essential regularities in the system of organization and functioning, reflecting the objective connections within the system of civil service relations. Therefore, the formulation and establishment of legislative principles of the civil service depend on the chosen model of this service and the adequacy of understanding the internal regularities of social relations and legal regulation. On the other hand, these principles represent an active and vibrant beginning, as they determine the legal model of the civil service established by the legislator (Tyler, 2020).

Ukraine's civil service institution has successfully survived the empire and the Soviet Union, adapting to the requirements of the command-administrative system. Undergoing "cosmetic" changes, unfortunately, it still functions successfully with the same drawbacks as it had two or three hundred years ago. The current management structure in Ukraine was established on a bureaucratic basis. Also, communication was established during the Russian Empire and solidified during the Soviet era. Even now, administrative offices still value loyalty, stability, and total management control and await a command from the highest level (Wilson et al., 2021).

The accumulated experience in Ukraine of implementing reforms and changes in the organization and functioning of state authorities underscores the necessity of serious attention to the study of the past civil service of various state-political formations that existed on Ukrainian lands. The effectiveness of modern public administration depends to a large extent on how dialectically European standards and the historical experience of the Ukrainian people are combined (Hryshchuk, 2018). Therefore, the analysis of the evolution of the Ukrainian civil service in different periods of our state's development becomes particularly important, as it allows for the identification, among other important issues, of the characteristics of the mentality of civil servants and the understanding of specific features inherent in the modern management mechanism. The radical political, socio-economic, and other transformations in Ukraine at the turn of the XX-XXI centuries and the modernization of Ukrainian statehood according to the conditions and requirements of the modern period, nevertheless, did not wholly destroy the elements of the recent past in public administration and civil service, and certain features of certain historical epochs (Serbyn et al., 2020).

The modern Ukrainian civil service has inherited an ambiguous legacy that deserves a serious analytical "inventory." The Russian Empire had a complex, well-organized bureaucratic administrative system with tens of thousands of officials. It combined elements of autocracy, collegiality, and popular representation. Similar systems were formed in other European countries. They served as a model for Max Weber's theory of "rational" bureaucracy, which still serves as the theoretical foundation of the sociology of public administration.

Today, we must change the centuries-old Russian tradition of state domination over society and the worship of ranks (posts) with pervasive corruption of all government bodies. We should create a civil service that is accountable not to a party, not to a "master," even if democratically elected, but to the society that sustains it and to address its needs (rather than their own or corporate interests). It cannot be done quickly, and the statements of even the highest officials are not enough.

**Discussion**

The practice of defining goals, tasks, and principles of organizing the civil service of Ukraine, as well as the processes of its formation and evolution of its organizational institutions, should be considered among the pressing issues of modern Ukraine. It is equally important to generalize the experience of forming a corps of civil servants and improving the efficiency of this institution. A detailed analysis of the forms and methods of governing processes in the Ukrainian civil service system, understanding the main trends and the positive and negative aspects of its genesis, provide an excellent benefit for this purpose. All of this constitutes a great scientific


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and practical interest in the establishment and development of the modern civil service of Ukraine and in creating an optimal model for its staffing and improvement.

The contemporary practices and global experience in state-building processes cannot be the sole basis for generalizations and addressing many practical issues within the institution of public administration.

Given the fact that although the state mechanism was the main link in the structure of power, there was no special legislation in the Soviet Union on the status and legal position of state apparatus employees. All legal relations were regulated per labor legislation and differed from the legal relations of other officials in state institutions, enterprises, and procurement organizations. Therefore, when developing the institutional framework of the civil service in Ukraine, based on global experience and achievements, it is appropriate to utilize the historical background of organizing the establishment and development of the civil service, considering all the periods identified by the authors.

**Conclusion**

The authors have determined that building an effective public administration system and civil service institution development requires elaborating a Ukrainian development strategy at the state level (in the full sense of the word). This thesis is confirmed by the historical experience of Kyivan Rus, the existence of Ukraine as part of the Russian Empire, the role of Ukraine in the USSR, and the experience of the more recent past. All elements of the civil service organization in Ukraine in the historiographical context contain both positive and controversial experiences and deserve to be studied closely in the light of further development of the modern Ukrainian civil service. It may sound paradoxical, but many features of the civil service have been borrowed from the past.

The authors proved that the development of a comprehensive historical and organizational framework for legal relations related to public administration and the functioning of the civil service demonstrates the importance of these legal institutions for the Ukrainian historical heritage. In the XVIII-XIX centuries, the supreme authorities had active legislative activity, and the highest authorities created many laws and regulations. As a result of systematization, the vast majority of them were collected and then formed an authentic model of the civil service institution of Ukraine.

The study has shown that the development of the administrative machinery, the growing number of civil servants, and the complex civil service system required the development and legislative approval of the principles of civil service organization.

The legislative acts of the XVIII-XIX centuries concerning the formation and functioning of the civil service defined the most essential principles of its organization, such as compliance of the activities of officials at all levels with the laws of the Russian Empire, centralism in the management of the main spheres of state life, binding decisions of higher institutions and officials, control over the governing institutions, the responsibility of the personnel of state structures for the assigned area of work, conscientious performance of their duties, etc. The legislation of the Russian Empire imposed many requirements on candidates for positions in state institutions and authorities, thus seeking to form a highly professional, dedicated staff of management structures from intellectuals. In the Russian Empire, a civil servant's career was greatly influenced by the aristocratic origin, age, and education level, which varied depending on the type of educational institution and the level of knowledge of the educational material.

In addition, the authors show that a large group of charters, regulations, and other documents defined the principles of staffing the civil servant corps, the rules for admission to public administration institutions, the procedure for appointment to positions, and the conditions for career development and promotion. The following aspects are of interest, namely:

- the oath-taking upon entry into civil service;
- the practice of probation periods and the implementation of specialized examinations in specific departments before an official appointment;
- the establishment of a candidates' institute for posts and their study of the future management sphere;
- the compulsory work through all stages of the bureaucratic hierarchy;
- the termination of employment.

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# Evolution of parliamentarism in Azerbaijan: from the 20th century to the present

## Azərbaycanda parlamentarizmin təkamülü: 20-ci əsrdən bu günə qədər

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**Abstract**

The study aims to examine information about the first Azerbaijani Parliament, its activities, composition, and the measures it implemented in practice during the period of its existence. In order to achieve its aim and objectives, the study used the methods of analysis and synthesis, induction and deduction, as well as historical and comparative methods. The main conclusion of the study is the substantiation of the position that the people of Azerbaijan, which regained its independence, used the rich traditions of the short-term activities of the Azerbaijan Democratic Republic and, on this historical continuity, created a national and people's republic, the sovereign state of Azerbaijan. The author also argues that the Parliament established during this period played a major role in the formation of the statehood based on democratic principles since 1918–1920 was a period of formation of the political consciousness of the Azerbaijani people, a high level of formation and activity of the processes of national identity of the Azerbaijani people. This study is one of the first to examine the origins of the practice of parliamentarism in Azerbaijan in the early twentieth century and its peculiarities.

**Keywords:** parliamentarism, legislative power, mediation democracy, power of the people.

**Abstrakt**

Tədqiqat ilk Azərbaycan parlamenti, onun fəaliyyəti, tərkibi, mövcud olduğu dövrdə praktikada həyata keçirdiyi tədbirlər haqqında məlumatları araşdırmaq məqsədi daşıyır. Tədqiqat məqsəd və vəzifələrinə nail olmaq üçün təhlil və sintez, induksiya və deduksiya üsullarından, həmçinin tarixi və müqayisəli metodlardan istifadə etmişdir. Tədqiqatın əsas nəticəsi müstəqilliyini bərpa edən Azərbaycan xalqının Azərbaycan Xalq Cümhuriyyətinin qısamüddətli fəaliyyətinin zəngin ənənələrindən istifadə etməsi və bu tarixi davamlılığa əsaslanaraq, milli-xalq, milli-mənəvi dəyərlərin formalaşması və s. respublika, suveren Azərbaycan dövləti. Müəllif onu da əsaslandırır ki, bu dövrdə yaradılmış Parlament 1918-1920-ci illərdən başlayaraq demokratik prinsiplərə əsaslanan dövlətçiliyin formalaşmasında böyük rol oynamış, Azərbaycan xalqının siyasi şüurunun formalaşması, yüksək təşəkkül və fəallıq dövrü olmuşdur. Azərbaycan xalqının milli kimlik proseslərinin. Bu tədqiqat Azərbaycanda XX əsrin əvvəllərində parlamentarizm təcrübəsinin mənşəyini və onun özünəməxsus xüsusiyyətlərini araşdıran ilk tədqiqatlardan biridir.

**Açar sözlər:** parlamentarismo, poder legislative, democracia de mediação, poder dos povos.

## Introduction

In exploring the nuanced landscape of democracy, the contemporary conceptualization hinges on the pivotal role of parliamentarism as an essential cornerstone within the governance framework. Widely acknowledged by politicians, political scientists, and the public alike, the institution of parliamentarism is deemed indispensable for the manifestation of democratic principles. Whether structured as a unicameral or bicameral entity and referred to by various names such as people's assembly, national assembly, or federal assembly, the parliament stands as the representative branch of government. It plays a critical role in formulating

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the norms and codes that shape social life through the creation of constitutions and legislative acts, thereby laying the foundation for a minimally democratic state system.

This study delves into the Evolution of Parliamentarism in Azerbaijan: From the 20th Century to the Present, acknowledging the constitutional principles that underscore the democratic organization of state power. Aligning with global practices, the Constitution of the Republic of Azerbaijan articulates the imperative of dividing state power into distinct branches. To delve deeper into this principle, the country's foundational law delineates the dynamics of interaction and concurrent independence among these branches within their designated spheres of influence. However, in a state governed by the rule of law, the absolute independence of each body, particularly the executive branch, is inherently circumscribed by the legal framework.

To comprehensively grasp the significance of the study, it becomes imperative to contextualize it within the historical and political backdrop of Azerbaijan. This exploration aims to address critical research questions, elucidating the evolution of parliamentarism in Azerbaijan and its intrinsic connection to the broader discourse on democracy. By undertaking this research, we seek to unravel the complexities embedded in the historical trajectory, recognizing the imperative of understanding why investigating the issue of parliamentarism in Azerbaijan is both timely and indispensable. Therefore, the aim of this research is is to comprehensively explore and analyze the historical development of parliamentarism in Azerbaijan from the 20th century to the present. Therefore, the main sections of the research will consist of the following tasks:

1. Determine the meaning of parliamentarism through the prism of analysis from the historical and theoretical aspect of legal institutions.
2. To describe the historical evolution and national features of parliamentarianism in Azerbaijan.
3. To discuss the peculiarities of Azerbaijani parliamentarism against the background of the analysis of the influence of the Soviet political heritage and modern challenges
4. To investigate the influence of the Azerbaijan Democratic Republic on the development of democratic movements in the East.

This study aims to answer the following question:

How has the concept of parliamentarism evolved historically and theoretically within the framework of legal institutions and what are its national features in Azerbaijan?

What role has the historical evolution of parliamentarianism in Azerbaijan played in shaping its current state, considering the impact of the Soviet political heritage and contemporary challenges?

**Literature review**

The study of various facets of parliamentarism has garnered attention from foreign scholars, leading to a rich body of literature. Cheibub and Rasch (2022) identified two overarching trends through an analysis of constitutional texts across European countries spanning from 1800 to 2019. Firstly, they highlighted the constitutionalization of parliamentary practices, originating from strategic interactions between the government and parliament. Secondly, there emerged a tendency to safeguard both the executive and parliament from mutual interference. This constitutional evolution, influenced by the stabilization of parliamentarism post-World War II, demonstrates the adaptability of the system, emphasizing that contemporary regimes differ significantly from their nineteenth-century counterparts. Motos (2019) observed an "empirical turn" in research at the onset of the twentieth century, with a notable scholarly focus on evaluating the centrality of parliament in the democracy discourse of the 1920s and 1930s. The scholar emphasized how the early twentieth century witnessed transformative changes in classical parliamentarism. Post-World War II, European parliaments became battlegrounds for partisan conflicts, leading to a shift in focus for political scientists and lawyers. This shift reduced the significance of parliaments to arenas of partisan confrontations, diminishing the institution's role to mere displays of conflicts, negotiations, and vote counting. Dahlen and Skirbekk (2021) marked the late nineteenth century as a pivotal point for modernity in Europe and the early twentieth century as a period marked by conflict fueled by nationalism and class struggles. Democracy, according to the scholars, necessitates a particular skepticism about politics, with democratic processes serving as crucial guarantors of social integration in modern society. In response to the challenges of the first crisis of their time, Scandinavian countries adopted policies to fortify social democratic or social liberal welfare states with robust parliamentary traditions, aiming to uphold


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credibility and trust between governments and citizens.

Jagodzińska's (2022) work appears to focus on the legal analysis of the Declaration of Independence of the Democratic Republic of Azerbaijan from 1918 to 1920. This work provides valuable insights into the legal aspects surrounding the declaration, offering a deeper understanding of the legal foundations of the democratic republic during that period. The collaborative work by Ihalainen et al. (2016) explores the conceptual nexus of parliament. Given the collaborative effort and its inclusion in a book on the comparative history of the European concept of parliaments and parliamentarism, it offers a broader theoretical framework for understanding parliamentary systems, which could be useful for contextualizing the specific case of Azerbaijan. At the same time, the work by Alieva (2014) explores the relationship between Azerbaijan and the European Union (EU) with a focus on the impact of the country's democratization process. The author delves into how the absence or limitations of democratic practices in Azerbaijan may have influenced its diplomatic and political ties with the EU. The study likely examines the challenges and implications of democratization (or the lack thereof) on Azerbaijan's broader international relations. Gadimaliyev's (2020) work is a study that concentrates on the organizational aspects of parliamentary institutions during the Azerbaijan Democratic Republic period. The focus includes the structure, functioning, and possibly the challenges faced by these institutions during the early years of the republic. The study contributes to a better understanding of the historical development of parliamentary systems in Azerbaijan. Moreover, Gahramanova's (2009) work was centred on the democratization process in Azerbaijan. The study examines both internal and external factors that have played a role in shaping the democratization trajectory of Azerbaijan. The author explores the complexities and influences that have affected the country's path towards democratization, offering insights into the broader dynamics at play. Malikli's (2020) work concentrates on the election process for regional representatives to the parliament during the period of the Democratic Republic of Azerbaijan. The study delves into the electoral mechanisms, procedures, and perhaps the significance of regional representation in the democratic governance of Azerbaijan during that specific historical period. In addition, Rasizade (2003) provides an analysis of Azerbaijan's transition towards democracy during a specific period. The study explores the political and societal changes that occurred during this transitional phase, shedding light on the challenges and opportunities faced by Azerbaijan as it moved towards a "New Age of Democracy. Hui (2019) delved into the revolutionary beginnings of the early twentieth century in Asian countries, asserting that the origins are not to be found in geopolitical competitions but rather in the "awakening of Asia" triggered by imperialist wars. The scholar highlighted the multifaceted impact of this awakening on globalization and its enduring influence on parliamentary institutions.

Kaya's (2022) work explores parliamentarism and rationalized parliamentarism with a focus on its applicability in Turkey. It provides a comparative perspective that might offer insights applicable to your study. Understanding how different countries, in this case, Turkey, engage with parliamentarism could contribute to a broader understanding of the subject. In addition, Balampanidis and Rezola (2023) proposed that the transition from authoritarianism to democracy culminates when a country establishes parliamentary traditions. They emphasized that democratization initiates with the downfall of an authoritarian regime and concludes with the inaugural democratic parliamentary elections. The path towards democracy becoming the "only game in town" involves a myriad of formal and informal actions, symbolic gestures, political decisions, social mobilization, and institutional arrangements, regardless of whether the focus is on transition or consolidation.

Hence, the reviewed literature presents a multifaceted exploration of parliamentarism, ranging from legal analyses of historical documents, such as Azerbaijan's Declaration of Independence, to conceptual frameworks that define the nature of parliamentary systems in Europe. The works collectively emphasize the historical significance of the Azerbaijani parliament, positioning it as a crucial element in the democratic fabric of the East. Additionally, insights into the applicability of parliamentarism in Turkey contribute to a comparative understanding of diverse political landscapes. However, there is a noticeable gap in global comparative analysis, with a focus on Azerbaijan. A broader examination of parliamentary systems across this country could enrich the contextualization of the study. Moreover, a shift towards more contemporary perspectives on parliamentarism in Azerbaijan and a more in-depth exploration of the legal


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aspects could enhance the completeness of the existing literature. On the other hand, the current study endeavors to contribute significantly to the existing body of literature on parliamentarism in Azerbaijan by addressing crucial gaps identified in prior research. Several key works have been considered to offer a comprehensive understanding of the historical, theoretical, and practical dimensions of the parliamentary system in Azerbaijan. The existing literature on parliamentarism in Azerbaijan reveals certain gaps that the current study seeks to address. Notably, prior research has touched upon the impact of the lack of democratization on Azerbaijan's relations with the European Union, yet a comprehensive analysis integrating historical, theoretical, and practical dimensions of the parliamentary system in this context is lacking. Additionally, while there are studies exploring the organization of parliamentary institutes in the Azerbaijan Democratic Republic, a more nuanced understanding of the evolution and national features of parliamentarianism in Azerbaijan is needed. The examination of internal and external factors in the democratization process provides valuable insights, but a focused exploration of their specific influence on parliamentary structures is notably absent. The election process of regional representatives to the parliament of the Azerbaijan Democratic Republic has been explored, but there is a need for a more integrated analysis connecting electoral mechanisms with broader parliamentary developments. Furthermore, while Azerbaijan's transition to a "New Age of Democracy" has been studied, a comprehensive synthesis of its impact on contemporary parliamentary structures is lacking. The current study aims to bridge these gaps by offering a cohesive and in-depth analysis of parliamentarism in Azerbaijan.

## Methodology

### Research design

The study is aimed at a comparative analysis of parliamentary practice in the early 20th century in the Azerbaijan Democratic Republic (ADR) and modern parliaments. This study is of a qualitative type, as the analysis is based on a critical review of legislative acts and historical documents.

### Data collection

Qualitative data was collected through a critical review of historical documents and primary sources, such as legislation. The main selected legal acts and historical documents constitute the research materials:

1. The Constitution of the Republic of Azerbaijan (1995): this key document defined the basic democratic principles, separation of powers, and individual rights in a format that determined the country's further development (Azerbaijan, 1995).
2. The Declaration of Independence (28 May 1918): a fundamental document that declared the establishment of the independent Democratic Republic of Azerbaijan (Jagodzińska, 2022).

Modern scientific and metric databases were used for the literature search, including Google Scholar, Web of Science, Index Copernicus, Taylor and Francis, etc. Only modern literature was selected - the date range was from 2016-2023. The keywords used to search for sources are as follows: parliamentarism, the Democratic Republic of Azerbaijan, laws, documents, modern practice of parliamentarism. Based on the selected literature, a critical analysis was carried out and further used as a methodological basis for the study.

### Data analysis

The qualitative analysis is focused on identifying the main principles and innovations in the ADR legislation and their impact on the development of democracy. The methods of analysis and synthesis were used to analyse scientific papers and legal acts. The work uses several specific analysis techniques, such as coding, categorization, and content analysis (See Table 1).



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**Table 1.**
*The specific research techniques*

| | |
|---|---|
| Coding | |
| Description | The coding process involves systematically labeling and categorizing specific elements within the collected data. |
| Application | Relevant sections of legislative acts and scientific literature are assigned unique codes based on thematic content. This facilitates the identification of recurring patterns, themes, and legislative trends. |
| Categorization | |
| Description | Categorization involves grouping coded data into broader categories based on shared characteristics or themes. |
| Application | Codes related to democratic principles, separation of powers, and individual rights are categorized to discern overarching patterns and thematic clusters in the legislative landscape. |
| Content Analysis | |
| Description | Content analysis systematically examines the content of documents to extract meaningful insights, uncovering implicit and explicit meanings. |
| Application | Historical documents, such as the Declaration of Independence, undergo content analysis to identify key statements, principles, and ideological underpinnings shaping parliamentary practices during the ADR era. |
| Thematic Analysis | |
| Description | Thematic analysis involves identifying, analyzing, and reporting patterns or themes within qualitative data. |
| Application | Modern literature on parliamentarism is subjected to thematic analysis to extract key ideas, theoretical frameworks, and contemporary perspectives relevant to the study's focus. |
| Comparative Analysis | |
| Description | Comparative analysis examines similarities and differences between different sources, periods, or contexts. |
| Application | The study employs comparative analysis to juxtapose parliamentary practices in the Azerbaijan Democratic Republic with modern frameworks, highlighting changes, continuities, and the evolution of democratic principles. |

Source: Author's development

Ensuring rigor

1. Data triangulation

Reliability is bolstered through data triangulation, involving the use of multiple sources, perspectives, and methods. In this study, historical documents, legislative acts, and modern literature are cross-referenced to corroborate findings and enhance the credibility of the analysis. By comparing legal provisions in the Constitution of 1995 with historical documents like the Declaration of Independence, 1918, data triangulation ensures consistency and reliability in capturing the evolution of parliamentary practices.

2. Theoretical saturation

The study achieves theoretical saturation by thoroughly exploring and analyzing existing theoretical frameworks related to parliamentary practices. This exhaustive examination ensures that the study captures the depth and complexity of the subject matter, leaving no critical aspect unexplored. By delving into diverse theoretical perspectives on parliamentarism, the study attains theoretical saturation, offering a comprehensive understanding of the contextual and theoretical underpinnings of the research.

Intersubjective Audit

To enhance validity, an intersubjective audit is employed, involving peer reviews and consultations to assess the interpretative rigor of the study.

**Results and discussion**

Effective management of the parliamentary practice that is developed in a particular country and has its own traditions, as well as its successful implementation in practice, is crucial for successful representation in modern democracies. The world history of parliamentarism as social (class) representation in the highest authorities dates back to the activities of the English Parliament of the 13th century: the establishment of the House of Lords and the House of Commons of England, as well as the first bicameral parliament in this country in the mid-14th century, From the end of the same century, the English Parliament received the right of legislative initiative and became the prototype of modern legislative assemblies, but only after the adoption of the Bill of Rights in


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1689, which deprived the king of the right to repeal or suspend laws without the consent of elected representatives, did it become a full-fledged supreme legislative body. This classic parliament gave birth to the principles of opposition to the supreme state power, the two-party system, and lobbying, which have become integral attributes of modern European political culture.

The representative function of the parliament as a key democratic institution necessarily brings to the fore the election procedure designed to ensure genuine and most favourable representation of social, ethnic, professional, and other strata and groups of the population, which is possible to implement in certain specific conditions. Therefore, the so-called electoral democracy, democracy in the form of general elections, is the minimum necessary precondition for the democratic nature of the social order.

Minimal because at the time of its inception and approval (late eighteenth - first half of the nineteenth century), it was criticised due to the illegality of universal suffrage, which was extended to more and more categories of the population in Europe and America gradually over decades. Moreover, the adoption of the relevant laws did not guarantee only the actual participation of these categories in political decision-making but even their involvement in the political process. In other words, electoral democracy does not become a mechanical participatory democracy, a social and participatory form of democracy.

