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A SOCIAL SCIENCES

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

FORMATION AND IMPLEMENTATION OF MECHANISMS OF ELECTRONIC MANAGEMENT OF THE REGIONAL EDUCATION SYSTEM

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Abstract: Integration in the field of global education is a trend that at the end of the 20th and beginning of the 21st century is becoming one of the basic categories of modern pedagogy. It is developing both in individual countries and at the regional and global levels. Integration and regionalization in education is part of a complex and comprehensive process of rapprochement, interaction, and interpenetration of national structures. Of course, this introduces into the study of integration problems in global education of all the complexities and contradictions of the analysis of "large systems." At the same time, integration in education has its own distinctive features, dynamics, goals, and methods of forming integration associations at various levels, which need appropriate management. The article analyzes the role of digital technologies in modern conditions of management of regional educational systems, within the concept of electronic management.

Keywords: regional educational system; information technology; internationalization of education; management of educational systems; globalization; digitalization.

1 Introduction

Since the education system represents one of the social institutions, its development is completely determined by the changing needs of society, based on the nature and achievements of scientific, technical, and social progress. The dynamics of modern social development are characterized by rapid and profound changes in all areas of human life and activity - in science and technology, in economics and politics, in education and culture, in the organization of production and in its management. Education, as one of the most important social institutions, is also subject to constant development in accordance with changing goals and needs of society, with the development and implementation of high technologies. At the same time, the response of educational systems to the social challenges of the time does not occur automatically, but indirectly, in the process of development of public opinion and the activity of teachers, public and government figures, being, at the same time, characterized by a certain inertia.

These circumstances determine the need for constant search, research, and monitoring of both general civilizational processes and the processes of functioning of educational systems in order to harmonize their main parameters with social changes, with the leading directions and trends of scientific, technical, and social progress. At the same time, the most radical modernization is usually needed for such an element of education as its content, since namely the content of basic education forms the foundation and opportunities for improving student training programs in high school and vocational schools, and determines the level and quality of higher education. The content of vocational education directly affects the nature of the development and use of the productive forces of society, material and spiritual culture, and the population's well-being.

In the world education system, by the beginning of the 21st century, the following global trends have emerged and are clearly visible [63]:

- The general desire to democratize the education system is intensifying, ensuring access to education for the entire population of the country, primarily for capable talented youth, regardless of their social origin and financial situation, and continuity of stages and levels of education;
- A multi-level education system is developing, which provides greater mobility in the pace of learning and in students' choice of future specialty. It forms in the student the ability and desire to master new specialties and professions on the basis of the university education received;
- The educational process in universities is characterized by a powerful enrichment with modern information technologies, widespread inclusion in the Internet system with its rich information resources and intensive development of distance learning forms for students;
- In the global educational system, the humanitarian component of the content of specialist training in general is significantly increasing, in particular through the human-oriented scientific and educational disciplines: philosophy, psychology, political science, sociology, cultural studies, ecology, ergonomics, economics;
- The 'universitization' of higher education and the processes of integration of all higher educational institutions into the system of leading universities in the country and in the world are intensifying, which leads to the emergence of powerful university complexes, scientific and educational metropolises of national, continental, and interregional significance;
- Universities are also merging with industrial complexes. As a result, a basis is formed for scientific research and targeted training of unique specialists for modern firms and enterprises;
- There is a gradual growth of the market for educational services and an expansion of their range;
- Education is becoming a priority object of financing in all developed countries of the world, and there is an awareness of the prospects of investing in human capital.

In addition, in the field of education management, a reasonable compromise is being sought between strict centralization and standardization of education, on the one hand, and the complete autonomy of educational institutions, on the other. Knowledge about forecasting the development of regional educational spaces has become in demand in modern public practice [45].

Modern pedagogy has significant scientific potential for studying the problem of the development of a regional education system, including research into innovative approaches to the development of regional education systems, research into economic, social, and managerial aspects of the development of regional education systems. However, critically little attention is paid to the formation and implementation of mechanisms of electronic management for the regional education system. This important area of social relations today turned out to be an unexplored "niche", against the backdrop of the rapid pace of digital transformation of education on the one hand and multidirectional, to some extent entropic processes of managing education systems in a globalized world on the other.

2 Materials and Method

The general methodology of the study was determined by theories of the development of modern civilization at the stage of transition to a post-industrial society, the growing role of education in the world, as well as the principle of systematicity and conditionality of economic and social, managerial and pedagogical processes.

The development of methodological tools was carried out based on the provisions of the general theory of systems and the systems approach, the principles and categories of dialectics, modeling as one of the productive methods for studying and

transforming systems, the use of a synergetic approach that identifies and understands general patterns, self-organization processes in complex systems of various natures, in particular in management and educational systems. The method of analogy, analysis, synthesis, induction, and deduction was used.

We used the elements of comparative method when analyzing the regional educational systems of the EU and Asia.

3 Results and Discussion

It should be noted that the term "education without borders" first appeared in official reports (since 2000) in Australia and the UK [36]. Basically, this term is used to characterize the processes of overcoming conceptual, disciplinary, and geographical boundaries traditionally inherent in the system of secondary and higher education. In this aspect, it seems legitimate to compare the term "education without borders" with the term "cross