These basics of democratic practice were repeatedly reminded throughout the twentieth century when the notorious “waves of democratisation” described by dozens of contemporary researchers rose. Over the past decade and a half, states that emerged from the ruins of a system that was called communist totalitarianism or authoritarianism have been trying to learn the lessons of democracy. In assessing their experience, we should first of all proceed from the unequal starting conditions for overcoming the past in which they were. Even though they were united by belonging to a common system (the Soviet type), these states were not homogeneous and equally developed according to the criteria of the system; after its collapse, their political, economic, and socio-cultural heterogeneity (of course, with many homogeneous characteristics) became fully apparent.

The theory of state and law distinguishes between two main ways in which people exercise their power:

1. direct exercise of power (direct democracy);
2. exercise of power through representation (representative democracy).

When describing the countries of Central and Eastern Europe, it should be noted that the democratic institutions created in them after the collapse of the Soviet Union are in the process of adjustment and development, and in its middle stage. This is fully consistent with the notion that post-communist societies are going through a stage of transit before the complete formation of new social systems, in which liberal democratic institutions and Western values form a stable unity with the socio-historical practice of a certain region located to the east of the nuclear countries of European civilisation. One of the key issues in the EU is to prevent relapses of authoritarian rule, and the main factor in solving this problem is the problem of the optimal combination of parliamentary (potentially democratic) and presidential (potentially authoritarian) power. Thus, the European Parliament has expanded its powers in relation to other EU institutions, strategically using the powers it already possesses and appealing to its contribution to democratic legitimacy (Crum, 2023).

The greatest advocate of the first mentioned method of exercising power by the people was Jean Jacques Rousseau, who believed that direct democracy is a political ideal. According to his theory, it is necessary that the legislative power belongs directly to the people's assembly, in which all citizens should participate, and all other authorities should be fully subordinated to it and responsible to it. According to Montesquieu, from the perspective of the idea of representative democracy, the direct exercise of power by the people is impossible in large states and problematic in small ones, so there is a need for popular representation. According to the thinker, elected representatives are the ones who can best conduct discussions on public issues. In this case, representative assemblies should not be convened to make decisions or take active action, tasks they cannot handle, but to create new laws or monitor compliance with those already adopted. Another group of thinkers, obsessed with the protection of individual freedoms, developed a framework of parliamentarism as an alternative to Montesquieu's separation of powers, from Burke to Weber, some of whom


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were often parliamentarians themselves, preferring a central and powerful representative assembly to a system of checks and balances (Plassart, 2021).

For centuries, parliament has been the central European political institution for expressing dissent and holding debates between citizens' representatives in a spirit of fair play, while the modern parliament controls the government and bureaucracy, and claims the right to make unquestioned sovereign decisions (Ihalainen et al., 2016). The role of the parliament in the state system of the Republic of Azerbaijan is assessed from various historical, legal, and political perspectives, and in general, it is assigned a special role in the process of state-building. However, in order to fully understand the place of the Azerbaijani parliament in society and its role in public administration, it is necessary to consider the development of the country's parliamentarism.

Azerbaijan's parliamentarism is not limited to a single constitutional provision. The history of real parliamentarism in the Republic of Azerbaijan is much broader than the parliamentarism defined by constitutional norms. The history of parliamentarism in Azerbaijan does not go back several centuries, as in a number of European countries, but has been enriched by its national characteristics and political diversity during the twentieth century. At the present stage, European countries are experiencing the following processes of interaction between the legislative and executive branches of government: the executive takes on a dominant role in lawmaking, which is why parliaments are increasingly marginalised (Griglio, 2020).

The emergence of the tradition of national parliamentarism and its comprehensive formation, such as statehood and patriotism, can be traced back to the early twentieth century. Parliaments operating in European countries are the epicentres of European democracies, where policies are discussed and potentially shaped (Kiss & Sebők, 2022; Palieieva et al., 2022). The parliaments that were elected and established in Azerbaijan have gone through a somewhat different path of formation compared to other countries and have managed to occupy a special place among Muslim states. Having formed and benefited from its historical experience, the Azerbaijani parliament was able to strengthen its influence in terms of integration with the parliaments of other countries.Despite the fact that Azerbaijani parliamentarism emerged in the historical dimension, it would be wrong to assume that it was created without a well-thought-out strategy. Certainly, it is not worth talking about the real independence of the legislative and representative body that existed in the Soviet period, during which the country's party-state elite resolved all important issues, “bourgeois parliamentarism” was rejected, and such values as Western democracy and the theory of the separation of powers were denied. At the same time, the principles of the modern state and law, especially the principle of historicity, direct the study of any problem in the period of its development.

After the end of the Civil War and the transition to a new economic policy, a new stage in Soviet state-building began. During the Civil War, relations between the Soviet republics took the form of a military alliance, which was later supplemented by an economic union, bringing them closer together and leading to the need to create a single state. On 30 December 1922, a congress of representatives of the Soviet republics - the RSFSR, Ukraine, Belarus, and the Transcaucasian Federation (consisting of Azerbaijan, Armenia, Georgia, and Abkhazia) - approved the Declaration and Treaty on the Establishment of the Union of Soviet Socialist Republics. The main provisions of the Constitution of the RSFSR were based on the Constitution of the Union State of 1924. The Congress of Soviets of the USSR, which convened once a year, and from 1927 - once every two years, was proclaimed the supreme authority; in the period between the congresses, the Central Executive Committee of the USSR met three times a year.

Delegates to the Congresses of Soviets of the USSR regularly listened to reports from the government and People's Commissariats and made decisions on issues of socialist construction, such as industrialisation, collectivisation, tasks from the five-year plans, and the development of Soviet legislation. From the early 1930s, a specific procedure was established at the sessions of the Central Executive Committee: the deputies approved resolutions adopted by the Presidium without discussion. The composition of the delegates to the congresses was systematically renewed, which allowed for the involvement of workers' representatives in the activities of the highest authorities (Rahimli, 2021). However, this practice also had a downside - weak continuity. The Congresses of soviets were short-term representative institutions, and each Congress of soviets adopted its own rules of procedure. The work of the congresses was open and widely


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covered in the press. The congresses were convened for 1-3 days and were more like the Zemsky Sobors of the Moscow state. Real power was increasingly concentrated in the top party-state apparatus, which increasingly controlled the process of forming the congresses of the Soviets and its bodies. In fact, however, the Supreme Soviet of the USSR was both a facade and a pseudo-parliament, often appealing to popular sovereignty (Sablin, 2020).

A brief history of the importance of parliament in the system of state bodies shows that the Republic of Azerbaijan has some experience in studying the basic principles of parliamentarism and a number of special issues. Thus, during the Soviet period, Azerbaijan and other Soviet republics partially took into account the peculiarities of modern parliamentarism, and stabilised traditions related to such issues as the functioning of collegial legislative bodies, the organisation of their work, the legislative process, and others. Despite the fact that a class approach to political and legal issues was mandatory, one cannot dismiss all studies of the constitutional order and law of this period based on ideological considerations alone.

The proclamation of the Democratic Republic of Azerbaijan on 28 May 1918 was a significant event in world history. For the first time in the practice of the Muslim East, a republic was established and the foundation of parliamentarism was laid based on a multi-party system and pluralism of political positions: a wide range of political currents was represented in the Parliament, which was reflected in the formation of eleven parliamentary factions.

The contemporary public consciousness is awakening a deep interest in the true history of Azerbaijan, in understanding the most difficult, full of heroism, but also drama and irreparable losses, the time when the Azerbaijan Democratic Republic functioned, despite the fact that it existed for only 23 months - from 28 May 1918 to 27 April 1920, but its influence on the future fate of the Azerbaijani people is undeniable. A new stage began - the national revival and the formation of the national statehood of the Azerbaijani people. For the first time in the history of the Muslim world, a republic emerged whose state structures influenced the development of republican ideas and democratic movements in the countries of the East. The Parliament of the Republic of Azerbaijan and the legislation regulating its activities carry out their functions in accordance with the requirements, goals, and objectives of a democratic state with the rule of law. It is impossible to create a modern institution of parliamentarism and determine its further development without analysing the activities of representative, advisory, and legislative bodies that previously operated in Azerbaijan and the norms that regulated these activities. In addition, as Palonen (2020) correctly notes, parliaments themselves form their own concepts based on debates, decisions, precedents, and agreements collected in the Rules of Procedure and procedural commentaries.

Until recently, however, the history of the Azerbaijan Democratic Republic and its development in 1918-1920 have been interpreted one-sidedly, with no attempts to understand the positions of various political parties and movements of that period, to assess the activities of the parliament and government impartially, or to identify those features of historical experience that had a positive impact on the development of the republic and are therefore valuable and applicable at the present stage of state-building in sovereign Azerbaijan. Recreating in full the dramatic and at the same time significant page of national history became possible only with the restoration of the independence of the Republic of Azerbaijan.

Hence, the results obtained indicate that parliamentarism in Azerbaijan is not only a reflection of one constitutional provision but has deep historical roots. The results emphasise that the proclamation of the Democratic Republic of Azerbaijan in 1918 was defined as an important event in world history, as it was the first emergence of a republic in the Muslim East. During this period, the foundations for parliamentarism based on the multi-party system and pluralism of political positions were laid. Modern scholars agree with these statements, in particular Norden (2021) and Christiansen et al. (2021). A wide range of political currents was represented in the Parliament, which demonstrates the diversity and openness of the political process. The eleven parliamentary factions mentioned in the results indicate that there was a diversity of ideologies and views in the political life of the country. The results confirm the opinion of Ceyhun qızı Qasımova (2021) that the current interest in the history of Azerbaijan, in particular in the period of the existence of the Azerbaijan Democratic Republic, indicates a desire to understand the difficult moments of national revival and the formation of national statehood. Despite the fact that the republic existed for only 23 months, its influence on the further development of the



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Azerbaijani people is recognised as extremely important, which is also confirmed in the study by Gurbanalieva (2021) and Ismayilova et al. (2022).

It is worth agreeing with Norden (2021) that parliamentarism, its history, and development depended on a number of internal and external factors in a particular state. Thus, the success of democratic transformation in a particular region had different reasons: a) whether the country had democratic experience in its past; b) the conditions for the political and economic development of this country to develop representative institutions in the future; c) the importance of parties in the development and adoption of political decisions.

The results of the study do not contradict the opinion of Kaya (2022), who notes that many explanations and interpretations of the origin, history, and nature of the separation of powers doctrine indicate that the democratic value of the parliamentary system of government is high. According to the scholar, the incentives created by the parliamentary system can undermine democracy, as well as strengthen the mechanism of checks and balances between different branches of government. In addition, the study notes that modern parliamentary systems are undergoing changes, which are described in more detail in Almoatasm (2020), first, at the present stage, there is a need to introduce appropriate amendments to the constitutions to enable parliaments to play a more effective and influential role, taking into account the historical experience of parliamentary practice in a particular country; and second, the internal rules of procedure of the parliament of democratic states should respond to the moods and aspirations of the parliament and its members, providing adequate coverage for the implementation of new.

However, the findings somewhat contradict Christiansen et al. (2021), who argue that the study of parliaments tends to focus on the activities of elected members or individual political parties, as well as the formal procedures and informal arrangements that govern their interactions with each other, as well as with governments, interest groups, or citizens. Instead, we believe that there is research that is already expanding the study of parliaments to include aspects of governance that go beyond the activities of elected members and political parties. For example, some studies may examine parliamentary engagement with civil society, the role of committees in policy-making, or the impact of parliamentary decisions on socio-economic development (Mineur, 2020).

Thus, the scientific novelty of this study is a comprehensive study and comparison of the parliamentary practice of the Azerbaijan Democratic Republic in the early 20th century and modern legislatures. An important aspect is to determine the impact of those times on the development of democracy and the formation of modern institutions. The results of the study reveal similarities and differences in the structure and functioning of parliamentary bodies. The knowledge gained can serve as a basis for further research in the field of parliamentarism and democracy development. The recommendations based on the analysis can be used to improve parliamentary practice in the current context. Therefore, this study is important in the context of understanding the evolution of parliamentary systems and contributes to the improvement of democratic institutions both nationally and internationally.

However, like any study, this paper has certain limitations, in particular, not all historical documents may be taken into account, as access to them may be limited. This may affect the completeness and accuracy of the historical analysis. There are also language limitations. The focus is on sources available in Russian, Azerbaijani, and English. This may lead to the omission of some contextual details. Despite these limitations, the study aims to provide an objective and comprehensive analysis of the parliamentary practices of the Democratic Republic of Azerbaijan and compare them with modern legislative systems in order to draw important lessons and conclusions.

**Conclusions**

In conclusion, this study underscores the pivotal role of historical analysis in comprehending the evolution of parliamentarism, shedding light on its emergence, traditions, and enduring impact. The investigation of parliamentary practices in the Republic of Azerbaijan, juxtaposed with international counterparts, employs a historical lens to unveil the intricacies of this institutional development. By delving into the historical necessity that shaped parliamentary traditions, the study constructs a nuanced narrative, enriching our understanding of the national parliament's trajectory. The findings convincingly demonstrate that the influence of the Azerbaijan Democratic Republic transcends its brief existence, leaving an indelible mark on the national resurgence and the formation of


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statehood. Furthermore, the study highlights the global ramifications of the Democratic Republic's activities, contributing to republican ideals and democratic movements in Eastern countries during that era.

Hence, the scientific novelty lies in the comprehensive examination and comparison of parliamentary practices between the Azerbaijan Democratic Republic in the early 20th century and contemporary legislatures. The study probes into the impact of historical events on democracy's development and the formation of modern institutional frameworks. Revealing both similarities and differences in parliamentary structures and functions, this research provides foundational knowledge for future inquiries into parliamentarism and democratic evolution.

Despite these contributions, it is essential to acknowledge the study's limitations. Access constraints to historical documents may hinder the completeness and accuracy of the historical analysis. Additionally, language limitations focusing on Russian, Azerbaijani, and English sources could lead to contextual omissions. Nonetheless, these limitations are inherent in any study, and this research remains an invaluable resource for understanding the evolution of parliamentary systems. The insights derived from this study have practical applications, offering recommendations to enhance contemporary parliamentary practices on both national and international levels, thus reinforcing its significance in advancing democratic institutions.

In essence, this study stands as a beacon illuminating the historical foundations of parliamentary systems, with particular focus on the Azerbaijan Democratic Republic. Through its insightful comparisons and comprehensive analysis, it not only enriches our understanding of the evolution of democracy but also provides practical recommendations for improving contemporary parliamentary practices.

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# Comparative analysis of aesthetic and functional aspects of design approaches in the context of contemporary art

## Análisis comparativo de los aspectos estéticos y funcionales de los enfoques de diseño en el contexto del arte contemporáneo

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**Abstract**

Russian aggression against Ukraine has generated global interest in Ukrainian brands. This study analyzes and compares existing folk design approaches in Ukrainian art. **The purpose** of the article is to analyze and compare existing popular design approaches in Ukrainian art. **Methods**: theoretical research methods, such as analysis, synthesis, content analysis of scientific literature, and the axiological method, are primarily used. **The results** showed that Ukrainian art is revealed through various design approaches that help creative people to express ideas, convey emotions, and contribute to the development of culture. In particular, the current direction is ethnodesign, which promotes the maintenance of traditions and national identity, ecological design is aimed at sustainable development, the technological design integrates modern technologies into art, and emotional design attracts and makes art personal for each viewer. **Scientific novelty**: it is proven that

**Resumen**

Este estudio analiza y compara los enfoques de diseño popular existentes en el arte ucraniano. El propósito del artículo es analizar y comparar los enfoques de diseño popular existentes en el arte ucraniano. Método: Se utilizan principalmente métodos teóricos de investigación, como el análisis, la síntesis, el análisis de contenido de la literatura científica y el método axiológico. Los resultados mostraron que el arte ucraniano se revela a través de diversos enfoques de diseño que ayudan a los creativos a expresar ideas, transmitir emociones y contribuir al desarrollo de la cultura. En concreto, la dirección actual es el etnodiseño, que promueve el mantenimiento de las tradiciones y la identidad nacional, el diseño ecológico tiene como objetivo el desarrollo sostenible, el diseño tecnológico integra las tecnologías modernas en el arte, y el diseño emocional atrae y hace que el arte sea personal para

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Ukrainian designers are looking for new approaches, using motifs of folk art and synthesizing Ukrainian color, models, and patterns to create original works of clothing, architecture, brands. **The conclusions** emphasize that ecological design, technological design, and emotional design are promising directions for the development of design approaches, which will become important in the future.

**Keywords:** design, Ukraine, art, ethnic style, design approach.

cada espectador. Novedad científica: se ha demostrado que los diseñadores ucranianos están buscando nuevos enfoques, utilizando motivos del arte popular y sintetizando el color, los modelos y los patrones ucranianos para crear obras originales de ropa, arquitectura, brandsю Las conclusiones subrayan que el diseño ecológico, el diseño tecnológico y el diseño emocional son direcciones prometedoras para el desarrollo de enfoques de diseño, que cobrarán importancia en el futuro.

**Palabras clave:** diseño, Ucrania, arte, estilo étnico, enfoque del diseño.

## Introduction

The Russian-Ukrainian war, which began in 2014 and took on new significance in 2022, had an important and dangerous function for the criminal Kremlin regime. Russian aggression has renewed interest in Ukraine, its history, modernity, culture, and art both inside and outside the country. The trend of interest in Ukraine has also led to increased attention to the development of Ukrainian design as a specific field of coverage of traditional culture through the latest forms of household art, a combination of modern elements with things established in traditions and customs and artistic motifs. The relevance of researching the problem of contemporary design solutions has become important due to this external interest, which has opened up opportunities for representing this industry in the international arena with the corresponding reputational bonuses. At the same time, the need to study design practices and traditions.

*Research problema*

A comparative analysis of design approaches in Ukrainian art is also important from a scientific point of view. In fact, not much attention has been paid to the study of the complex problems of the design vision of national culture and its interpretation in accordance with contemporary models. From this point of view, the study of this issue opens up opportunities for professional comprehension of existing concepts and their combination with expressions of folk art, analysis of relevant literature, and development of own theoretical generalizations. In particular, the subject matter involves revealing the essence of the design approach in art as a kind of creative tool or methodology that allows artists to create their new works. Its foundations are based on the basic principles of design, which means that it is about balance, composition, visual aesthetics, and interaction with viewers or consumers. The transfer of this definition to the Ukrainian cultural context will also require attention, as researchers have not paid attention to this issue for a long time.

*Research focus*

The main focus of the article is to identify the peculiarities of the design approach in modern Ukrainian realities. Due to this, it is proposed to consider it through the lens of modern trends in education, art, and traditional Ukrainian culture.

*Research aim and questions*

The purpose of the article is to analyze and compare existing popular design approaches in Ukrainian art.

The realization of this goal involves the following tasks:

1. Analysis of the theoretical basis of the study through the prism of analysis of modern professional literature.
2. Consideration of the peculiarities of using the design approach in modern Ukrainian realities.

The relationship between art and design based on the analysis of the design approach.

In the forthcoming sections of this paper, readers will encounter an exploration of the theoretical underpinnings of the study, delving into the analysis of contemporary professional literature. Following that, the paper will shift its focus towards an examination of the distinctive applications of design approaches within the context of modern Ukrainian realities. Finally, the interconnection between art and design will be explored, drawing insights from the comprehensive analysis of the design approach.



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**Theoretical framework or literature review**

The problem of design is relevant for contemporary research. If we analyze the basic principles of modern design theory, we will see a variety of ideas about it. Some experts emphasize that design contributes to a significant improvement in the quality of life, the development of unprecedented innovative technical forms, graphic and color solutions based on the use of modern technologies. Turning to national design schools is an integral part of this vision. Other researchers are concerned about the active expansion of design beyond the professional component and its transformation into a subculture based on primitive imitation of current forms (Senka, 2016). However, all researchers agree that at the beginning of the twenty-first century, design entered a new stage of its development, in which new approaches appeared that influenced the functioning of Ukrainian art. In modern concepts, design forms certain design environments in social contexts. Obviously, such views are formed based on the integration of design art into public life under the influence of digitalization and globalization. The main subject of design is expanding in accordance with social design, style construction, and the synthesis of new cultural or social values (Hu et al., 2021). Therefore, researchers generally emphasize the importance of design for the further development of social life, considering it among the integral elements of artistic life. The further evolution of design as an artistic movement is an important theoretical achievement of modern scholars.

It should be noted that modern artistic trends see design activity as a manifestation of new images of the present, aspects of the culture of tomorrow (Prince et al., 2021). Design, using the figurative and stylistic trends of art in its own way, contributes to the spread of a distinctive spirit of contemporary art, which brings certain results of artistic activity to the level of mass culture. Therefore, a noticeable consequence of the interaction between art and design is, first of all, the flow of formative ideas from the field of art and its principles to a new visual solution of design objects, the influence of art forms on the development of design projecting (Habrel, 2017). Combining modern trends with classical trends is a kind of trend in modern design views.

The study by Habrel (2017) emphasizes that in contemporary art, design is defined as a kind of “whole process or result, even as a method of thinking”. It is worth noting that this work characterizes the key features of the design profession in Ukraine and outlines the main problems of design theory and practice.

Fedorenko (2021) explored current trends in combining art and technology, in which design plays a leading role.

Bukharova & Urozhenko (2020) analyzed the impact of modern technologies on the phenomenon of art criticism. Senka (2016) also addressed similar issues, describing the impact of digitalization on the development of contemporary art. At the same time, Kryvushenko (2022) identified the archetypes of Ukrainian culture, emphasizing the importance of ethnological studies in the study of art. Kukhta & Pelevin (2015) focused on the practices of ethno-design in contemporary artistic concepts.

Luhantseva (2017) analyzed the use of design solutions in the interior of modern Ukrainian buildings based on a comparison with traditional examples of folk culture.

The views of scientists can be summarized in the form of a table (See Table 1).

**Table 1.**
*The main concepts of the researchers*

| Concept | Meaning |
|---|---|
| Combination of classics and modern technologies | Researchers have repeatedly emphasized the use of traditional concepts as an important element of contemporary design education and work. This helps to form a specific idea of the future of the industry, which consists in the synthesis of traditional forms with modern trends in graphic development, etc. |
| The impact of digitalization on design | The researchers' concept is the impact of modern digital technologies on the field of design. It is worth recognizing that at the present stage of social development, digitalization has become deeply integrated into all spheres of public life. |

Source: compiled by the authors



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Therefore, the existing ideas need to be further substantiated. The theoretical nature of developments is an important element of cognition and forecasting the future.

**Methodology**

*General background*

The research aimed to comprehensively investigate the development of contemporary Ukrainian design and its integration with global practices. To achieve this objective, a combination of theoretical research methods was employed, focusing on analysis and synthesis. The primary goal was to identify the main directions of development in Ukrainian design and explore its alignment with modern global approaches.

The main subject of the study divided into several smaller parts: identifying the main directions of development of contemporary Ukrainian design and its integration with the approaches used in modern world practice. After that, these separate parts were combined based on these methods to form common conclusions. In addition, other important general scientific theoretical methods were used for the study, such as content analysis, axiological approach, and prognostic method.

*Data collection*

The selected literature encompasses a diverse range of sources, including conference papers, journal articles, and book chapters. To ensure a comprehensive understanding of the design methodologies discussed, a systematic data collection approach was employed.

1. Bibliographic information gathering. A thorough review of each publication was conducted to extract essential bibliographic information, including author names, publication years, titles, journal/conference names, volume/issue numbers, and DOI (Digital Object Identifier) links.
2. Extraction of key concepts. Relevant key concepts and themes pertaining to design methodologies, advancements, and applications were systematically extracted from the literature. This involved identifying core ideas, theoretical frameworks, and practical insights presented in each work.
3. Categorization and classification. The collected literature was categorized based on the nature of the design methodologies discussed. This involved grouping publications by themes such as advanced package design, teaching methods in architectural disciplines, effective design methodologies, digital technologies in art, and the intersection of art and technology.
4. Identification of research methodologies. A focus was placed on understanding the research methodologies utilized in each study. Information regarding the methods employed to gather data, conduct analyses, and draw conclusions was extracted. This aids in discerning the rigor and validity of the research presented in the literature.
5. Assessment of relevance to Ukrainian design. Given the overarching context of Ukrainian design, particular attention was paid to aspects directly relevant to the Ukrainian design landscape. This included the exploration of Ukrainian cultural influences, trends in digital art, and the integration of modern design approaches in the local context.
6. DOI and URL verification and accessibility. The DOI and URL links provided in the bibliographic information were verified to ensure accurate referencing. Additionally, accessibility of each publication was considered, emphasizing open-access sources for inclusivity and replicability.

By adopting this structured approach, the data collection process aimed to comprehensively capture the essence of each publication, fostering a nuanced understanding of design methodologies and their applicability within the Ukrainian context. This information is crucial for further analysis and synthesis, aligning with the research objectives outlined in the methodology.

*Data analysis*

The prognostic method allowed us to consider the future development of design approaches in Ukraine. Content analysis was used at the initial stages of the study to collect information on the research topic and analyze the professional scientific literature on existing design approaches in Ukraine and the world. The axiological method of research involved the identification of core values and guidelines that will contribute to the further evolution of the value of education and the establishment of appropriate ideas in design work. First of all, we are talking about the analysis of Ukrainian traditional culture and its value orientations. In some cases, the method of comparison was used to identify differences, in particular in the assessments of scholars, as well as to highlight the features of modern design approaches.


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In the context of the gathered literature, it is important to note that the majority of the sources do not explicitly utilize measurement instruments in the traditional sense, as they are not empirical studies with quantifiable variables requiring such instruments. It's essential to acknowledge that the nature of the literature, which includes conceptual papers, reviews, and qualitative studies, often focuses on theoretical frameworks, artistic expression, and cultural analysis. In such cases, the traditional notions of reliability and validity associated with quantitative research may not be directly applicable.

## Results and discussion

### The design approach in art: peculiarities of its use in Ukraine

The utilization of the design approach in the context of Ukrainian art exhibits both positive and negative aspects. Fundamentally, the essential characteristics of the design approach within the realm of art are regarded as a collection of elements defining cultural expressions from a design perspective. This approach is manifested through addressing practical needs or addressing the challenges inherent in achieving specific outcomes desired by artists or designers in their work. Noteworthy outcomes encompass the creation of diverse art objects suitable for particular environments, the formulation of graphic design models for brands, the conception of various thematic installations, and the initiation of art projects. Crucially, there is an emphasis on the functionality and significance underlying the purpose of artistic work. Art, beyond serving aesthetic preferences and providing pleasure, is envisioned as an interactive experience that engages with both the viewer and the environment. Achieving this dynamic involves embracing an eclecticism of perspectives and styles, as posited by Acito (2019). In specific terms, the design approach facilitates inventive experimentation with an array of materials, techniques, and formats, offering artists the ability to amalgamate multiple artistic techniques and styles to generate unique works, as noted by Michaud (2022).

The integration of the design approach into Ukrainian art transcends conventional forms and ideas, enabling the creation of innovative and captivating works that influence the perceptions and experiences of viewers. Art designers, in pursuit of this, frequently leverage design principles such as variation, contrast, proportion, and color harmony, aiming to craft well-balanced and visually appealing works for consumers. In the current developmental stage, the design approach in Ukraine unfolds new prospects. Ukrainian art actively incorporates diverse design methodologies, including ethno-design, noosphere, ecological, technological, and emotional paradigms. The design sphere becomes an environment where specialists articulate individual needs, fostering a harmonious milieu through the mutual adaptation of folk traditions and innovative approaches. Presently, design has evolved into a tangible dimension of Ukrainian culture, adapting established traditions from folk culture to the contemporary, often militarized, environment. Beyond shaping object-spatial forms, design exerts influence over the perceptions and attitudes of individuals towards these forms, as asserted by Aljad (2023). Consequently, the amalgamation of modern military aesthetics into design allows for shaping the international perception of Ukraine.

### Interrelation of art and design: consideration of design approaches

The theoretical basis for the realization of modern design activity is some socio-ontological problems and the noospheric approach, based on which practical cultural and art historical models function in design (Asante, 2018). This, in turn, can significantly optimize the social significance and social functions of the design itself. The use of design in the noospheric approach is aimed at eliminating the conflict between the individual and the destructive process of the modern industrial and technological potential of today's society. Another important design direction in the development of art in society is the formation of an artistic outlook through design thinking. Architects and artists can be considered pioneers in the field of design who realized the key potential opportunities that open up to them based on the development of scientific and technological progress (Bukliv et al., 2023).

Accordingly, design is now seen as a complex interdisciplinary design and artistic activity aimed at creating the human subject world on an industrial basis. If the earlier design was considered the periphery of art, nowadays they are interconnected. In the 21st century, design and art began to lean more and more towards aesthetics along with the evolution of socio-aesthetic forms and principles. Any activity aimed at forming various aesthetically expressive forms has been called art (Deora, 2021). Many contemporary Ukrainian art museums organize exhibitions of various sizes and open permanent exhibitions of graphic and industrial design or


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host reviews of iconic design objects that can be compared to works of art.

An important direction in the development of contemporary art is the ecological design approach, which is expressed based on the relationship between living organisms and the environment (Liu & Zhang, 2019). Ecological design plays a peculiar role of linking industrial production with the habitat of humans and other living organisms. The main subject of this area is the set of connections between organisms and the environment (Shu-Yang et al., 2004). It is worth noting that the issue of ecological development of art gained socio-political significance in the 70s of the XX century when the ecological approach became a kind of reaction to the development of the scientific and technological revolution. Today, both in Europe and in Ukraine, the development of ecological thinking is especially relevant among artists. It should be noted that the ecological approach involves the integration of the principles of ecology and art based on sustainable development of the process of creating products, services, or objects. The goal of ecological design is to reduce the negative impact on the environment and contribute to the creation of a more sustainable and environmentally friendly world (See Table 2).

**Table 2.**
*Basic principles that impact the design approaches in art*

| Principle | Features |
|---|---|
| Material saving | Use of renewable materials, recycling, and avoidance of harmful substances. |
| Energy efficiency | Reducing energy consumption during the production, use, and recovery of products. |
| Renewable energy | Use of renewable energy sources, such as solar, wind, or hydroelectric power. |
| Durability | Creating an art object that has a long service life and the ability to be repaired, replaced, and recycled. |
| Minimal waste | Minimize waste production and promote its recycling or reuse. |
| Ecological aesthetics | The use of natural shapes and colors, natural materials, and a focus on harmony with nature. |

Source: compiled by the authors

Applying an ecological design approach can be important for Ukrainian art for several reasons. First, it is about preserving cultural heritage. Ukraine has a rich cultural heritage, and the use of eco-design can help preserve traditional production methods and craftsmanship, as well as the use of natural and renewable materials in the production of artwork. At the same time, the use of ecological design principles can help to avoid overloading natural resources and ensure the sustainability of art materials (Sheil, Marengo & Karlsson, 2020). On the other hand, through their creative works, artists can raise issues of environmental awareness and the environmental crisis, helping to spread the ideas of sustainable development and responsible consumption among the public (Combelles, Ebert & Lucena, 2020).

However, it is worth noting that ecodesign does not limit the artistic freedom of artists, but rather gives them the opportunity to expand their creativity, looking for new ways to express their ideas, working in harmony with nature, and contributing to the creation of more sustainable art.

In the Ukrainian context, interest in the synthesis of design and folk culture has led to specific results (Nikolayeva & Maksymenko, 2019). First of all, Ukrainian designers try to find inspiration and creative ideas in the richest arsenal of ancient art. Turning to authentic features against the backdrop of the unfolding Russian aggression is especially relevant. The areas of Ukrainian folk art that are aimed at shaping the aesthetic and practical characteristics of objects of the material environment are of the greatest interest among specialists (Mironova, 2021).

The practice of making objects of Ukrainian folk art, polished over the centuries, is an effective combination of aesthetic, functional, ergonomic, and technological properties. For this reason, ethno-design is the most popular area of artistic design today, as it is a project work on the formation of modern forms of the material environment with reference to the traditional details of the culture of a particular people. We should agree with the researchers who also emphasize another definition of ethnic design - a specific artistic trend that has emerged as a certain alternative to the established technocracy of modern life, driven by the desire to preserve elements of the identity and originality of each nation (Kukhta & Pelevin, 2015). Contemporary Ukrainian designers often draw attention to national colors and colors, symbols, shapes, and


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motifs in their works, and are inspired by examples of traditional folk culture, looking for appropriate inspiration for projects. This approach allows them to successfully emphasize the originality of their own works and make them attractive to consumers (Setlhatlhanyo et al., 2019).

Traditional Ukrainian folk architecture is interesting for designers primarily because of the peculiarities of space organization and the appeal to maximize the potential of natural resources. This is also noted by researchers who are interested in the style of Ukrainian traditional dwellings, which are quite modern when using certain elements of modernity (Luhantseva, 2017). The combination of architectural forms with the landscape and distinctive features of the natural environment are special features of the modern design of Ukrainian architecture.

Fashion is an important manifestation of the design approach in the development of contemporary Ukrainian art. In particular, public events that demonstrate certain elements of Ukrainian history, ethnic and folklore events, ethnic fashion competitions - all these projects take place annually in many Ukrainian regions, receiving appropriate support from consumers and fashion connoisseurs. To create their collections of clothing, footwear, and various accessories, Ukrainian fashion designers have artistically reinterpreted national motifs and creatively combined them with various forms of modern products. Fashion artists actively used the forms of ancient national clothes, their structural combinations, style, ornamentation motifs, and other specifically Ukrainian cultural features in a new way.

The world of household items is also a hotspot for design projects using elements of folk culture (Ebenezer, 2019; Fan, 2021). In particular, a very promising area in which design approaches are actively used in combination with traditional cultural elements is the creation of packaging or labels for consumer products. To do this, they usually turn to elements of folk art to emphasize compliance with environmental safety and traditional manufacturing technologies, as well as the nationality of the product (Mironova, 2021). First of all, designers use standard archetypal cultural symbols that link products to Ukraine: sunflowers, stylized wells, viburnum, peasant houses, elements of national dress, etc. In practice, this leads to unique design solutions in the design of packaging, labels, etc. Designers especially emphasize the depiction of Ukrainian Cossacks with a detailed emphasis on the details of the national costume, figures whose profiles and surnames are associated with the Ukrainian past. The main features of Ukrainian graphic art can be characterized as a desire to use static compositional solutions, widely introducing the principle of nuance, the embodiment of aesthetic folk art (decorative, detailed, free outlines characteristic of visual culture), an optimistic perception of reality, softness, warmth, and humorousness of certain images.

Due to active digitalization, Ukrainian art has begun to actively use a technological approach. It reflects the use of modern technologies, materials, and innovations in the creation of artworks (Senka, 2016). This approach allows artists and designers to realize their ideas through the prism of innovation, to realize technically complex and exciting projects that were previously unattainable through traditional methods (See Table 3).

**Table 3.**
*Characteristic features of digital design*

| Characteristic feature | Explanation |
|---|---|
| Realization of digital art | Ukrainian artists use computer programs, graphics tablets, and other digital technologies to create art. This includes digital painting, illustrations, computer graphics, and other digital works. |
| Use of innovative technologies | In particular, artists use 3D modeling and printing to create sculptures, models, installations, and other three-dimensional works. Some Ukrainian artists use VR technologies to create immersive art objects where the viewer can interact with the work and become part of the creative process. |
| Use of computer design technologies | Ukrainian designers actively use computer programs and editors to create graphic works, logos, printed materials, web design, etc. (Bukharova & Urozhenko, 2020). |
| Use of new technological materials | The use of new materials, such as reflective, photochromic, or nanomaterials, allows for special effects and atypical artistic solutions. |

Source: compiled by the authors



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At the same time, it is important to develop an emotional design approach that is actively used in Ukrainian art. Emotional design in Ukrainian art is used to create works that evoke strong emotional reactions from viewers. This approach allows artists to convey their feelings, moods, and ideas and also helps to develop empathy and form an emotional connection with the audience. Emotional design can be manifested in various artistic genres and forms. In particular, in painting, sculpture, installation, photography, video art, film, etc. For example, some Ukrainian artists create paintings that convey deep emotions such as joy, sadness, love, anxiety, etc. Colors, composition, shapes, and textures are mixed in such a way as to create a special mood and promote emotional perception. In sculptural and installation works, emotional design is expressed through the use of form, facial expressions, and anatomical details. Such works can evoke strong emotions and admiration in viewers. Emotional design is also used in photography to convey real stories and events with a strong emotional impact. Photos can express joy, sorrow, suffering, hope, etc. In music and dance, emotional design is embodied through melody, rhythm, movements, and interpretation of performers, allowing them to convey different feelings and moods (Song, 2019). The emotional design of Ukrainian art helps to form a connection between artists and audiences, creating a unique artistic experience. It allows the expressing emotions, feelings, and ideas through art and promotes interaction between the creator and the viewer.

Therefore, taking into account the above statements, we will conduct a final comparative analysis of the main design approaches in Ukrainian art, taking into account such criteria as: the main idea, connection with the general field of use, manifestation in art, and significance (See Table 4).

**Table 4.**
*Final comparative review of design approaches in Ukrainian art*

| | | | |
|---|---|---|---|
| Ethnic design (ethnodesign) | | | |
| Main idea | Connection with culture | Manifestation in art | Significance |
| The use of traditional Ukrainian motifs, ornaments, and symbols in art. | Draws attention to the national identity and cultural heritage of Ukraine. | It is manifested in Ukrainian household items: folk towels, embroidered shirts, ceramics and folk crafts, fashion, interior design, architecture, etc. | The use of ethnic design helps to preserve the traditions and history of Ukraine and shows the people's pride in their cultural heritage. |
| Ecological design | | | |
| Main idea | Connection with nature | Manifestation in art | Significance |
| Creating aesthetically pleasing and functional products and environments that have a minimal negative impact on the environment. | Ecological design is aimed at preserving natural resources and minimizing waste. | Ecological design can be found in the use of environmentally friendly materials, the recycling of secondary resources, as well as in the creation of appropriate installations and art objects. It is also actively used in fashion, interior design, architecture, etc. | Ecological design contributes to sustainable development, helps to preserve the natural environment, and raises awareness of environmental issues. |
| Technological design | | | |
| Main idea | Connection with technology | Manifestation in art | Significance |
| Using modern technologies, materials, and innovations to create artworks. | Technological design promotes the integration of technology into art, which opens up new opportunities for artists. | Technological design can be manifested in the use of digital media, 3D modeling, augmented reality (AR), virtual reality (VR), and other technologies. It is actively used in many types of contemporary art. | The technological design allows artists to expand the boundaries of their creativity, add interactivity and dynamics to their works, and create immersive art experiences. This approach of Ukrainian art is used to create innovative and unique projects that combine art with advanced technologies. |
| Emotional design | | | |
| Main idea | Connecting with the audience | Manifestation in art | Significance |


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| | | | |
|---|---|---|---|
| Creating artworks that evoke strong emotions and foster an emotional connection between the author and the audience. | Emotional design aims to engage, enthuse, and empathize with the audience, allowing them to feel and experience the ideas and emotions that are embedded in the artwork. | Emotional design can be found in visual elements, composition, use of colors, and in the content of works. It is used in various art forms: painting, photography, sculpture, installation, film, music. | Emotional design helps to strengthen the connection between the artist and the audience, creates an opportunity for empathy and understanding, and makes art more personal and memorable. |

Source: compiled by the authors

Thus, Ukrainian art is characterized by various design approaches that help creative people express their ideas, convey emotions, and promote cultural development. Ethnodesign supports traditions and national identity, ecological design promotes sustainable development, technological design allows the integrating modern technologies into art, and emotional design engages and makes art personal for each viewer.

**Conclusions**

Thus, various design approaches in Ukrainian art help creative people express their ideas, convey emotions, and promote cultural development. Ethnodesign supports traditions and national identity, ecological design promotes sustainable development, technological design allows for the integration of modern technologies into art, and emotional design engages and makes art personal for each viewer. The interest in the Ukrainian brand amid Russian aggression has intensified the search for Ukrainian designers who effectively use folk art motifs, color, and basic models to synthesize and form new designs of clothing, architecture, patterns, brands, etc. The popularity of the ethnic style in Ukrainian design (such as vyshyvanka) will also grow because designers have turned to folk art relatively recently, and as a result of military actions, interest in Ukrainian culture has increased, not only in the Ukrainian market.

Ecological design, technological design, and emotional design allow us to use separate or synthetic elements of different styles, combine them in one work, and create multifaceted and interesting art projects. Thanks to this diversity of design approaches, Ukrainian art has open prospects for development, attracting attention and captivating audiences with bright works that have an important impact on society and the country's cultural heritage. At the same time, these styles are just beginning to be used by Ukrainian designers. The peculiarities of their integration into the Ukrainian cultural circle will require additional artistic review in the future.

The study has different limitations. The chosen research methods and tools may have inherent limitations, such as potential biases, constraints in sample representativeness, or reliance on self-reported data, impacting the reliability and validity of results.

The prospective exploration of the comparative analysis of aesthetic and functional aspects of design approaches in the context of contemporary art holds significant promise for advancing our understanding of the intricate relationship between form and function in artistic expression. Investigating how various design approaches contribute to both aesthetic appeal and practical utility within the realm of contemporary art could unveil novel insights into the evolving dynamics of artistic creation. This research avenue has the potential to inform not only the theoretical frameworks underpinning design methodologies but also practical applications, influencing how artists and designers navigate the interplay between aesthetics and functionality in their creative endeavors. Additionally, such a comparative analysis could contribute to the development of guidelines and best practices, fostering a more informed and nuanced approach to the integration of design elements in the ever-evolving landscape of contemporary art.

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# The constitutional nature of local self-government

## Yerli özünüidarənin konstitusiya xarakteri

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**Abstract**

The relevance of the study lies in the importance of the functioning of local self-government bodies for ensuring democracy in European countries. The purpose of the study is to examine the constitutional foundations of the institution of local self-government, and the task of the study is to analyse the role of the European Charter in this process. The following methods were used in the study: induction, deduction, and abstraction. The main conclusion of the study is to argue that the European Charter launched a local government reform aimed at improving the efficiency of local governments as an independent level of public authority, as close to the population as possible. However, today, municipal authorities in many countries are fundamentally different from those that were created in previous years. This is primarily due to the lack of the necessary amount of own revenues to enable them to exercise their powers independently. The majority of municipalities need government assistance and intergovernmental transfers. The need to control the expenditure of state budget funds has led to the main trend in the development of local self-government in the Republic of Azerbaijan being its integration into the vertical of public power.

**Keywords:** local self-government, centralization of power, European Charter, Azerbaijan.

**Mücərrəd**

Tədqiqatın aktuallığı Avropa ölkələrində demokratiyanın təmin edilməsi üçün yerli özünüidarəetmə orqanlarının fəaliyyətinin vacibliyindədir. Tədqiqatın məqsədi yerli özünüidarəetmə institutunun konstitusiya əsaslarının araşdırılması, tədqiqatın vəzifəsi isə bu prosesdə Avropa Xartiyasının rolunun təhlil edilməsidir. Tədqiqatda aşağıdakı metodlardan istifadə edilmişdir: induksiya, deduksiya və abstraksiya. Tədqiqatın əsas nəticəsi, Avropa Xartiyasının əhaliyə mümkün qədər yaxın, müstəqil public hakimiyyət səviyyəsi kimi yerli özünüidarəetmələrin səmərəliliyinin artırılmasına yönəlmiş yerli idarəetmə ıslahatına istiqamətlənməsinin iddia edilməsidir. Lakin bu gün bir çox ölkələrdə bələdiyyə orqanları əvvəlki illərdə yaradılanlardan əsaslı şəkildə fərqlənir. Bu, ilk növbədə, onların öz səlahiyyətlərini müstəqil şəkildə həyata keçirmələri üçün lazımi gəlirlərinin olmaması ilə əlaqədardır. Bələdiyyələrin əksəriyyətinin dövlət yardımına və hökumətlərarası köçürmələrə ehtiyacı var. Dövlət büdcəsi vəsaitlərinin xərclənməsinə nəzarət zərurəti Azərbaycan Respublikasında yerli özünüidarəetmənin inkişafının əsas tendensiyasıdır, onun şaquli publik hakimiyyətə inteqrasiyasına gətirib çıxarmışdır.

**Açar sözlər:** yerli özünüidarə, hakimiyyətin mərkəzləşdirilməsi, Avropa Xartiyası, Azərbaycan.

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## Introduction

The expansion of representative democracy and its forms at the local level in the Republic of Azerbaijan, involving residents of its regions in various forms of local self-government, is one of the most relevant tasks of municipal and broader state building. According to the constitutional nature of local self-government as the most proximate level of public authority to the population, local self-government opens up broader opportunities for the use of forms of direct expression of the will of citizens compared to other - state - levels of public authority. In countries whose statehood is based on the principles of legal democracy, the direct participation of the population of municipal entities (given its small size) in the elections of local self-government bodies is manifested not only in the voting process but also in the nomination of candidates for deputies. At the level of local self-government, the subjects of the electoral process are usually entities operating within the local community - territorial collectives (community organizations, professional groups, interest organizations, etc.) according to their number, organization, degree of participation in the resolution of local self-government issues in a particular municipal entity, as well as individual citizens. Accordingly, the feedback between the deputies of representative bodies of municipal entities and the citizens who elected them is closer than at other levels of public authority.

The analysis of the practice of implementing the institution of local self-government in the Republic of Azerbaijan in recent years suggests that there is a certain tendency to smooth out the peculiarities of local self-government. In order to increase the degree of controllability of the regions, the state is increasingly integrating state power into local government on various issues, and therefore "depriving" local government of the features inherent in public power. Thus, in the near future, it may become a level of state power exclusively, albeit with some features inherent in public institutions. This situation seems to be due to the fact that the optimal model of relations between local self-government and state power in Azerbaijan has not yet been created, although it has been under construction for more than a decade.

In this context, this study aims to examine the interaction between state and municipal authorities, with particular attention to the institution of local self-government. The study will analyze the main provisions of the European Charter and their impact on the functioning of local self-government, taking into account constitutional provisions.

The study is divided into three sections. The first section provides a literature review on local self-government and centralization of power. The second section analyzes the methodology used in the study. The third section presents the results of empirical research on the interaction between state and municipal authorities in Azerbaijan.

Accordingly, the purpose of the study was to examine the issue of interaction between the state and municipal authorities, to enshrine the institution of local self-government at the legislative level, and to reflect the principles of its operation in the Constitution of the Republic of Azerbaijan. In accordance with the objective, the tasks of the study were to examine the main provisions of the European Charter and to study its impact on the functioning of the local self-government institution, taking into account constitutional provisions.

It is expected that this study will contribute to understanding the trend towards centralization of power in the bodies of local self-government in Azerbaijan and identifying possible ways to address this issue.

## Literature review

This literature review examined research on local self-government, recognizing decentralization of power, citizen participation, the use of information and communication technologies in local governance, and human rights protection as important issues in the field of local self-government. It was argued that this thematic area is relevant and will be further investigated in the future. This study aims to contribute to understanding local self-government by examining the research question of the mechanism of implementing the institution of local self-government. Thus, Hedulianov (2023) notes that at the present stage, much attention is paid to the activities of local self-government bodies. In particular, the scholar notes that the bodies of self-organisation of the population cannot be recognised as "representative bodies" (despite the presence of adjectives in the name of the analysed institution of constitutional law and the analysed group of bodies). According to the scholar, they are of a public nature since they are an element of the local self-government system.


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An important research question is the study of the history of the formation of the institution of self-government in the Republic of Azerbaijan. According to Chernadchuk et al. (2023), the institution of local self-government has developed gradually, and in the post-Soviet countries, the final stage of its formation was the decentralisation reform, which significantly expanded the organisational and legal support for the activities of local self-government bodies. Normative regulation of this institution is contained in the constitutions of the countries, which contains the definition and basic principles of local self-government and is fully ensured by the relevant laws on local self-government. Organisational support is provided by departments and offices that are authorised to establish local self-government bodies within their competence and delegated powers.

An important research question is the study of the history of the formation of the institution of self-government in the Republic of Azerbaijan. As Singh (2023) rightly points out, local governments can distribute administrative burdens and handle local affairs democratically and with better understanding, as it serves as one of the cornerstones of building democracy from the grassroots. The growing trend of decentralisation of power, according to the scholar, provides people with a platform for direct participation in the functioning of democratic governments. However, as the scholar notes, local authorities are constantly facing numerous challenges, and one of the most notable problems is the lack of fiscal autonomy, and in most countries, a wave of greater politicisation of local government by political parties is steadily growing.

It is important for the further development of the institution of self-government to regulate issues regarding defining its relationship with politics, as well as its influence on the processes of decentralization of power. As Kryvoshein (2023) rightly notes in his research paper, at the present stage, society has received qualitatively new opportunities for obtaining political information, so political actors are forced to work not only on disseminating information but also on creating demanded political content. According to Naldi & Magliveras (2013), negative political phenomena are no less of a threat to the institution of local self-government in the world. For example, a country may decide to withdraw from the Council of Europe, resulting in the cessation of obligations under numerous international legal instruments, such as the European Charter, as they will lose their legal force. In many cases, a legal withdrawal is provided for if certain conditions and stipulated requirements are met, but, as the scholar rightly notes, the question remains whether states have the unilateral right under international law to withdraw from such obligations in the absence of express permission to do so. Scholars have concluded that, in light of the special nature of human rights treaties and frameworks, withdrawal is legally inadmissible in the absence of a clear indication to the contrary.

The question of the impact on the institution of municipal governance by factors such as pandemics and armed conflicts between countries is relevant. A similar point of view is supported by Juszczak & Sason (2023), who note that recent events, such as the COVID-19 pandemic and Russia's war against Ukraine, once again confirm the need for the EU to protect its citizens from the exploitation of known and new potential vulnerabilities, fully respecting fundamental rights and freedoms, as preventing violations of their rights, detecting such violations and enforcing the relevant constitutional provisions for protection are key components of the EU security architecture, including in terms of the exercise of the right to self-determination. It is equally important to take into account the requirements of the new time and the digital era, as Contini (2020) notes, digital technologies in the modern world are used in various types of legal activities, including judicial, law enforcement, law enforcement, and human rights protection. It is also relevant that the function of establishing law and stabilising social relations is most clearly expressed in relation to the procedural status of various subjects: the establishment of fundamental human and civil rights and freedoms, the competence of bodies and officials, and the legal personality of individuals and legal entities (Khalilov, 2023).

Currently, there is a focus on studying the impact of technological progress and innovative technologies on the institution of local self-government. The introduction of information and communication technologies by local governments and their application in their activities was also studied by David et al. (2023), who noted that, in accordance with the provisions of the European Charter, the following digital strategies can be used through the lens of people, processes and technological frameworks: (a) those related to people aspects, including creating a platform for public participation, building skills of employees and developing positive thinking of decision makers; (b) those



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related to As Valle-Cruz & Sandoval-Almazan (2017) noted in their paper, new technologies in developing countries (including the Republic of Azerbaijan) improve organisational efficiency, create new channels of communication, overcome bureaucratic barriers, and facilitate decision-making, while technologies that are backed by laws, such as the European Charter, increase transparency and improve government interaction with citizens.

Despite numerous studies on this issue, the following issues remain unresolved. The European Charter of Human Rights obliges the states that have joined it to apply fundamental principles guaranteeing the political, administrative, and financial autonomy of local communities in the context of decentralisation of power, which involves the transfer of decision-making rights to bodies that are not hierarchically subordinated to central authorities and are most often elected by the citizens concerned, but the justification for decentralisation is usually twofold. First, decentralisation, by placing the management of affairs directly in the hands of the people concerned, has democratic advantages, and democracy is much more realistic at the local scale than at the national level. Secondly, decentralised governance, as long as the necessary means and conditions are provided, is much less difficult and much more practical than centralised governance. Effective decentralisation, therefore, requires that local communities be given certain competence and adequate means to address the issues they are mandated to address, that they be given the opportunity to form their own self-governing bodies, and that central government control over the activities of local bodies be limited.

**Methodology**

The research was conducted using theoretical methods, namely: methods of induction, deduction, analysis, synthesis, and abstraction.

The method of induction was used to study the nature of the institution of local self-government in the Republic of Azerbaijan, to philosophically understand the origins of its formation, and to find out the peculiarities of its formation in a country that belongs to the post-Soviet states. By using the method of induction, the study found that in world practice, local self-government is recognised as one of the main foundations of a democratic society. The strategic goal of local self-government is the active development of municipalities, which are a real element of the constitutional order of a country.

By using the method of deduction, the study concludes that the most important significance of the European Charter for the institution of local self-government is that, according to its provisions, and even the general understanding, the principle of local self-government should be recognised in the legislation of the participating countries in one way or another, and, as far as possible, in the constitution, and the powers of local authorities should be established in the constitution or law. The European Charter thus aims at transforming local self-government into a full-fledged constitutional and legal institution. The implementation of the European Charter in the Republic of Azerbaijan had its own peculiarities due to the fact that local self-government in Azerbaijan, unlike in a number of other countries, was established not at the initiative of the population, but at the initiative of the authorities. The reason for this process is that there were no deep traditions of local self-government in this country, so it was impossible to form the institution of municipalities immediately after the adoption of the Constitution, and it was necessary to create an idea of local democracy among the population and authorities.

Using the method of analysis, this study concludes that the approach enshrined in the European Charter has to some extent determined the dynamics of further changes in the legislation of the countries of Anglo-Saxon law - members of the Council of Europe. In these countries, the principle of “positive” regulation of local authorities has traditionally been applied, whereby the scope of their powers is established by a detailed list of their rights and obligations. Local authorities were usually entitled to perform only actions directly provided for by law. Otherwise, such actions were recognised as having been taken in excess of their powers, i.e. unlawful (the principle of ultra vires). At the same time, at the present stage, the constitutions of a number of European countries do not reflect the principle of local self-government. However, in the Republic of Azerbaijan, given the importance of constitutional guarantees in the formation of local self-government, the basic principles of local self-government are the basis of all legal guarantees and are enshrined at the constitutional level.

Using the method of abstraction, the study argues that the most important strategic problem in relations between state and local governments in Azerbaijan today is the issue of delineation of powers and responsibilities. The absence of delineation of powers between these subjects of


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power ultimately leads to duplication of their work, therefore, in accordance with the provisions of the European Charter for the Republic of Azerbaijan, the concept of transfer of functions is a key and fundamental task on the way to the development of the governance system. Functions and powers are shared between state and local governments based on the principles of subsidiarity, collegiality, and transparency.

The research is limited to studying and analyzing contemporary scientific sources that chronologically belong to the period after the collapse of the Soviet Union, aiming to avoid any ideological bias in the study.

**Results**

Municipal power is a special kind of power, it is not a continuation of state power at the local level, but it has the same features that are inherent in its structure. Municipal power is a special public law phenomenon, it is united with state power by the fact that, like the latter, it ensures subordination of subjects of municipal legal relations. At the same time, municipal power differs from state power in that it has its own specifics.

The constitutional and legal nature of local self-government in the Republic of Azerbaijan is such that, in general, it remains an institution of public authority, as it "absorbs" a number of social features into its nature. The presence of these characteristics and a special - municipal - level of government, the existence of a specific sphere of social relations related to the resolution of local issues, allows us to separate local self-government from the state, to distinguish it as an independent entity with a unique nature: largely state, but with elements of public. The new level of elected local authorities and the application of relevant legislation on local self-government create conditions for national elites to use local elections to strengthen state-building by strengthening the institutionalisation of mass political participation and by integrating the local population into the provision of public goods (Tajbakhsh, 2019).

After the adoption of the Law of the Republic of Azerbaijan of 02 July 1999 "On the Status of Municipalities", it can be argued that the current model of relations between the state and local self-government has undergone significant changes and that the relations themselves are sufficiently clearly regulated by law (Law No. 698-IQ, 1999). In addition, unlike state authorities, the functional responsibilities of municipal governments are more diverse (León-Moreta, 2018). In general, this process is natural - the model of relations between the state and local self-government, which was chosen, first of all, when the Constitution of Azerbaijan was adopted, cannot be permanent. It will always tend to shift towards an administrative or decentralised model.

Local self-government and state power in Azerbaijan have traditionally been closely interconnected precisely because they have a common source - the power of the people. Among the factors that determine the establishment of the rule of law and democracy as real imperatives of public and state relations, an important place is occupied by the establishment and development of local self-government, including the organisation of broad municipal representation, which provides the most direct forms of identifying and representing the will and interests of the population.

In the context of the current crisis of traditional power relations and various deformations inherent in the state institutions of democracy that are taking place in the world, in many cases, it is municipal structures, based on the "living" self-organisation of people, that are associated with hopes for both establishing effective counterbalances to the bureaucratisation of public administration and increasing its efficiency by achieving a greater degree of flexibility, openness, and control over society. In addition, there are ten key principles of effective legislation governing local governments that are in line with the European Charter: fitness for purpose; democracy and representation; local empowerment; fairness; oversight and support; capacity and sustainability; efficiency, effectiveness, and equity; community involvement; intergovernmental cooperation; clarity and consistency (Sansom, 2013).

The legal nature of the municipal power competence of local self-government bodies is determined by the nature and essence of municipal power in general. Municipal power is the most important basis of the constitutional order, guaranteed and protected by the Constitution of the Republic of Azerbaijan throughout the territory of the state. The main constitutional and legal characteristic of local self-government is its emphasised independence, i.e., municipal power is an independent type of power of the people exercised at the local level, the power that is public, not state power. The relevance of the study of the interaction between



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state and municipal authorities is due to the urgent need to improve the model of public administration, to carry out administrative and territorial reform on the basis of decentralisation (Lobunets, 2019).

Accordingly, it is fair to define municipal and state power as independent forms of public authority, since both are an expression of the power of the people, the channels of direct exercise of which coincide and differ only in the spatial and territorial level of their manifestation. State power is exercised at the national and regional levels, while municipal power is exercised in urban and rural settlements and other territories of municipalities. The independence of local self-government is manifested primarily in its organisational and institutional structure: local self-government bodies are separated from state authorities and are subordinated to them only within the limits of the law.

Within the framework of their powers, local governments are fully independent, for example, they autonomously manage municipal property, and the effectiveness of local authorities is an accurate indicator of how well local authorities manage their budget (Balaguer-Coll et al., 2022). Local self-government as the institutional basis of local democracy has a triune constitutional and legal nature, which reflects in its unity different aspects of its own manifestation: local self-government as an element of Azerbaijani statehood and at the same time an expression of municipal democracy. Thus, citizens suffering from a certain disability should be provided with access to the services of local self-government bodies, as well as other members of a particular territorial community (Valtolina & Fratus, 2022).

Thus, local self-government can be characterised, firstly, in the subjective-personal aspect - as an institution of the legal status of an individual; secondly, in the social aspect - as a way of self-organisation of society, achievement of a certain autonomy of society in relations with the state, which allows to define local self-government as an institution of civil society; thirdly, in the public-power aspect - as a special form of exercise of public power by the population at the place of residence. According to the provisions of the European Charter, municipalities have a moral and legal obligation to involve communities in identifying, prioritising, and implementing socio-economic development needs, and to achieve this goal, municipalities should use comprehensive development planning, which involves a consistent, phased process (Fourie & Van der Waldt, 2021). According to the Constitution of the Republic of Azerbaijan, the people exercise their power in the local self-government system both directly and through local self-government bodies.

At the present stage, the solution of many important economic and social problems in the Republic of Azerbaijan is determined by the situation in the field of local self-government and the prospects for its further reforms. A special place is occupied by the course of radical improvement of the municipal governance system, primarily through its active inclusion in the practice of strategic planning in the country, as well as by ensuring a balance between the public authorities and civil society.

In addition, in the process of digital transformation of local governments, the popularisation of new technologies has brought innovative changes in the ways of deepening citizen participation in democratic politics and government response mechanisms (Lu & Wu, 2022). Significant opportunities for solving this problem lie in the positive perception of the best international practices of municipalities at various levels. In the digital economy, the growth of digital technology companies that provide city services and services for city governments promises to spur local innovation and business opportunities and presents important economic development opportunities (Botero Arcila, 2021). The European Charter of Local Self-Government has been considered one of the sources of such experience in the last quarter of a century.

Local government systems are usually treated as independent variables when considering (possible) differences in recruitment patterns, professionalisation, the position of mayors in local and multi-level governance systems (or horizontal and vertical political networks), interpretation (or notion) of democracy, problem identification, and attitudes and opinions towards decentralisation or centralisation and public sector reforms ('modernisation') (the 'new public administration') (Teles et al., 2020). In addition to these factors, which differ from country to country and the impact of internal factors on the institution of self-government in the world, external factors are no less influential. For example, in recent years, the organisational and legal framework of local self-government in Russia has been subject to significant revision, first as part of amendments to the Constitution of the Russian Federation in 2020, then under the influence of the current geopolitical situation,


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which worsened in 2022, due to which the aggressor country was forced to denounce more than two dozen international treaties due to its withdrawal from the Council of Europe, including the European Charter of Local Self-Government. Thus, transparency is becoming a challenge for public administration reforms at the moment and in the future towards modern and better governance, and the political and economic crisis that has occurred has led to a significant erosion of public confidence in the effectiveness of public administration, including in finance (Yuniarta & Purnamawati, 2020).

The Republic of Azerbaijan, in forming the updated principles of organisation and functioning of its local self-government, naturally had to turn to the experience of the leading European countries in organising active municipal communities, as presented in the Charter, in order to realise the possibilities of participation of local self-government institutions in solving a wide range of tasks of economic and social development of the countries - participants of the Charter. In this context, the signing of this Charter was positive, as it allowed for a clearer definition of the goals and objectives of the new stage of transformations in the country's municipal sector, taking into account both the positive and negative results of the previous reforms. For instance, the institutional breadth and holistic nature of citizen participation affect the strategic, executive, and civic levels of governance interaction and their interrelationships at the local level (Jäntti et al., 2023).

It can be said that joining the Charter made it possible to more clearly define the long-term trend of improving local self-government, taking into account both the specifics of local communities and foreign experience of functioning of self-government and civil society systems. Since the adoption of the European Charter, it has become apparent that political, administrative, and decision-making structures have been altered; the scope of existing functional programmes and modes of implementation have changed significantly; and, although the issue of local sources of funding has been resolved in most countries, the financial hegemony of the centre has not been eliminated in many of them (Fama & Jensen, 1983).

An example of this is the principle of subsidiarity in the activities of local governments. According to this principle, public obligations (i.e., the obligations of public authorities) should be performed at the “lowest” level, as close as possible to the population. These obligations may be assigned to a higher administrative level (the level of public authorities) only when it is practically difficult or impossible to perform these tasks at the municipal level. At the same time, it is common for cities and other local governments - sometimes together with non-governmental actors - to challenge policies proposed or implemented by higher levels of government that they perceive as threatening their political positions or local communities (Verhoeven et al., 2022).

The capacities and resources that local governments should deploy in their activities have been linked to the results obtained in the development of public policies and their effectiveness in addressing the challenges faced by the public sector (Salvador & Sancho, 2021). The Charter contains a provision on the need to provide targeted support to financially weaker municipalities, which implies the implementation of financial equalisation procedures common in international practice. The form of government creates clear incentives for executive actions that shape budget outcomes (Jimenez, 2020). It is for this reason that these measures should be aimed at overcoming the negative economic and social consequences of the uneven distribution of municipal revenue sources and the burden of budget expenditures.

**Discussion**

The results show that in the Republic of Azerbaijan, as in other countries, the problem of relations between the state and municipal authorities is quite relevant. To solve local problems, local governments have always been an attribute of a democratic society and a form of self-organisation of the population. At the present stage, local self-government is recognised as an equal and independent form of government. However, when analysing the institution of local self-government, in most cases we are talking about the state system of governance. This naturally raises the question of the division of powers and the establishment of interaction between the two levels of government. Effective functioning of municipalities is possible through organisational cooperation between state authorities and local self-government, in which the provisions on the latter enshrined in the constitutions of countries play a significant role. This statement correlates with the opinion of Semigina et al. (2020) that the constitutional principles of local self-government play a crucial role in ensuring citizen participation, protecting the rights and


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responsibilities of local authorities, and strengthening democracy at the local level. As Kumar (2021) rightly notes, at the present stage, justice and democracy have become one of the most important human causes that state institutions must achieve and ensure compliance with.

The results obtained show that regional public authorities play an important role in the formation and development of local self-government in Azerbaijan. The interaction of the latter with local self-government bodies significantly determines the effectiveness of the implementation of regional policy - solving economic, political, and social problems of the development of the municipality and the subject as a whole. On the other hand, such interaction ensures the effectiveness of the municipal policy, contributing to the implementation of state tasks through the solution of local issues: strengthening the foundations of democracy, creating conditions for ensuring the vital interests of the population, taking measures for social protection of the population, stabilising the political system of training personnel for municipal bodies. At the same time, as Jong (2021) rightly notes, the quality of local self-government determines the positive or negative economic effect of local self-government, while the degree of decentralisation determines the size of the effect.

The results of the study show that the application of the institution of vesting local self-government bodies with certain state powers, which has received wide international recognition and is enshrined in the European Charter of Local Self-Government, is an objective process aimed at decentralising state power, which implies that local self-government bodies are entrusted with the performance of specific functions and tasks that have lost their national significance. It is worth agreeing with the point of view of Dawkins et al. (2019), who noted that it is important for the full functioning of the local self-government system, the performance of its functions by its bodies, and the implementation of the provisions of the European Charter in its activities not only to take into account global trends but also the obstacles that exist on this path.

The main ones are funding; human resources, knowledge or data; lack of flexibility and attachment to the status quo; lack of leadership or political will; administrative burden; and lack of regulatory powers or instruments at the local level. A similar view is supported by Ritonga et al. (2019), who note that financial efficiency, cost of services and goods, population size, and revenue base have a significant impact on the financial condition of local governments, while the others (namely population density and age, community profile, and community wealth) do not significantly affect the performance of local governments.

The obtained results support the assumption that in the current practice of state building, delegation of powers is widely used as a way of redistributing powers, promotes the convergence of the state and society, and avoids a number of important problems associated with excessive concentration of power at the central level and overloading central bodies with purely local affairs. The delegation of certain state powers to local self-government bodies is based on the following principles: legality; reasonableness; additional delegated powers; material and financial support; and control over the exercise of delegated powers. This provision is also confirmed in the scientific work of Ladychenko et al. (2021), in a number of countries, in the process of implementing the decentralisation policy, local governments have received significantly more rights and powers, which they exercise in accordance with the principles enshrined in the Constitution and other legal acts. This innovation was aimed at increasing the level of democratisation of power and enabling local authorities to resolve issues and disputes at the local level.

**Conclusions**

The results show that there is a need to clarify the legislative concept of the subjects (issues) of jurisdiction and powers of local self-government bodies, approaches to the delimitation of competent spheres of the state and local public authorities, as well as to enshrine the relevant provisions at the constitutional level. The results obtained show that the expansion of the voluntary (optional) scope of local self-government should be recognised as a positive phenomenon (in developed countries, various territorial communities, autonomies, etc. are fighting for the expansion of their rights, for the right to independently resolve as many issues as possible), but it is also necessary to provide municipalities with the opportunity to earn their own money, to ensure that they get out of the permanent subsidy regime in which the vast majority of municipalities are currently operating. We are talking about a large-scale improvement of municipal social relations and


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one of the most important components of local self-government - the financial one.

The results of the study show that the European Charter has taken its special place in the law enforcement practice that regulates all aspects of the formation and functioning of local self-government institutions in the countries that have acceded to it. The results indicate that its significance in this sense is very significant, but it should be borne in mind that the Charter is not a universal guideline for the activities of local self-government for a particular country or group of countries.

Accordingly, further research will be relevant to expand the competence of local self-government, transferring certain local initiatives to the level of international policy, determining options for the further evolution of the system of municipal institutions in European countries.

Important for further scholarly inquiries is the examination of issues related to the organizational and legal consolidation of local communities to develop and implement mechanisms for integrated municipal development policy. This policy should ensure simultaneous and fair consideration of all relevant interests and needs pertinent to the development of municipal education.

An essential topic for further study is the investigation of enhancing the transparency of municipal governance and the mechanisms that create a balanced combination of representative and direct democracy in local self-government. This includes decisions made by local self-government bodies on matters concerning vital interests of the majority of the local community members, which must be subject to prior public discussion.

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# Security of human capital: negative factors, health care, problems of investment and loss in modern conditions of digitization

## Seguridad del capital humano: factores negativos, atención médica, problemas de inversión y pérdidas en las condiciones modernas de digitalización

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**Abstract**

The main purpose of the article is to identify key factors influencing the safety and health of human capital in open socio-economic systems in the digital era. To achieve this goal, the task was determined to carry out factor modeling. The object of the study is human capital, its security system and investment in its healthcare. The research methodology involves the use of modern modeling methods to prioritize the action of certain impact factors. As a result of the study, key factors influencing the health and safety of human capital in Ukraine were identified. The innovativeness of the results obtained is revealed through the presentation of the author's approach to modeling the ordering of the action of certain factors. A model for counteracting the negative influence of these factors is proposed. The study is limited by not taking into account all possible influencing factors. Prospects for further research include covering broader aspects of the

**Resumen**

El objetivo principal del artículo es identificar factores clave que influyen en la seguridad y la salud del capital humano en sistemas socioeconómicos abiertos en la era digital. Para lograr este objetivo, se determinó la tarea de realizar un modelado factorial. El objeto del estudio es el capital humano, su sistema de seguridad y la inversión en su asistencia sanitaria. La metodología de investigación implica el uso de métodos de modelado modernos para priorizar la acción de ciertos factores de impacto. Como resultado del estudio, se identificaron factores clave que influyen en la salud y seguridad del capital humano en Ucrania. El carácter innovador de los resultados obtenidos se revela a través de la presentación del enfoque del autor para modelar el orden de la acción de ciertos factores. Se propone un modelo para contrarrestar la influencia negativa de estos factores. El estudio se ve limitado al no tener en cuenta todos los posibles factores que influyen. Las perspectivas de futuras

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topic and taking into account the entire EU market.

**Key words:** health care, health security, human, human capital, security, digitization, main factors, investments.

investigaciones incluyen cubrir aspectos más amplios del tema y tener en cuenta todo el mercado de la UE.

**Palabras clave:** atención de salud, seguridad en salud, humano, capital humano, seguridad, digitalización, principales factores, inversiones.

## Introduction

Health care is a critical component in human capital development because healthy workers are more productive, which contributes to economic growth. Health influences educational opportunities and work productivity. For example, healthy children do better in school, which increases their chances of getting better jobs in the future. Adults who are physically and mentally healthy can work more efficiently and with fewer interruptions, increasing overall productivity.

Investment in health helps reduce poverty because healthy individuals can work and earn money, while illness often leads to financial hardship. Also, spending on health care is an investment in the future: it ensures a healthy society that can actively contribute to the social, economic and cultural aspects of life. In addition, treating health as a primary need for human capital investment helps create the foundation for long-term development. Ensuring access to quality health care and healthcare helps improve quality of life, which is a key element of sustainable development. Thus, investing in healthcare does not simply improve individual health, but also forms the basis for the development of an effective and productive society, increasing the overall level of human capital, which is important for overall socio-economic development.

Security of human capital means ensuring conditions that allow people to fully develop, work and live in a safe environment where their health, education and well-being are protected. Health is an important element in this context, as healthy people are the foundation of a productive workforce and an innovative society.

Investments in human capital, including health, education and professional development, are critical to ensuring its security. Increased investment in these areas improves the skills, health and overall well-being of the population, which in turn leads to increased productivity and economic sustainability.

Digitalization also plays an important role in shaping the security of human capital. Digital technologies can improve access to educational resources, simplify job search and professional development, and provide new opportunities for monitoring and managing population health. For example, telemedicine and mobile health monitoring applications allow people to better monitor their physical condition and receive timely medical care.

Medicine, in particular, has a direct impact on the security of human capital. Investments in medical infrastructure, research and development of new methods of treating and preventing diseases help increase life expectancy and quality of life, reducing health-related risks. So, the security of human capital is a complex concept that includes the protection and development of health, education and professional development of the individual. Investments in these areas, along with the integration of digital technologies, are key to creating a strong, healthy, educated and innovative workforce that is the foundation of a stable and efficient economy.

The main purpose of the article is to identify key factors influencing the safety and health of human capital in open socio-economic systems in the digital era. The object of the study is human capital, its security system and investment in its healthcare.

The structure of the article consists of the following elements: an introduction, including a structural overview of the selected topic, a review of scientific sources on the topic, a description of the research methodology, a presentation of the main results of the study, a discussion of the results and conclusions.

## Literature review

In the realm of human capital security, particularly in the context of healthcare, investment challenges, and the evolving digital landscape, scholarly research presents a complex tapestry of interrelated issues and insights. The


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essence of human capital is intricately tied to the health and well-being of individuals, as explored in various studies.

Bilan, Mishchuk, & Dzhyhar (2017) study delves into the core of human capital by examining the relationship between human capital factors and remuneration, revealing a critical link between education, skills, and financial rewards. This relationship underscores the tangible value of investing in human capital, where enhanced skills and education directly impact earnings.

The role of community health workers, as explored by Olaniran et al., (2019), shifts the focus to a grassroots level, highlighting how essential local health initiatives are in bolstering the health component of human capital, particularly in maternal and newborn care in Africa and Asia. This perspective is crucial in understanding the health care system's reach and its ability to cater to diverse populations.

In an era dominated by digital information, the study by Cannito et al., (2020) becomes particularly relevant. Their research on health anxiety and attentional bias during the COVID-19 pandemic illuminates the psychological impacts of health crises on human capital. The digital age, with its rampant spread of both information and misinformation, plays a pivotal role in shaping public health perceptions and responses.

The intricate relationship between health care expenditures and life expectancy, as analyzed by Heuvel and Olaroiu (2017), points to the foundational need for financial investment in healthcare systems. Their findings in the European context highlight how life expectancy, a key measure of a nation's health, is deeply influenced by healthcare spending. Ruger's (2007) exploration into global health governance, with a focus on the World Bank's role, broadens the lens to a global perspective. This study is critical in understanding the international dynamics and policies that shape national healthcare systems, influencing the health aspect of human capital on a broader scale. Furthermore, Holzer (2020) study provides an interesting intersection between public health and policing, offering a unique vantage point on the occupational safety of law enforcement as a public health issue. This perspective is vital in comprehending the broader implications of health and safety in various occupational sectors. In the context of rural health, Chuke et al., (2023) study in Southeast Nigeria emphasizes the challenges faced by rural health workers and the implications for community and sustainable development. This research is crucial in understanding the unique health care challenges in rural settings, which often lack resources and infrastructure. Rezapour et al., (2019) analysis of the effects of health expenditure on health outcomes through a panel data approach further adds to the understanding of how investment in healthcare translates into tangible health improvements. Their findings are particularly pertinent in policy-making and strategic planning for health care systems.

Lastly, Strasser, Kam, & Regalado (2016) review on rural health care access in developing countries completes the picture by offering insights into the challenges and policies needed to improve health care in less accessible regions. Collectively, these studies paint a comprehensive picture of the multifaceted challenges and considerations in securing human capital, highlighting the critical role of healthcare, the impact of digitization, and the importance of strategic investment in fostering a healthy, productive population in the modern world. The imperative for continued research in the area of human capital security, especially considering healthcare, investment, and the impact of digitization, stems from the dynamic and evolving nature of these fields. While existing literature provides foundational insights, the landscape in which human capital exists is constantly shifting due to various factors. Firstly, global health challenges are in a state of flux. New health threats emerge, such as the COVID-19 pandemic, which not only present immediate health risks but also have long-term implications on mental health, societal dynamics, and economic stability. These evolving challenges necessitate ongoing research to understand their impacts comprehensively, develop effective healthcare strategies, and adapt policies to ensure the resilience and well-being of human capital.

**Methodology**

Expert analysis in our context consists of involving healthcare and human capital specialists to identify and assess negative factors affecting these areas. Experts use experience and knowledge to identify key issues and determine their impact.

Hierarchical analysis helps to organize the identified factors according to their importance or influence. This method allows you to structure problems from the most important to the least important, thus contributing to a better understanding of priorities for solution.



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The graphical modeling method is used to visually represent the problems found and possible ways to solve them. This allows the relationships between different factors to be clearly depicted and effective strategies to be developed to counter the negative impacts on health and human capital development.

**Results and discussion**

The development of human capital is closely interconnected with the healthcare system. The health of individuals has a direct impact on their productivity and performance. When people are healthy, they are able to work more effectively, maintaining a high level of professional activity and quality of work. In contrast, illness or poor health can significantly reduce work productivity. In addition to its direct impact on the workforce, health status affects educational opportunities and the quality of learning. This is especially important in childhood and adolescence, when chronic illness or ongoing health problems can interfere with the educational process, resulting in reduced educational achievement and potential for future development.

An effective healthcare system also helps support workforce longevity, ensuring that people can remain active and productive in the labor market for longer. This not only improves the overall level of well-being in a society, but contributes to sustainable economic growth, since a healthy workforce is a key component in the development of human capital.

Productivity and healthcare are closely linked because the health of workers has a direct impact on their ability to perform their jobs effectively. Healthy workers typically have better concentration, stamina and the ability to learn quickly, which are key factors for increased productivity. In addition, illness can lead to a decrease in these abilities, an increase in the number of days lost due to illness, and, as a result, a decrease in overall work productivity. In addition, quality health care and preventative health programs can reduce the risk of chronic disease, which is important not only for keeping workers healthy, but also for stability and increased productivity in the workplace. Effective health systems that provide rapid access to treatment and preventive measures help keep workers in good health, reducing sickness absence and increasing overall productivity.

Investing in the development and security of human capital is a multifaceted process that includes a number of measures and strategies aimed at improving the health, education and overall well-being of the population. One of the key aspects of this investment is strengthening the health care system.

Strengthening the healthcare system involves increasing the availability and quality of medical services. This means not only providing the population with the necessary medicines and medical services, but also the development of healthcare infrastructure: the construction of new hospitals, the purchase of modern medical equipment, and the training of qualified medical personnel. A focus on preventive measures and raising public awareness about a healthy lifestyle is also important.

In parallel with health initiatives, investing in human capital includes improving the education system. This means not only the creation of new educational institutions and improving the quality of education, but also the development of programs aimed at developing the skills needed in the modern world, such as digital literacy, critical thinking, and an innovative approach. In addition, investing in human capital also involves creating a safe and healthy working environment. This includes ensuring a safe working environment, reducing occupational risks, raising labor safety standards, and ensuring social protection for workers.

The benefits of such investments are multiple. First, they improve productivity because healthy and well-educated workers are able to perform their jobs more effectively. Secondly, the burden on the healthcare system is reduced due to a decrease in the level of illness and injury in the workplace. It also promotes social well-being, as people who feel healthy and happy in their jobs have higher levels of life satisfaction.

The implications of this holistic approach to investing in human capital could be significant. At the macroeconomic level, this can lead to GDP growth as the overall productivity of the economy increases. At the social level, there may be a decrease in poverty and inequality as more people have access to quality education and health care. This creates a more stable and prosperous society where every individual has the opportunity to realize their potential.

The low share of investment in healthcare in the structure of investment in human capital development in Ukraine is explained by several factors. First, economic constraints play a significant role. Ukraine has a limited budget and


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faces numerous economic challenges, leading to competition for limited resources among different sectors such as education, infrastructure, defense and healthcare. This may limit investment in healthcare.

The second factor is the historical legacy and structural problems in the health care system. The Ukrainian healthcare system is inherited from the Soviet era and has shortcomings such as outdated equipment and insufficient infrastructure. This requires significant investment in upgrading and improving the system.

Political challenges also have an impact on healthcare investment. Political instability and changes in government can influence decisions about the allocation of resources to health care, as well as the adoption of reforms in this area.

Social aspects include low levels of public awareness of the importance of investing in health and insufficient demand for health services. This may be due to cultural and social factors influencing the perception of the need to improve the healthcare system (Fig.1).

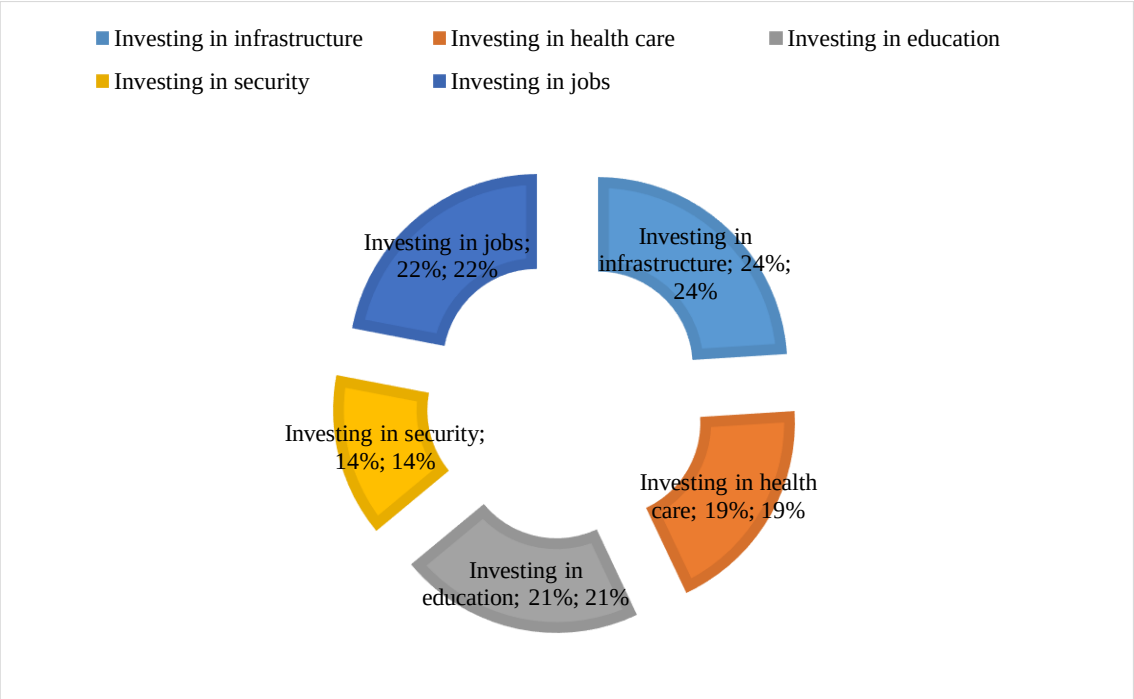


***Figure 1.*** The structure of investment in the development of human capital in Ukraine for 2022, % (Formed by authors)

Based on the results of a survey of experts, we will highlight the most significant negative factors affecting the security and development of human capital in Ukraine:

1. Insufficient investment in healthcare. This can lead to a deterioration in the general health of the population, inaccessibility of health services to all segments of society and an increase in morbidity and mortality.
2. Digital divide. Unequal access to digital technology and the internet can create a large gap between those who have access to digital resources and those who do not. This limits educational, work and social development opportunities for a large part of the population.
3. Low quality of education. Insufficient funding, outdated educational programs and a lack of qualified teachers can lead to low quality education, limiting the development of skills and knowledge needed for the modern labor market.
4. Economic inequality. Large economic inequalities can lead to social instability, limit access to basic resources for the poor, and reduce opportunities for social and professional development.
5. Political instability and corruption: These factors can have a serious impact on human capital development as they lead to poor management of resources, lack of trust in government and limited business and investment opportunities.



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Each factor is assigned a number for the convenience of subsequent calculations: 1-5. To perform a hierarchical analysis using the Saati's Analytic Hierarchy Process (AHP), we need to follow these steps:

1. Define the Criteria and Comparison: The criteria here are the five negative factors affecting human capital development: Insufficient investment in health care, Digital divide, Low quality of education, Economic inequality, Political instability and corruption.
2. Construct Pairwise Comparison Matrices: We will compare each factor against each other in pairs, assigning a scale of importance from 1 to 9 (where 1 means equally important, and 9 means extremely more important).
3. Calculate the Priority Vector: This involves normalizing the pairwise comparison matrix and finding the average of each row, which gives us the priority of each factor.
4. Check for Consistency: We need to ensure the consistency ratio (CR) is less than 10% to ensure reasonable judgments.

First of all, let's build a matrix of even comparisons (Table 1).

**Table 1.**
*The Pairwise Comparison Matrix*

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1 | 1 | 3 | 4 | 2 | 5 |
| 2 | 1/3 | 1 | 2 | 1/2 | 3 |
| 3 | 1/4 | 1/2 | 1 | 1/3 | 2 |
| 4 | 1/2 | 2 | 3 | 1 | 4 |
| 5 | 1/5 | 1/3 | 1/2 | 1/4 | 1 |

(Formed by authors)

To check for consistency, we calculate the Consistency Index (WI) and the Consistency Ratio (WR). The formula for WI is (1):

$$WI=\lambda\max-n/n-1 \quad (1)$$

Where $\lambda$max is the average of the sum of each column of the pairwise comparison matrix multiplied by its respective priority vector, and *n* is the number of criteria.

The WR is calculated as (2):

$$WR=WI/RI \quad (2)$$

Where RI (Random Index) depends on the number of criteria (for 5 criteria, RI = 1.12).

In our case, Consistency Index (WI): 0.0226; Consistency Ratio (WR): 2.02%. Since the Consistency Ratio is 2.02%, which is less than 10%, the judgments made in the pairwise comparisons can be considered consistent.

Next, we need build normalized pairwise comparison matrix. This matrix is derived from the pairwise comparison matrix by normalizing each column. The priority vector is then obtained by calculating the average of the rows in the normalized matrix (table 2).

**Table 2.**
*Normalized Pairwise Comparison Matrix*

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1 | 0.43 | 0.44 | 0.39 | 0.48 | 0.33 |
| 2 | 0.14 | 0.15 | 0.19 | 0.12 | 0.2 |
| 3 | 0.11 | 0.07 | 0.09 | 0.08 | 0.13 |
| 4 | 0.22 | 0.29 | 0.28 | 0.24 | 0.26 |
| 5 | 0.08 | 0.05 | 0.04 | 0.06 | 0.06 |

(Formed by authors)


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Based on the conditional calculation using Saaty's Analytic Hierarchy Process (AHP), we have the following results (Priority Vector (Relative Importance of Each Factor)):

1. Insufficient Investment in Health Care: 41.62%
2. Digital Divide: 16.11%
3. Low Quality of Education: 9.86%
4. Economic Inequality: 26.18%
5. Political Instability and Corruption: 6.24%

As a result of the calculations, it was determined that the most important and negative factor is the low volume of investment in health care (Fig.2).

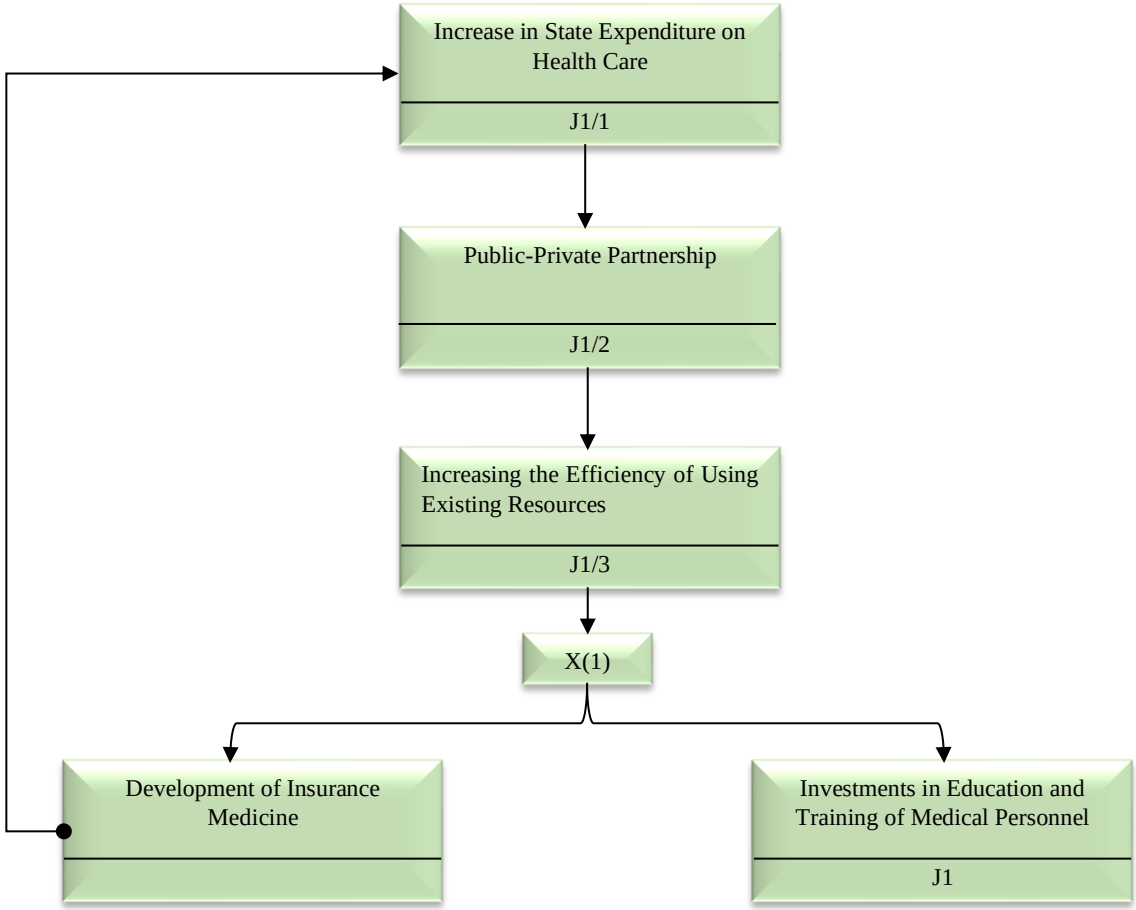


***Figure 2.*** A model for increasing investment in the health care system in the context of strengthening the security of human capital
(Formed by authors)

These measures can significantly improve the state of health investment and improve the quality of health care in the country.

In discussing the health and safety of human capital, particularly in the Ukrainian context, we juxtapose our study's findings with various international perspectives and methodologies. Our research identified key factors influencing the health and safety of human capital in Ukraine, presenting an innovative authorial approach to modeling and counteracting these influences. However, it's crucial to note the limitation in not accounting for all possible influencing factors and the need for a broader scope in future research. Morina et al., (2022) examination of the effect of health expenditure on life expectancy resonates with our findings, underscoring the importance of financial investment in healthcare. However, our study extends this by proposing a model for counteracting negative influences, which could be further enriched by incorporating Morina et al.'s insights on sustainable development and planning. Podra et al., (2020) delve into the theoretical aspects of human capital formation, focusing on migration and investment processes. This study provides a broader context for our work, especially in understanding how human potential migration and investment contribute to the formation and safety of human capital. This perspective can be instrumental in extending our model to include


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factors related to workforce mobility and its implications. The comparative study by Palutturi et al., (2015) on healthy city capacity in Indonesia and Korea offers a unique lens through which we can examine our model. Their approach to assessing health capacity at the urban level could provide a more granular perspective, which is particularly relevant given the urban-centric development of countries like Ukraine.

Gladka and Fedorova (2019) focus on defining personnel marketing strategies, a dimension not explicitly covered in our study. Integrating their insights on personnel strategies could enhance our model by considering how marketing and human resource strategies impact human capital's health and safety. Lee et al., (2020) update on health promoting schools is particularly relevant in the context of our study's focus on youth and educational settings. Their findings could inform a more nuanced approach in our model, especially in addressing the educational sector's role in safeguarding human capital. The study by Paluttur et al., (2022) on expert needs for health center development in South Sulawesi provides insights into healthcare infrastructure, which is crucial for understanding the health component of human capital. Integrating their approach could offer a more comprehensive view of healthcare system needs in our model.

Our study's focus on the health and safety of human capital in Ukraine revealed innovative approaches to modeling the influence of various factors. The comparison with the aforementioned studies highlights the necessity of incorporating broader aspects, such as health expenditure's impact, human capital formation through migration, urban health capacity, personnel strategies, and health infrastructure development. These dimensions could greatly enrich our understanding and provide a more holistic view of the factors influencing human capital's health and safety.

**Conclusions**

The study reveals the key factors influencing the health and safety of human capital in Ukraine. These factors, which affect the health system in different countries, highlight the complex interaction between various aspects of society and the economy. Financial constraints are often at the heart of these challenges, as insufficient funding can lead to shortages of medical resources, equipment and trained personnel. Furthermore, social inequalities and the lack of universal access to health services can leave a significant part of the population without necessary care.

The innovation of the results obtained is revealed through the presentation of the author's approach to modeling the influence of certain factors. A model is proposed to counteract the negative influence of these factors.

The study is limited by not taking into account all possible influencing factors. Research on the security of human capital, its development and investment in health opens broad perspectives to create a sustainable, productive and innovative society. The key aspect here is to understand how to provide optimal conditions for human development at all stages of life. This involves not only ensuring physical health through medical services, but also creating an environment conducive to education, professional growth, and psychological well-being.

Investing in human capital development and health can lead to significant increases in economic productivity. Healthy, educated and motivated workers can contribute more effectively to the economy by promoting technological progress and innovation. On the other hand, improving working conditions and ensuring workplace safety can reduce the incidence of occupational illnesses and injuries, which, in turn, has a positive impact on overall work productivity.

The development of digital technologies in health and education opens new opportunities for a personalized approach in treatment, training and professional development. This allows for more efficient use of resources and ensures that services are better tailored to individual needs. Additionally, an emphasis on human capital security can help create a more equitable society. The focus on ensuring equal access to education and health services helps reduce social inequality and improve overall living standards.

In summary, the prospects for investigating the security of human capital, investing in its development and health, promise the creation of a sustainable, healthy and innovative social structure capable of adapting to changes in the global context and the challenges of the future.

As a result of the study, key factors influencing the health and safety of human capital in Ukraine were identified. Negative factors affecting the human capital health system in different countries exist due to the complex interaction


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between different aspects of society and the economy. Economic constraints are often at the core of these challenges, as insufficient funding can lead to a shortage of medical resources, equipment and trained personnel. Also, social inequalities and the lack of universal access to health services can leave a significant part of the population without necessary health care.

The innovativeness of the results obtained is revealed through the presentation of the author's approach to modeling the ordering of the action of certain factors. A model for counteracting the negative influence of these factors is proposed.

The study is limited by not taking into account all possible influencing factors. Research into the security of human capital, its development and investment in health opens up broad prospects for creating a sustainable, productive and innovative society. The key aspect here is a deep understanding of how to provide optimal conditions for human development at all stages of his life. This involves not only ensuring physical health through medical services, but also creating a favorable environment for education, professional growth and psychological well-being.

Investing in human capital development and health can lead to significant increases in economic productivity. Healthy, educated and well-motivated workers are able to contribute more effectively to the economy by promoting technological progress and innovation. On the other hand, improving working conditions and ensuring workplace safety can reduce the level of occupational diseases and injuries, which, in turn, has a positive impact on overall labor productivity.

The development of digital technologies in healthcare and education opens up new opportunities for a personalized approach to treatment, training and professional development. This allows for more efficient use of resources and also ensures that services are better tailored to the needs of specific individuals. In addition, an emphasis on human capital security research can help create a more equitable society. Focusing on ensuring equal access to education and health services helps reduce social inequality, improving overall living standards.

As a result, the prospects for researching the security of human capital, investing in its development and health promise the creation of a sustainable, healthy and innovative social structure capable of adapting to changes in the global context and the challenges of the future.

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# Normative determination of guarantees of political rights in the sphere of administrative justice

## Нормативне визначення гарантій політичних прав у сфері адміністративної юстиції

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**Abstract**

This study analyzes the normative definition of the guarantees of political rights of citizens. A dialectical methodology of knowledge of law is used, and law is interpreted as an attribute of social management of society. A legal norm is understood as a process of necessity, the elements of which are the hypothesis, disposition and sanction of the norm in their organic connection. It is shown that the political rights and freedoms of a person and a citizen are established by the disposition of the legal norm, and their guarantees are determined by the sanction of the legal norm. The public legal character of political rights conditions their guarantee by legal acts of the court of administrative justice, as a type of justice. The study concludes that improving the normative definition of the guarantees of political rights is an urgent task for the management and legal

**Анотація**

У цьому дослідженні аналізується нормативне визначення гарантій політичних прав громадян. Використовується діалектична методологія пізнання права, а право трактується як атрибут соціального управління суспільством. Правова норма розуміється як процес необхідності, елементами якого є гіпотеза, диспозиція та санкція норми в їх органічному зв'язку. Показано, що політичні права і свободи людини і громадянина встановлюються диспозицією норми права, а їх гарантії визначаються санкцією норми права. Публічно-правовий характер політичних прав обумовлює їх гарантування правовими актами суду адміністративної юстиції, як виду юстиції. У дослідженні зроблено висновок, що вдосконалення нормативного визначення гарантій політичних прав є актуальним завданням управління та правового

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regulation of political relations in modern society.

**Keywords:** administrative justice, guarantees of political human rights, legal act, legal information, legal norm.

регулювання політичних відносин у сучасному суспільстві.

**Ключові слова:** адміністративна юстиція, гарантії політичних права людини, правова інформація, правова норма, правовий акт.

## Introduction

Constitutional consolidation of citizens' political rights and their constitutional guarantees require the definition of these guarantees in legal norms and ensuring their implementation by the courts, as the main guarantors of human rights and freedoms in a democratic legal state. Therefore, the study of the theory and practice of normative definition of guarantees of political rights is an important problem of constitutional and legal science. Political rights and freedoms are directly related to socio-political activity and participation of citizens in state administration, the decision-making process regarding the formation of power and influence on the life of the country, such as the right to participate in elections, referendums, the right to petition, etc. Therefore, the state should not only recognize the political rights of citizens, but also create conditions for their free and unimpeded realization. Creating conditions for protecting the rights and freedoms of citizens in political life, guaranteeing their political rights is an important component of their legal status. Democratic values make it possible to maintain a political culture, ensure civil liberties and political participation, exercise the right to the electoral process, which is necessary for the successful development of a democratic legal state (Stadnyk et al., 2022).

In this sense, defining the specified guarantees in legal norms and acts of current legislation is one of the priorities. Since the most effective guarantee of rights of citizens is their judicial protection, then the adequate normative definition of the protection of political rights in courts of administrative jurisdiction acquires significant importance in modern conditions. Accordingly, the article examines the concept of law and social management through their common point - legal norm; legal acts as management decisions in which legal norms are formalized in the process of law-making activity of powerful subjects. The normative definition of guarantees of political rights is connected both with the sanction of the legal norm and with decisions of administrative justice bodies. The purpose of this article is to study the problem of normative determination of guarantees of political rights of citizens from the methodological standpoint of dialectical understanding of legal norms and legal acts.

The article is structured in four sections. The first section presents the theoretical framework of the study, including the definition of the key concepts. The second section presents the methodology used in the research. The third section presents the results and examines the jurisprudence of the administrative justice courts in relation to the guarantees of political rights. The fourth section presents the conclusions of the study. This article is of interest to researchers in the branch of constitutional and administrative law, as well as to students and professionals interested in the protection of political rights.

## Theoretical framework or literature review

The theoretical basis of the article is the concept of legal norms and legal acts as components of law in their dialectical understanding. This research is based on the dialectical theory (Yushchyk, 2016b) of law, which is based on the dialectical methodology and belongs to the theories of sociological legal understanding (Yushchyk, 2013). In particular, in the context of this theory, law is considered as a normative method of social management, by which a powerful subject sanction (determines and supports) the rules of behavior that constitute the necessary, from his viewpoint, social order (Yushchyk, 2016a). This theory interprets law as an attribute of social management in society, its methodological basis is dialectics. The concept of normative guarantees of human rights is connected with the rule-making activity of the state in the process of legal regulation of political relations in society. Also, the informational and analytical base of the research consists of scientific publications related to the research problem, constitutional and other legal acts.

## Methodology

The methodological basis of this theoretical study is the dialectical method, which assumes the need to study such a concept as the guarantee of political rights in its various connections and development. Guarantees of citizens' political


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rights and freedoms are studied through their connection with the legal norm and legal act, with the law-making activity of state authorities and decision-making by specialized courts as administrative justice bodies. The formal-logical method, based on the laws of formal logic, was used to clarify such concepts as "legal norm", "legal act", "guarantees of political rights", "administrative justice", etc. The systemic-structural method made it possible to consider the normative definition of guarantees of political rights in the context of social management of political relations, in particular, their legal regulation.

The study is based on the analysis of the guarantee of political rights and freedoms of Ukrainian citizens and their normative definition in national legislation, as well as the practice of solving public-law disputes by courts of administrative justice in Ukraine. However, it should be noted that the legal system of Ukraine reflects generally recognized international norms, provided, in particular, in the International Covenant on Civil and Political Rights and the European Convention on Human Rights guarantees of political rights and freedoms.

**Results and discussion**

The analysis of various definitions of the concept of law indicates that it is most often defined as a normative regulator of people's behavior. This definition, although it does not give a concrete idea about the specifics of law (since it can also be attributed to morality, religion, etc.), it is present in various definitions of law and does not cause doubts among theorists. And since the normative regulator of people's behavior is not only the law, then legal normativity is a special normativity in relation to normativity in general, which appears alongside other types of the latter (moral, religious, etc.). Therefore, normativity is a sign of a phenomenon of a higher order than law, morality, etc., which is common to them.

This phenomenon is *management*.

As an activity of meeting the needs of people, management is carried out in a way known to its subject and necessary, which in practice is formed into a usual course of action, acquires the meaning of a *rule* that is followed in similar situations. Some of these rules are identified by society as necessary rules, giving them the status of *norms*, which all must be considered and the relevant entities are obliged to be guided by. So, the concepts of management and law as a normative regulator of people's behavior have a common element of normativity. Law appears as an attribute of social management, as a specific legal normativity of the latter, its special way, different from morality, religion, etc. (Yushchyk, 2013).

The basis of the normativity of law is a legal norm. It should be noted that in modern legal science, the legal norm is studied by scientists in completely different aspects. Folloni (2017) builds a theory on the difference between texts and legal norms out of the complexity theory. It understands legal norms as emergent phenomena and interpretations as self-organizing processes in complex systems, which are formed of texts, theories, interpreters, values, worldviews, cases and other. Hashmi (2015) presents a methodology to extract legal norms from regulatory documents for their formalization based on the well-known IF ... THEN structure. Ferraro, Sakamoto, Okazaki, Mineshima & Satoh (2020) also investigates the issue of automatic methods of extracting and formalizing legal norms from legal documents. Caballero Elbersci (2023) analyses the metatheoretical question, regarding legal theories, about where in our reality are the norms, in general, and the legal norms, in particular. The author defends sociolinguistic pragmatism, i.e., that norms are primarily found in the sociolinguistic practices of a community. He defends a particular version of sociolinguistic pragmatism, i.e., that norms are found in the sociolinguistic, normative, historical, and rational practice of a community.
At the same time, in the scientific literature, a certain unity of views of theorists on the norm of law has developed, despite the diversity of the understanding of law itself. This unity is limited by the idea of it as a universally binding rule of conduct established by the state and ensured by state coercion, and by stating the three-element structure of the legal norm, which consists of a hypothesis, a disposition, and a sanction. The idea of a rule of law as the proper behavior established by a state act, as an "objective right" different from a "subjective right" acting as the implementation of a norm in a legal relationship, prevails.

This metaphysical idea of law and its norms is critically perceived from the standpoint of the dialectical theory of law. The most well-founded approach to the concept of a legal norm is a dialectical one, in which "proper" and "essential" do not oppose each other (the first in the form of a norm, "rules of conduct", and the second in the form of "actual" behavior based on a norm), and both "proper" and "essential" is legal norm,


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*moments* of legal norm in their contradictory unity. In this case, the legal norm is a process of necessity, in which hypothesis, disposition, and sanction appear as moments of this process, therefore, as necessary moments of the norm, and not as random, externally fixed elements of the "structure" of the latter. Consideration of the norm of law as a process of necessity, firstly, does not deny the traditional understanding of the *hypothesis* of the norm as a condition; secondly, it clearly implies the interpretation of the *disposition* as a subject of a legal norm, which is the relation of the subject's right with the corresponding legal obligation (as a "proper" and "essential" relationship together); thirdly, the *sanction* of a legal norm is unambiguously interpreted - as a specific activity, the content of which is determined by the need to make the subject of the norm (disposition) *valid* under the conditions defined by the hypothesis of the norm (Yushchyk, 2013). The sanction in this sense is not limited to the application of measures of responsibility for the violation of rights and obligations, as is usually believed, but includes all activities of the subjects of legal relations, which ensure the unity of "proper" and "essential" in the norm, that is, the proper implementation of legal relations, - from legislative measures and the creation of regulatory conditions for such implementation to the execution of court decisions.

At the same time, a legal norm (as a partial case of a norm in general) exists only in the abstract, concretized in the form of *legal acts* (Yushchyk, 2013). The latter, in fact, make up a set of management decisions, which fill the content of each separate legal norm (hypothesis, disposition and sanction of the norm) at the general, special and individual levels. The content of legal acts is management information directly related to the normative definition of legal facts, rights and obligations of subjects of legal relations, as well as acts of activity that ensure the proper implementation of rights and obligations by subjects of legal relations, which is defined as legal information. Legal information is such management social information that is embodied in specific management decisions - legal norms; the latter are a process of necessity and expressed in legal acts. Therefore, legal information determines the content of the legal norm, which is formalized in legal acts. In particular, Miranda & Miranda (2017) examine such sources of legal information as legislation, jurisprudence and doctrine, as well as highlighting the speed with which they renew themselves, making the information, still recent, outdated.

A legal norm arises from the rules of communication between subjects (matter of law) as a law of their behavior, and is sanctioned by a powerful authority as a positive law. That is, a legal norm is the unity of the self-management activity of individuals and the sanctioning activity of a powerful subject (the unity of the objective and subjective in the norm). This determines the dual nature of the law-making process in which the content and form of the law is determined. Acquiring the normative form of hypothesis and disposition by the rule of communication takes place through law-making activity, that is, the sanctioning activity of the authority subject and the lawful activity of the subjects of communication. The hypothesis and disposition of the norm are "permeated" by this activity as a sanction, and these three moments form the norm as a necessary reality. That is why the method of implementing a legal norm is activity, that is, voluntary acts of communication subjects, and voluntary acts of a powerful subject, that is, all together as legal acts (Triada, 2022).

Public authorities make their management decisions in the form of legal acts. Traditionally, in jurisprudence, a legal act is defined as an official legally binding written document containing the will (decision) of an authorized subject within its competence, and aimed at regulating social relations. The concept of a legal act is a generic concept; among legal (juridical) acts, depending on the specific features (on the basis of normativity), normative legal acts, acts of application of legal norms (law enforcement, individual, non-normative) and acts of interpretation of legal norms (interpretive) are distinguished (Derhilova, 2016; Holovchenko, 2014). At the same time, the dialectical theory of law justifies the falsity of the statement that legal acts differ according to the criterion of their normative nature. All legal acts have a single normative nature, which, however, is expressed in them in different ways: in some acts, the norm is embodied as something common, as a mandatory rule (normative, "normative-legal" acts), and in others - as a separate, single, through which this universal is revealed (normorealizing, "individual-legal" acts) (Yushchyk, 2013).

Political rights and their guarantees are defined by laws as normative legal acts of the highest legal force. In particular, in accordance with Clause 1, Part 1, Article 92 of the Constitution of Ukraine, rights and freedoms of man and citizen, guarantees of these rights and freedoms; the main responsibilities of a citizen are determined exclusively by the laws of Ukraine. According to


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Clause 22, Part 1, Article 92 of the Constitution of Ukraine, the principles of civil liability are determined exclusively by the laws of Ukraine; actions that are crimes, administrative or disciplinary offenses, and responsibility for them (Constitution of Ukraine, 1996). Thus, the disposition and sanction of legal norms, i.e. the rights and obligations of the subjects of legal relations, as well as legal responsibility, at the general level should always be contained in normative legal acts of the highest and highest legal force, i.e. in the Constitution of Ukraine and the laws of Ukraine.

Regarding the sanction of a legal norm, from the point of view of the dialectical theory of law, the usual definition of a sanction as "an element of the structure of a legal norm that indicates what adverse consequences (measures of state influence) may occur in the event of non-fulfillment (violation) of the rule of disposition of a legal norm" contains a contradiction. Defining the sanction of a legal norm as a dual internally contradictory (positive and negative) activity is extremely important for understanding law in general and, especially, positive law, "objective law", etc. (Triada, 2022). It should be noted that the issue of positive and negative sanctions is the subject of scientific discussion today. In particular, Lewinsohn-Zamir, Zamir & Katz (2022) write that the threat of sanctions is often insufficient to ensure compliance with legal norms. Recently, much attention has been given to nudges as a means of influencing behaviour without sanctions, but nudges are often ineffective and controversial. Therefore, *guarantees of political rights*, such as the activity of subjects of public authority, which is aimed at ensuring real opportunities for the realization of political rights of citizens, should be determined within the scope of *the sanction of the legal norm*.

The current legislation of Ukraine does not define such terms as "guarantees of human rights" and "legal guarantees of rights", and in the legal literature approaches to these concepts and their classifications differ significantly. The most successful definition of the concept of guarantees of rights and freedoms, Teptyuk (2018) points out, is the following: "Guarantees of the rights and freedoms of a person and a citizen are acts or acts stipulated by the law, which are determined by the legal status of the individual, and which the subjects of the guarantees are obliged to perform or refrain from them in order to preserve the existing rights and freedoms and ensure the concrete possibility of their implementation by the subjects of these rights and freedom". This author considers it necessary to classify the guarantees of human rights, first of all *on the basis of the subject of guaranteeing* the rights and freedoms of a person and a citizen; these subjects are: 1) the state; 2) non-governmental organizations and institutions (trade unions, other associations, etc.); 3) international organizations.

A special place in the system of guarantees, notes Korniienko-Zienkova (2019), belongs to *legal guarantees*, which ensure various stages of the process of implementation, protection and protection of the rights and freedoms of citizens. Therefore, the system of guarantees of citizens' rights is ultimately realized exclusively through legal guarantees, norms of a law-making nature, which directly ensure the real legal status of an individual. The most important legal guarantee of the constitutional rights and freedoms of a person is the proper implementation of the duties defined by law, corresponding to these rights, by all individuals and legal entities without exception, and especially public authorities, officials and employees of these bodies, compliance with the regime of legality in their activities. At the same time, not the obligation itself is a guarantee of the corresponding right, but its proper fulfillment by the obliged subject, which is ensured by a system of legal and other guarantees. Guarantees ensure the right of a person indirectly, through an obligation. Thus, legal guarantees of rights are actions or acts provided for by law, which are required to be carried out by state authorities, local self-government bodies, and their officials in order to preserve the existing rights and freedoms of a person and a citizen and ensure the real possibility of their implementation by the subjects of these rights and freedoms (Teptyuk, 2018).

In order to understand the legal guarantees of political rights, it is necessary to define in the current legislation the content and scope of specifically political rights of citizens and the mechanism of realization of these rights. Legal guarantees of political rights should be considered through the prism of the constitutional consolidation of the latter, Articles 22 (inexhaustibility of rights, guarantee of rights, impossibility of their cancellation) and 92 (determination of rights, freedoms, guarantees, obligations exclusively by laws) of the Constitution of Ukraine (Constitution of Ukraine, 1996).

The most effective and efficient legal guarantee of political rights and freedoms, in our opinion,



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is their judicial protection. "Judicial protection is a law enforcement guarantee of the rights and freedoms of a person and a citizen, which is the main means of ensuring the real possibility of exercising these rights and freedoms by subjects" (Teptyuk, 2018). The peculiarity of such a legal guarantee as the judicial protection of human rights and freedoms, according to Slobodianiuk (2019), is that the state, through the norms of the law, requires from the judicial authorities such legal actions and acts that ensure the proper fulfillment of the legal obligation by the state (the court ) to protect the right of a specific person in the relevant legal relationship, and guarantee the fulfillment of the duty of everyone who is obliged to satisfy the right protected by the court. Therefore, judicial protection of the violated right or freedom of a person is the main state guarantee of compliance and protection, including the political rights and freedoms of citizens, which include: the right to apply to authorities with petitions, the right to participate in the management of state affairs, the right to elect and be elected, the right of equal access to public service, the right to peaceful assembly, the right to form political parties and public organizations, etc. (Korniienko-Zienkova, 2019).

At the same time, the literature notes the need to ensure *the execution of court decisions* - as a guarantee of protecting the rights of citizens. On the other hand, courts in Ukraine do not have effective means of monitoring the execution of their decisions. It is worth supporting the opinion of some authors regarding the strengthening of state guarantees for the protection of the rights and freedoms of citizens in the execution of court decisions (Lytvyn et al., 2022).

Given the *public-law character* of political rights and freedoms, in our opinion, judicial protection of these rights and freedoms should be carried out by specialized courts, as bodies of administrative justice. The concept of "administrative justice" has not received a certain common point of view in modern science. In particular, Tykhomyrov & Husariev (2009) identify three main approaches to understanding administrative justice: procedural, according to which administrative justice is defined as a special procedure for resolving disputes or as a type of court proceedings; institutional, in which administrative justice is characterized as a system of specialized courts; functional, where the emphasis is on the implementation by the state of the function of protecting the rights and freedoms of citizens. Instead, Kolomoiets (2008) came to the conclusion that two main approaches to the understanding of this concept have been formed: 1) a narrow approach, according to which administrative justice is considered as judicial protection (administrative justice); 2) a broad approach, which includes the resolution of administrative-legal disputes by judicial bodies (administrative proceedings), as well as by other authorized state bodies (appeals of management acts in an administrative procedure). In our opinion, a "broad" approach is more productive in the scientific sense, according to which the concept of justice is not limited to the judicial authorities of the state, but also includes bodies (prosecutor's office, bodies and institutions for the execution of criminal punishments, etc.), the activities of which in one way or another are aimed at preventing, detecting and eliminating violations of the law to ensure the proper implementation of human rights and freedoms, the establishment of legality and justice, as well as those bodies and institutes related to their activities (advocate, notary, etc.).

To define the general concept of justice, and with it, administrative justice, it is necessary to take legal activity as a basis, considering it as a separate type of social activity, the content of which is the implementation by the state apparatus of legislative, administrative and law enforcement functions, that is, the legal formalization of state management of society. Implementation of state administration "is associated with a legal form, which is a valid form of activity of the state apparatus. The state functions as a real public authority only in its legal form; covered by a legal form, it forms a certain unity, which, as a substance, carries within itself the authoritative power of the state (Yushchyk, 2004). "The administrative activity of the state apparatus is implemented only in the unity of the legislative, administrative and law enforcement functions of the state apparatus, which are necessary aspects of the legal form of this activity...". Such "purposeful activity of the state apparatus, the content of which is the powerful resolution of conflicts between legal and illegal interests, which acts as denial of offenses and establishment of legal order, is *a law-enforcement function* of the state" (Yushchyk, 1997).

If you combine this definition of the law enforcement function of the state and the concept of justice, then their essential connection is noticeable. The law enforcement function is represented by the administration of justice by a judge, execution of decisions by a court (state) executor, supervising the investigation of criminal cases by the prosecutor, investigation of these cases by investigators, etc.; these activities


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relate to law enforcement activities as a part of the whole; the set of these functions forms the law enforcement function of the state (Yushchyk, 1997). So, justice refers to the activity of the state related to the elimination of violations of law, as opposed to the formation and implementation of law. The limits of justice are determined by the limits of the law enforcement function, the content of which is the activity of all bodies and officials of the state, to bring all acts of subjects of legal relations into compliance with the law. Justice is a special sphere (branch) of state administration, in which, based on the principle of legality, the law enforcement function of the state is implemented in the activities of public authorities and their specialized institutions.

Administrative justice, as a type of justice, deals with the violation of rights and freedoms, guarantees in the public-legal sphere, and its subject is public-law disputes, one of the parties of which is always a public-authority body of state power. The main purpose of administrative justice is to restore the violated right, and its task is to protect the rights and freedoms of a person and a citizen from violations by public authorities by resolving conflicts between them (Kaplia, 2017). In our opinion, all violations related to the political rights of subjects should be determined as the subject of administrative justice. Therefore, the normative definition of the guarantees of political rights of citizens should be aimed at a clear understanding of both the nature of these rights and the concept of justice and, especially, administrative justice. The latter is a decisive link in the implementation of the constitutional responsibility of the state to the person for its activities, for the approval and guarantee of the rights and freedoms of the person and the citizen.

## Conclusions

The following conclusions can be formulated as a result of this research:

1) the concept of human and citizen rights and freedoms, including political rights and freedoms, as well as their guarantees, depends on the chosen approach to the understanding of law in general, and therefore, the understanding of the concept of legal norms and legal acts;
2) the most convincing, according to the authors, is the definition of the specified concepts in the context of the dialectical theory of law, with the use of dialectical methodology and systematic analysis of legal reality;
3) the normativity of law is determined by the fact that it is an attribute of social management, which has a normative nature and is implemented through legal norms, which are embodied in legal acts of the subjects of norm-making and implementation of norms;
4) guarantees of political rights and freedoms of citizens are determined by normative legal acts of positive law (constitutional acts, laws and by-laws), as well as by legal acts of the application of the law, that is, court decisions with the actual implementation of these decisions;
5) the public nature of political rights and freedoms determines the need to guarantee them in acts of administrative justice, as one of the types of justice in general. Therefore, the normative definition of these guarantees is an urgent task in the context of the main constitutional duty of the state, namely, affirming and ensuring human rights and freedoms.

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# Peculiarities of decision-making by persons with high and low levels of tolerance

## ОСОБЛИВОСТІ ПРИЙНЯТТЯ РІШЕННЯ ОСОБАМИ З ВИСОКИМ І НИЗЬКИМ РІВНЕМ ТОЛЕРАНТНОСТІ

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**Abstract**

Abstract: the article examines the peculiarities of decision-making by people with different levels of tolerance. Tolerance is unity in diversity, it is a quality that is a humanistic component of an individual and is determined by his valuable attitude towards others. It represents an attitude towards a highly moral type of relationship, which is manifested in a person's actions. The purpose of this work was a theoretical-empirical study of the psychological features of decision-making by individuals with different levels of tolerance. Diagnostics of decision-making indicators and tolerance indicators was carried out with the help of: "Melbourne Decision-Making Questionnaire", "Personal Decision-Making Factors", "Decision-Making Questionnaire", "Qualitative Tolerance Indicators Test-Questionnaire". Correlation

**Анотація**

Анотація: у статті розглянуто особливості прийняття рішення осіб з різним рівнем толерантності. У сучасному світі толерантність розуміється як важливий елемент мирного співіснування людства, визнається гуманістичною цінністю і необхідною умовою суспільного єднання людей різних культурних традицій, вірувань, наукових і політичних переконань. Толерантність означає повагу, прийняття і правильне розуміння всього різноманіття культур, форм самовираження і прояву людської індивідуальності. Толерантність – це єдність у різноманітті, це якість, яка є гуманістичною складовою особистості і визначається її ціннісним ставленням до оточуючих. Вона являє установку на високоморальний тип стосунків, який проявляється в особистісних діях людини.

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analysis made it possible to establish the nature of interdependence between the studied indicators - tolerance and decision-making. The use of qualitative data analysis made it possible to identify groups of people with a high and low level of tolerance using the "aces" method and to draw up their characteristics. Individuals with a high level of tolerance demonstrate a high level of attitude to complex tasks and novelty, have a high readiness to adapt to an uncertain situation, are able to change their plans in new conditions. People with a low level of tolerance have a tendency to spontaneity, impulsiveness when making a decision.

**Keywords:** decision-making, tolerance, personality, tolerance levels.

Метою даної роботи було теоретико-емпіричне дослідження психологічних особливостей прийняття рішення особами з різним рівнем толерантності. Діагностика показників прийняття рішень і показників толерантності здійснювалась за допомогою: «Мельбурнський опитувальник прийняття рішень», «Особистісні фактори прийняття рішень», «Опитувальник прийняття рішень», «Тест-опитувальник якісних показників толерантності». Кореляційний аналіз дозволив встановити характер взаємозалежності між вивчаємими показниками – толерантності та прийняття рішення. Використання якісного аналізу даних дозволило за допомогою методу «асів» виділити групи осіб з високим і низьким рівнем толерантності та скласти їх характеристику. Було визначено, що особи з високим рівнем толерантності демонструють високий рівень ставлення до складних завдань і новизни, мають високу готовність адаптуватися до невизначеної ситуації, здатні змінювати свої плани в нових умовах. Люди з низьким рівнем толерантності мають схильність до спонтанності, імпульсивності при прийнятті рішень.

**Ключові слова:** прийняття рішення, толерантність, особистість, рівні толерантності.

## Introduction

The **relevance** of the study is determined by the impact of changes taking place in the modern social, economic, and political aspects of the development of Ukrainian society, which intensify the features of interactive communication of people, their mental and intellectual activity, consciousness, self-awareness, which exacerbates the personal problem of decision-making. The decision - the process and result of choosing a goal and the way to achieve it - is a connecting link between knowledge and one or another variant of human behavior and actions. Due to the complex life situations of today, people are faced with the choice of a further life path, the main direction of life activity.

The psychological problem of choice is quite relevant. In psychology, there are studies that study this problem, considering it from different positions. For example, choice is considered as a decision-making process (Malakooti, 2012), decision-making styles and individual psychological features are considered in works (Sannikov, 2015). Works are devoted to the study of choice as a motivational and volitional process (Ilyin, 2009), from the standpoint of a metasystem approach (Karpov et al., 2016), the activity-meaning aspect of the study problems of choice are revealed in works (Asmolov, 2000)

Decision-making is defined as a special form of mental activity, as well as one of the stages of mental actions when solving any tasks. Selection is one of the stages of the decision-making procedure after the formation and comparison of alternatives. Making an alternative choice is possible for an individual based on psychological characteristics that determine the individual's interaction with the environment and make it possible to find ways to make decisions. Among such psychological features, in our opinion, tolerance stands out as a personality trait. Despite all the diversity of scientific approaches to the study of the problem of decision-making and the problem of tolerance, there are no works in domestic science that investigate the peculiarities of decision-making by a tolerant person.

The **purpose of the research** is to study the psychological features of decision-making by people with different levels of tolerance.



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The **object of research**: decision-making of the individual.

**Methodology**

The research used the following methods: theoretical and methodological analysis of the research topic, psychodiagnostic and mathematical and statistical methods.

The theoretical method included a theoretical-methodological analysis and generalization of social-psychological achievements related to the research topic, namely: the study of approaches to the study of tolerance and peculiarities of individual decision-making.

The complex of psychodiagnostic methods and procedures is composed by: Test-questionnaire of qualitative indicators of tolerance by O.P. Sannikova, O.G. Babchuk (Sannikova & Sannikov, 2020; Babchuk, 2015). "Melbourne decision-making questionnaire" (MDMQ) by L. Mann (Mann et al., 1997; Soldatova & Shaigerova, 2008) "Personal decision-making factors" by T. Kornilova (2003); "Decision-making questionnaire" by H. Aizenko, modified by E. P. Ilyin (Aizenko, 1963; Ilyin, 2009)

The **sample consisted** of 74 people aged 20 to 26 who are students of the Faculty of Preschool Pedagogy and Psychology and the Faculty of Physics and Mathematics of the State Institution "South Ukrainian National Pedagogical University named after K. D. Ushinsky".

The research was conducted in accordance with the principles of deontology and bioethics.

A set of valid and reliable diagnostic methods was developed for this empirical study.

Computer data processing was carried out using the statistical package SPSS 13.0 for Windows.

**Literature review**

In psychology, there is a large number of studies that study this problem, considering it from different facets. This is both the act of giving preference to one of the alternatives given from the outside or constructed by the subject, which contributes to a choice that is not reduced to a rational calculation E. Herrera-Viedma et al., (2021), and choice as a decision-making process (Bryukhova, 2016; Larichev, 1979; Kozlov, 2009).

Analysis of the problem of decision-making demonstrates the presence of theoretical differences in the understanding of such related concepts as "personal decision-making", "strategic decision-making", "decision-making style", "choice", "personal choice", which indicates the complexity and multifaceted nature of the studied phenomenon. The use of the concept of "decision-making" is characteristic of representatives of various concepts and areas of research of the specified problem in philosophy, sociology, pedagogy, economics, mathematics, etc., which reveals the interdisciplinary nature of the phenomenon being studied.

At the same time, despite the significant relevance of this problem in domestic and foreign psychology (Ball, 2006; Vasylyuk, 1997; Karpov et al., 2016; Kornilova, 2003; Yakymchuk, 2022; Sannikova & Sannikov, 2020; Malakooti, 2012; Herrera-Viedma et al., 2021; Tweed & Wilkinson, 2019), the results of the study of the phenomenon of "decision-making" due to its complexity and multifacetedness is represented by a small number of works.

Decision-making is a mental process that involves prior awareness of the goal and method of action and working out various options. The most important feature of this process is its strong willed nature. Knowledge, interests and a person's worldview are integrated in decision-making. A decision is a social phenomenon, it is always made by one or several persons. Decision is the basis of a person's self-identification, as any social type, any character is revealed through action. The decision-making process begins with the emergence of a problematic situation and ends with the choice of a decision - an action that should transform it. This process can be presented in the form of a sequence of stages and procedures that have direct and reverse connections between them. Reverse ones reflect the iterative, cyclic nature of the dependence between stages and procedures. Iterations in the execution of elements of the decision-making process are due to the need to clarify and correct data after the following procedures are performed (Sannikov, 2015).

The concept of "decision-making" has become popular in recent years under the strong influence of the development of neurophysiology. Psychologists often transferred this concept to the field of terminology, to the field of ideas that are closer to life than to scientific concepts. The need to introduce the scientific concept of "making a decision" appeared when it became important to determine the stage at which the



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formation ends and the execution of any act begins, that is, when it can be said that a person has made a decision.

Decision-making is a kind of problem solving. The situation in which decisions are made is characterized by the following main features (Kulinich, 2008):

1. Presence of a goal. The need to make decisions is determined by the presence of some goal that must be achieved. For example, complete a task, choose material, make a date with a girl, do a new job, etc. If the goal is not set, then there is no need to make any decision.
2. Availability of alternative lines. Decisions are made in situations where there is more than one way to achieve a goal. Obviously, when there is only one line of behaviour, no decision needs to be made. Different alternatives may have different costs and different probabilities of success. These costs and probabilities may not always be known. It is for these reasons that decision-making is often associated with incomprehensibility and uncertainty.
3. Accounting of significant essential factors. Decisions are made under the influence of a large number of factors, which are different for different alternatives. These are economic, technical, social, personal and other factors. Therefore, the task of decision-making arises only when there is a goal to be achieved, when different ways of achieving it are possible, and when there are a large number of factors that determine the value of different alternatives or the probability of success of each of them.

Decision-making, as a process, occupies a central place in the structure of activity, it is included in almost all its main "components", represented at all stages of activity deployment. This process is characterized by a pronounced systemic nature of the organization, and acts, in fact, as a system-wide process of mental regulation of activity. As studies of this process in the structure of activity have shown, decision-making is considered an integral mental process (Karpov et al., 2016): First, an objective criterion for distinguishing this process in the structure of activity and at the same time its system-forming factor is its compliance with one of the main functions in the organization of activity - the function of ensuring preparation, development and decision-making in conditions of uncertainty. Both this function and the process unfolding on its basis are objectively necessary for the activity, since without them the activity is not carried out. Secondly, the decision-making process has a significant complex character, since it is implemented on the basis of almost all traditional mental processes that are analytically distinguished, but not reduced to their one-order sum, it is not additive. Thirdly, according to its orientation, this process is not "purely" cognitive, but regulatory, since it is directly oriented to the generation, organization and stabilization of activity. Fourthly, in the process of decision-making, the phenomenon of "tripling of qualities" is revealed as fully as possible - it is initially threefold; it is a process, an action, and a mental state at the same time. Depending on the conditions of activity, motivation, etc., it unfolds in different ways, and acts mainly as a process, as an action, or as a state, and in extreme cases - as a special decision-making activity (Karpov et al., 2016).

In the decision-making process, almost all the main ("forming") components of the activity participate, but in a specific aspect - in the aspect of their contribution to the development of a decision. The psychological system of activity and its constituent structural blocks act as a functional basis for the formation of the component composition of decision-making; each of these blocks is adequately and completely, naturally correlated with a certain component of decision-making.

One of the results obtained is the conclusion according to which the components of decision-making are formed on the basis of the main "formative" activities at the expense of giving the latter the property of efficiency in relation to conditions of uncertainty by including in them new, non-normative means that correspond to the content of the decision-making processes in the activity.

The above allows us to assume that the activity system is an amplifier of the decision-making process both in terms of content and structure: when the degree of uncertainty increases, the activity system becomes an amplifier of the analysis of the content and structure of decision-making parameters, which determines the similarity of the structure of the decision-making process and activity. The degree of reinforcing action can be significantly different for different conditions. In the extremely complete case, decision-making acts, in fact, as a decision-producing activity; in an undeveloped form, decision-making acts as a process itself, and in extreme cases - as an almost simultaneous act, which is sometimes not realized.


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Such an interpretation removes the mistaken comparison of the understanding of the phenomenon that occurs sometimes, where decision-making is considered either as an activity or as a process. Decision-making can be adequately understood and described both as an activity and as a process at the same time, that is, based on the principle of complementarity. One of the principles of the activity approach is precisely the reduction of the degree of multi-functionality of activity in decision-making. Initially formed as an activity, decision-making gradually acquires the features of a mental process and functions in the activity that is being mastered. When the conditions of the activity are complicated, a reverse transition is possible and, moreover, expedient.

Until now, systematic studies of decision-making as a psychical process can be considered complete. Decision-making as an integral psychical process (a system-wide process of activity regulation) is sufficiently developed, dominant ideas about the component composition of the decision-making process have been formed (the latter approach is generally traditional for the study of the decision-making process) (Karpov et al., 2016).

It is necessary to take into account two main circumstances. First, as the analysis of ideas about the structure of activity showed, this structure can be sufficiently adequately and fully described as a functional union of some basic "components", "functional blocks": goals, motives, information base, decision-making, activity programs, individual qualities, executive part, control, correction and so on. Secondly, when considering the block of decision-making as one of these components, a certain invariant composition of its components is distinguished: information base, criteria, rules, methods of preparation for decision-making, etc.

However, one should also consider the obvious fact that individual decision-making components are naturally correlated with individual functional blocks of the activity system. In fact, any component of decision-making acts as a certain facet, a specific aspect of one or another functional unit of the activity system. Thus, decision-making criteria are directly formed on the basis of the motivational block of activity; the informational basis of decision-making is actually a specification of the information supply of activities in a situation of choice; decision-making rules are formed on the basis of ideas about the activity program and are an integral part of it; methods of preparation and direct decision-making are part of the executive part of the activity. In other words, almost all the main constituent activities take part in the decision-making, but in a specific aspect - in the aspect of their contribution to the development of the decision. The psychological system of activity and its component structural blocks act as a functional basis for the formation of the component composition of decision-making. To ensure the integrity of decision-making, a set of connections between components is also formed. Many connections in the activity system, acting as its psychological architecture, are also the basis for ensuring the integrity of decision-making. These connections form the structural basis on which the components are integrated in decision-making. The formation of the main formative activities is accompanied by the establishment of regular connections between them (Sannikov, 2015).

Therefore, decision-making is an important life process characterized by the presence of its stages, theories, methods, and specific characteristics. Decision-making is a choice, an act of will and an active complex process: a special, specific, vital process of human activity, characterized by value orientations, the presence of a situation of uncertainty and alternatives, and aimed at choosing from a certain number of alternatives the best version of approval, conviction, behavior. Decisions taken can be classified according to the criterion of their level of complexity. Since a person has to interact with the outside world every day, this interaction must be built by making clear decisions and even planning. One can make a decision in different ways: through a holistic assessment of the situation, relying on your own emotional perception, or through an objective logical analysis, trying to distance yourself from the situation and weigh all the pros and cons. The main stages of decision-making are: finding solutions, inventing new alternatives and choosing the best alternative from a group of alternatives. Of course, all these main decision-making stages are found in different decision-making situations.

Researchers T. Kornilova, O. Sannikov consider choice as a mediated decision-making activity. From their point of view, the result of intellectual and personal mediation is an arbitrary choice in conditions of uncertainty, that is, a person makes a choice from a number of alternatives that must necessarily be presented in the mental plane. (Kornilova, 2003; Sannikov, 2015).



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Choice is a special activity of a person, a holistic act of evaluating oneself as an individual; assessment of one's capabilities in a specific life situation. Only the subject himself can initiate the choice, enter the state of choice. The selection criteria are set by the norms and rules of the individual himself, which may not coincide with the requirements of generally accepted morality. The choice is a reflective pause, an "active passivity." Due to the choice, a person seems to limit his field of existence, limits the excess of the world, but, thereby, he "clarifies" himself as a person. Choice is self-limitation. By exercising his right to choose, a person takes on obligations that he experiences as responsibility (Tytarenko, 2005). But making an alternative choice is possible for an individual based on psychological characteristics that determine the interaction of the individual with the environment and make it possible to find ways to make decisions. Among such psychological features, in our opinion, tolerance stands out as a personality trait. With all the diversity of scientific approaches to the study of the problem of decision-making and the problem of tolerance, there are no works in the science of our country that investigate the features of decision-making by a tolerant personality.

Tolerance as a psychological phenomenon has a fairly short history of study in domestic research, since tolerance has not been adequately studied in domestic psychology. This is explained by the prevailing totalitarian ideology, which assumes intolerance as a necessary element of the class struggle. In recent decades, in connection with the change of socio-political life in the country, there has been a demand for research on various problems of tolerance (Asmolov, 2000; Soldatova & Shaigerova, 2008). In the modern world, tolerance is understood as an important element of peaceful coexistence of mankind, it is recognized as a humanistic value and a necessary condition for the social unity of people of different cultural traditions, beliefs, scientific and political beliefs. Tolerance becomes a key moral principle of civil society, which is confirmed by the international document - "Declaration of Principles of Tolerance" (Liga 360, 1995). This document reveals the essence of the concept of "tolerance": as respect, acceptance and correct understanding of the rich diversity of cultures, forms of self-expression and ways of manifesting human individuality; as harmonies in diversity; as a moral debt, political and legal need; as a virtue that makes it possible to achieve peace and promotes the replacement of the culture of war with the culture of peace; as an active attitude to reality, which is formed on the basis of the recognition of universal human rights and freedoms (Liga 360, 1995).

In the modern world, the problem of tolerance is the subject of discussion and research in various humanitarian and social sciences. Despite its complexity and contradictions, the phenomenon of tolerance today is understood not just as an abstract philosophical ideal, but more than ever, it is widely recognized as a universal human value and a practical condition for the survival and development of civilizations, dialogue and in-depth constructive interaction of different cultures.

The understanding of tolerance is ambiguous in different cultures and depends on the historical experience of the people. In English, tolerance is defined as "the willingness and ability to accept a person or thing without protest". In the English-Russian psychological dictionary, the translation of the English word tolerance means "acquired stability, the limit of a person's stability (endurance); resistance to stress; resistance to conflict; resistance to behavioral deviations. In the French one - "respect for the freedom, matter of another, his way of thinking, behavior, political and religious views"; in the Chinese one - to be "tolerant" means "to show" magnanimity towards others, to enable, to allow"; in the Arabic one - "forgiveness, leniency, mildness, condescension, compassion, affection, patience, positive attitude towards others"; in the Persian one - "patience, open-mindness, endurance, readiness for reconciliation" (Babchuk, 2015).

R. Valitova considers tolerance as a moral benevolent personality, which characterizes its attitude to another as a free equal personality, which consists in the voluntary and conscious suppression of the feeling of rejection caused by certain characteristics of the personality, both external (racial, national characteristics) and internal (religion, which is professed, respected traditions, moral preferences), attitude towards dialogue and understanding of the other, rejection of the privileges of the first person, recognition and respect of his right to distinction (Valitova, 1997). The author also formulated three principles of tolerance: 1) tolerance is conditional virtue. Its applicability depends on the answer to the question: in relation to what or to whom one should be tolerant; 2) renunciation of the monopoly on knowledge of the truth in morality is a condition under which tolerance is possible; defending one's point of view, the thought arises that we should be tolerant of another's opinion; 3) tolerance is not the final goal of moral improvement of interpersonal


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communication, it is a starting position on the path of humane existence (Valitova, 1997).

Thus, the phenomenon of "tolerance" is the subject of study in philosophical, ethical, psychological and other sciences, which indicates its importance for modern society.

Domestic and foreign scientists recognize that tolerance, being a moral value, implies pluralism of views, respect for others, a desire for constructive dialogue, peaceful coexistence of cultural, socio-political, scientific and religious differences.

A. G. Asmolov singles out the following most important functions of tolerance in the modern social space, based on the analysis of existing modern ideas and studies of the phenomenon of tolerance. 1) Support of the diversity of complex systems is the first and most important function of tolerance, which is manifested, including, in the support of polyethnicity and multiculturalism. 2) Support of each person`s right to be different, which is one of the main meanings of tolerance, which follows from its semantic analysis. 3) Ensuring the sustainable development of systems and the balance of various conflicting parties in the economy, culture and politics. 4) Ensuring the possibility of dialogue and achieving agreement between different worldviews, religions and cultures (Asmolov, 2000).

Signs of the phenomenon of tolerance can be classified into three categories: 1) signs characterizing tolerance as a quality: the basis of spirituality, morality (tolerance as a quality is the basis of something spiritual, moral), identity with acceptance (tolerance is often associated and completely identified with acceptance), discursiveness (tolerance permeates almost all modern discourses) etc.; 2) signs characterizing a tolerant personality (a subject who shows tolerance): spiritual strength, an active position, a search for unity, a desire for spiritual perfection, doubt in the single truth of one's own position, humility, generosity, etc.; 3) signs characterizing the relationship of the subject of tolerance to its object: interaction with the other, coexistence with the other, overcoming the other (if the object of tolerance is negative, for example, violence), recognition of the rights of the other, the right to existence of his position, allowance of the other, indifference towards the other, respect for the other, critical dialogue with the other (the result of which can be an exchange of thoughts), compassion (empathy for the other), preservation of differences in unity, evaluating the other with dignity, establishing a spiritual connection with another etc. (Sumina, 2007). The highlighted signs are relevant for the phenomenon of tolerance to a different extent, often the manifestation and importance of one or another sign is determined by certain circumstances. In the scientific literature devoted to the problem of tolerance, considerable attention is paid to the construction of classifications.

Domestic scientists consider the principle of active tolerance to be one of the main principles of tolerance, since "tolerance implies an interested attitude towards the other, the desire to feel his "otherness", which prompts the mind to work, if only because the other's worldview is different from one's own. Such an understanding contributes to the expansion of one's own experience. At the same time, the manifestation of tolerance does not mean the rejection of one's own views and beliefs, it indicates the openness of the dialogue participants, their "mutual insight" (Bezyuleva & Shelamova, 2003). B. Reardon singles out the following principles of tolerance: the diversity of people beautifies and enriches life; conflict is a normal process that must be solved constructively; social responsibility and the ability of each person to meaningfully apply moral norms when making personal and social decisions are very important for democracy" (Reardon, 2001).

Modern studies show that decision-making itself largely determines the substantive, procedural and effective parameters of an individual's life. Accordingly, the "price of error" for an inadequate choice of personality, possible wrong decisions, is extremely high. Due to this, applied research on the rationalization of complex types of activities, optimization of the individual's life path, must also take into account the patterns of decision-making, and in this the immediate practical significance of studying both the individual as a whole and directly what ensures decision-making by the individual.

During such a short period of decision-making research, several independent directions have developed, while some of the research on this issue has taken the form of completed conceptual developments. First, it is a practice-confirmed concept of a psychological decision-making system, which represents decision-making as an "integral mental process" (Karpov et al., 2016) Secondly, O. K. Tikhomirov's theory of semantic regulation gave a new sound to the cognitive direction of modern decision-making psychology (Tikhomirov et al., 1977). And, thirdly, the



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concept of multiple functional-level regulation of intellectual decision-making, which also partially affects personal variables (Kornilova, 2003). P. K. Anokhin's theory of functional systems served as a more general basis for existing areas of decision-making research (Anokhin, 1978)

Making a decision is a specific, vitally important manifestation of the individual's activity, which ensures the choice of the best solution option, or those that are subjectively perceived by the individual as such for solving the life situation (Sannikov, 2015). When the need for decision-making arises, the individual shows a tolerant or intolerant attitude towards it, which allows or blocks the manifestation of the multivariate decision and its implementation. This ratio of tolerance / intolerance of personality and characteristics of choice and decision-making requires empirical verification of this assumption.

So, general scientific ideas about the essence of tolerance are based on two central points: the idea of tolerance, as a passive acceptance of the surrounding reality, not resisting it, and the idea of human mutual understanding of other people. A tolerant person seeks to understand another, to come to an agreement with him through active forms of tolerance: cooperation, dialogue, interaction, negotiations, friendship, support, reconciliation, etc. There is an opinion that tolerance consists in overcoming feelings of rejection of others, in showing tolerance in relation to someone else's opinion, someone else's culture, someone else's way of life. Such point of view excludes respect for the partner, the manifestation of empathy, benevolence, sincere sympathy, the desire for understanding, the possibility of freedom of choice in decision-making.

The **goal** is a theoretical-empirical study of the psychological features of decision-making by individuals with different levels of tolerance.

The concept of "decision-making" implies its consideration not only as a phenomenon, but also as a result of choosing a goal, forming and implementing an action program, using a method of obtaining a result or a strategy for achieving a goal - a strategy of choice. Most researchers define "decision-making" as "a volition of forming a sequence of actions leading to the achievement of a goal based on the transformation of initial information in a situation of uncertainty." A narrower "decision" is interpreted as a choice of one of the available alternative options for actions (in the simplest case - between action or inaction) (Sannikov, 2015).

Diagnostics of decision-making indicators was carried out using the following methods: "Melbourne decision-making questionnaire" (MDMQ) by L. Mann (Mann et al., 1997; Soldatova & Shaigerova, 2008), "Personal decision-making factors" by T. Kornilova (2003); "Decision-making questionnaire" by H Aizenko, modified by E. P. Ilyin (Aizenko, 1963; Ilyin, 2009). Diagnosis of tolerance was carried out using the "Qualitative Tolerance Test Questionnaire" by O.P. Sannikova, O.G. Babchuk (Sannikova & Sannikov, 2020; Babchuk, 2015). The empirical research was conducted on the basis of the State institution "K. D. Ushinskyi National Pedagogical University". 74 students of the faculty of preschool pedagogy and psychology and the faculty of physics and mathematics aged 20 to 26 participated in the study.

**Results**

To establish the relationship between tolerance indicators and decision-making indicators, a correlation analysis was used, which showed that an increase in the values of tolerance indicators is accompanied by an increase in the values of such indicators as decisiveness, impulsiveness in decision-making, purposefulness and risk-taking.

Table 1 provides significant correlations between qualitative indicators of tolerance and decision-making.


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**Table 1.**
*Significant correlations between qualitative indicators of tolerance and decision-making*

| Indicators of decision-making | Qualitative indicators of tolerance | | | |
|---|---|---|---|---|
| | CT | ET | BT | TT |
| V | –226* | | | –229* |
| HV | –483** | –355** | –334** | –475** |

Notes. 1) Conventional abbreviations: CT – cognitive component of tolerance, ET – emotional component of tolerance, BT – behavioral component of tolerance, TT – total indicator of tolerance; 2) Conditional shortening of decision-making indicators: V – vigilance, Pr – procrastination, HV – hypervigilance.

Correlation analysis showed that the cognitive component of tolerance (CT) is negatively connected to indicators of vigilance (V) ($\rho \leq 0.05$) and hypervigilance (HV) ($\rho \leq 0.01$). The indicator of emotional tolerance (ET) is negatively related to the indicator of hypervigilance (HV) ($\rho \leq 0.01$). The behavioral index of tolerance has a negative connection to the hypervigilance index (HV) ($\rho \leq 0.01$). The general index of tolerance revealed negative connections to indicators of vigilance (V) ($\rho \leq 0.05$) and hypervigilance (HV) ($\rho \leq 0.01$).

Next, we will consider significant correlations between indicators of tolerance and decision-making according to the "Decision-Making Questionnaire" method. Table 2 shows the results of the correlation analysis between indicators of tolerance and decision-making.

**Table 2.**
*Significant correlations between qualitative indicators of tolerance and decision-making (DMQ)*

| Indicators of decision -making | Qualitative indicators of tolerance | | | |
|---|---|---|---|---|
| | CT | ET | BT | TT |
| Dcs | | 329** | | 328* |
| Prs | –436** | | –381** | –437** |
| Imp | –285* | –327** | –311** | –400** |

Notes. Conventional abbreviations: Dsc - decisiveness in decision-making, Prs - purposefulness in decision-making, Imp - impulsiveness in decision-making

Correlation analysis of the primary data revealed the following interrelationships of the measured indicators: the cognitive component of tolerance (CT) revealed negative relations between the indicators of purposefulness in decision-making (Prs) ($\rho \leq 0.01$) and with the indicator of impulsivity in decision-making (Imp) ($\rho \leq 0.05$).

The indicator of emotional tolerance has a positive connection to the indicator of decisiveness in decision-making (Dcs) ($\rho \leq 0.01$) and a negative relationship to the indicator of impulsivity in decision-making (Ips) ($\rho \leq 0.01$).

The indicator of behavioral tolerance (BT) revealed a negative relationship to the indicators of purposefulness in decision-making (Prs) ($\rho \leq 0.01$) and to the indicator of impulsivity in decision-making (Imp) ($\rho \leq 0.01$).

The general indicator of tolerance has a positive relationship with the indicator of decisiveness in decision-making (Dcs) ($\rho \leq 0.05$) and negative connections to indicators of purposefulness in decision-making (Prs) ($\rho \leq 0.01$) and with the indicator impulsiveness in decision-making (Imp) ($\rho \leq 0.01$).

The analysis of theoretical and empirical literature and the results obtained in the course of correlation analysis allow us to assume the presence of psychological features of decision-making in people with differences in the level of tolerance.

In our work, the "aces" method was used. Previously, all numerical scores were converted into percentiles in order to approximate the distribution of values to normal. This made it possible to distinguish groups of individuals with a high level (fourth quartile of the distribution from 75 to 100 percentile) and a low level (first quartile from 0 to 25 percentile) of tolerance. Thus, the sample was divided into two groups: individuals with high values of the total tolerance index (TTmax, n=10) and a group with low values of the total tolerance index (TTmin, n=12).

The next step of the research was to determine the specifics of individual characteristics of


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choice in conditionally defined groups with different levels of tolerance using the "profiles" method. The analysis and interpretation of the profiles was carried out based on those indicators that maximally deviate from the middle line of the series (50 percentile).

Fig. 1 provides decision-making profiles of groups of people with different levels of tolerance (according to the MDMQ methodology).

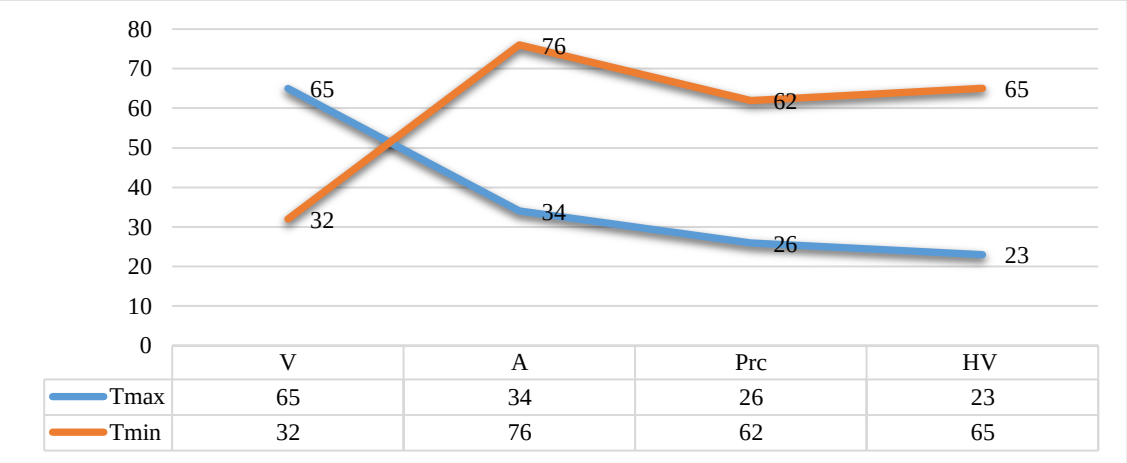


***Fig. 1.*** Decision-making profiles of groups of people with different levels of tolerance (according to the MDMQ methodology)
Notes. Abbreviations: V – vigilance, A – avoidance, Prc – procrastination, HV – hypervigilance.

Analysis of the profiles of decision-making indicators in groups that are distinguished by high and low values of tolerance shows that the level of tolerance affects the decision-making indicators of an individual.

Thus, the representatives of the group (Tmax) demonstrate high values of the "vigilance" indicator (V+) and low values of the indicators of avoidance (A–), procrastination (Prc–) and hypervigilance (HV–), while in the group (Tmin), on the contrary, the indicator of vigilance has low values with high values of avoidance (A–), procrastination (Prc–) and hypervigilance (HV–).

So, in a group of people with a high level of tolerance, the indicator of vigilance (V+) ensures the search for the optimal decision option, consideration of alternatives, comparison of the data of life decision-making experience with the requirements of the current situation, characterizes them as having a need for knowledge. Clarification of the goals and objectives of the decision, consideration of alternatives among members of this group is connected with the search for information, its assimilation "without prejudice" and evaluation before making a choice. They do not try to avoid making a life decision (A-) or postpone its making "for later", and they also do not pay attention to unimportant facts (Prc-).

Individuals of the group with a low level of tolerance (Tmin) pay a lot of attention to small things, are constantly distracted, try to avoid making a decision and transfer decision-making to others (A+). Their unjustified "tossing" between different alternatives sometimes causes impulsive decision-making to get rid of the situation that has arisen. In extreme conditions, "panic" in the choice between alternatives is possible.

According to T. Kornilova, decision-making is related to such personal factors as risk-taking and rationality. Readiness to risk is considered as readiness to make decisions and act in conditions of subjective uncertainty, that is, it implies self-control in a situation of unclear orientation. In this sense, accepting a certain degree of risk (rather than avoiding it) can serve as a criterion for a rational decision. The result of decision-making can be a strategy that is considered (rational) and "risky" at the same time. Rationality acts as a readiness to consider one's decisions and act completely oriented to the situation, it is not the opposite of the riskiness of the decision made and can characterize various, including risky decisions of the subject (Kornilova, 2003).

The results of decision-making diagnostics using the "Personal decision-making factors" method are given in fig. 2.


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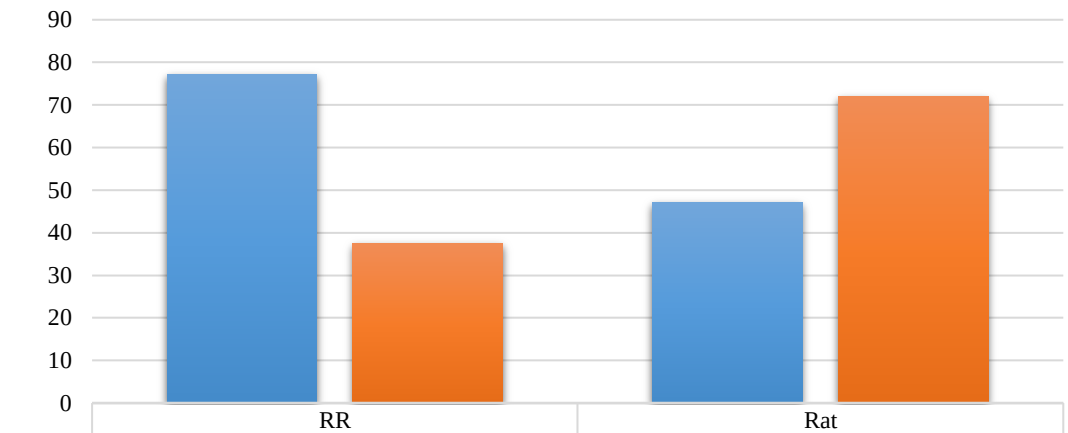
The analysis of the obtained results indicates the presence of differences in the dominance of certain decision-making factors in the studied groups. Thus, individuals with a high level of tolerance when making decisions demonstrate a greater willingness to take risks, that is, in situations of uncertainty, situations of chance, when not only is there no discrepancy between the necessary and available opportunities, but also where it is impossible to assess such opportunities, they rely more often on themselves and demonstrate greater readiness to act in such conditions (RR+).

Representatives of the group with a low level of tolerance are more inclined to consider their decisions and act with possible complete orientation in the situation. For them, the connections between actions and life events are less obvious, they are unable to control these connections, they consider most events and their own actions to be the result of chance (R+). The tendency to attribute more importance to external circumstances, for example, social factors, fortune, also characterizes representatives of this group.




| | RR | Rat |
|---|---|---|
| Tmax | 77,228125 | 47 |
| Tmin | 37,4875 | 71,908333 |

***Fig. 2.*** Histogram of decision-making factors of groups of people with different levels of tolerance
Notes. Abbreviations: RR – readiness for risk, Rat– rationality

In the following, we will consider the results of decision-making diagnostics using the decision-making questionnaire (DMQ), which provides an opportunity to obtain information about such features of decision-making as decisiveness, purposefulness, rigidity and impulsiveness in decision-making.

We will remind you that determination is presented as the ability to independently make responsible decisions and consistently implement them in action. Determination is especially clearly manifested in difficult situations, when the act is associated with a known risk and the need to choose from several alternatives. Determination is also the ability to take responsibility for the decision made, ensures the timeliness of the action, the ability to quickly execute it or delay it (Golovin, 1998). E. Ilyin emphasizes that decisiveness characterizes the speed of making a considered decision, when the consequences can lead to either an undesirable or a negative result (Ilyin, 2009).

O. Sannikov claims that determination is the ability to boldly and independently make mature life decisions, selectively using personal resources. Determination is not a manifestation of the individual's will in making and carrying out difficult decisions, but the ability to take the first step and lead others along, assessing risks. Determination is full concentration in an extreme situation, the ability to fight, take into account past mistakes and flexibly adapt to changing conditions (Sannikov, 2015).

Let's analyze the results of decision-making diagnostics, which are presented in fig. 3.

Analysis of the content characteristics of the decision-making indicators proposed by the author of the methodology allows us to characterize the peculiarities of their manifestation by the representatives of each group.

So, in the group of people with a high level of tolerance, there is a tendency to show determination when making a decision (Det+).



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They are characterized by a quick and energetic reaction to the situation, moderation and rationality, measured caution when making a decision, independence from circumstances, pragmatism, independence, persistence in implementing the decision.

A characteristic feature of the individuals of this group is the development of their own strategy for achieving the goal, the implementation of a purposeful choice of the goal itself and decision-making regarding its achievement with a clearly expressed desire for anticipation (Pr+). They are characterized by easy switching from one installation to another, taking into account minor changes in external circumstances in the choice situation, readiness to change the plan and program of decision implementation in accordance with the new requirements of the situation (RG–). They demonstrate sufficiently good self-control, balanced decisions, striving for independence, and understanding the consequences of decisions (IMP-).

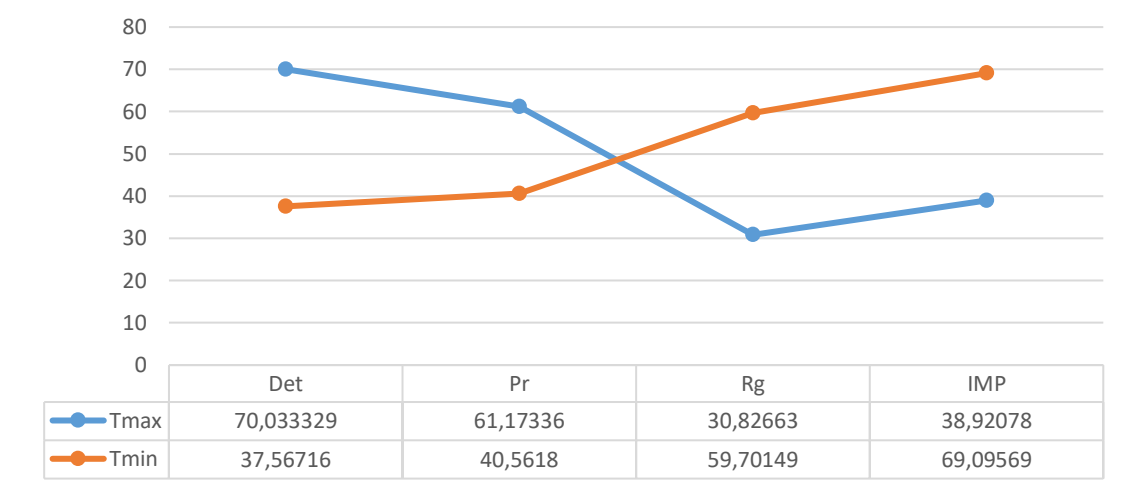


***Fig. 3.*** Decision-making profiles (DMQ) of groups of people with different levels of tolerance
Notes. Conventional abbreviations: Det - determination, Pr - purposefulness, RG - rigidity, IMP - impulsivity

People with a low level of tolerance have a tendency of spontaneity, impulsiveness when making a decision (IMP+), it can be assumed that decisions are made on the first impulse, under the influence of external circumstances and emotions. Decisions are impetuous, sudden, not always considered, do not weigh "for" and "against", so the first impression (guess) without thinking, analysis and development becomes the basis of the decision.

Manifestations of rigidity (RG+) indicate complications in changing the planned activity program, action plan or act in conditions that objectively require its restructuring. They have a low ability to change the emotional perception of objects of changing emotions, to change the perception and idea of the environment in accordance with the real changes in this environment, to change the system of motives, incentives to act in circumstances that require the subject to be flexible and change behavior. When making a decision, there is thoughtlessness of the decisions made, indecisiveness, dependence when making a decision on circumstances, which may be related to dreaminess and instability of intentions. They demonstrate reduced activity when choosing a goal, as well as making a decision to achieve it.

**Conclusions**

1. The theoretical analysis showed that the choice is the main stage of the decision-making process. It consists in selecting one option from several possible ones. A choice is a person's acceptance of one decision from the many options offered, the resolution of uncertainty in a person's life and activity in the context of a plurality of various alternatives. The phenomenon of tolerance today is understood not just as an abstract philosophical ideal, but more than ever, it is widely recognized as a universal human value and a practical condition for the survival and development of civilizations, dialogue and deep constructive interaction of different cultures. In the modern world, the problem of tolerance is the subject of discussion and research in various humanitarian and social sciences. Despite its complexity and contradictions, the


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phenomenon of tolerance today is understood not just as an abstract philosophical ideal, but more than ever, it is widely recognized as a universal human value and a practical condition for the survival and development of civilizations, dialogue and in-depth constructive interaction of different cultures.

2. The use of qualitative data analysis made it possible to identify groups of people with a high and low level of tolerance using the "aces" method and to draw up their characteristics. Therefore, individuals with a high level of tolerance demonstrate a high level of attitude to complex tasks and novelty, have a high readiness to adapt to an uncertain situation, are able to change their plans in new conditions. They are characterized by a quick and energetic reaction to the situation, moderation and rationality, measured caution when making a decision, independence from circumstances, pragmatism, independence, purposefulness, persistence in implementing a decision, sufficient self-control. The group's representatives are characterized by the lack of hesitation and reflection in decision-making, quick, energetic reaction to the situation, independence and stability in decision-making, far-sightedness, thoroughness in gathering and analyzing information, providing a guaranteed and effective decision option. People with a low level of tolerance have a tendency to spontaneity, impulsiveness when making a decision. When making a decision, there is rigidity, ill-considered decisions, indecisiveness, dependence on circumstances when making a decision). People of this group can be characterized as independent, inclined to make decisions under the influence and with the help of other people, transferring responsibility to them.

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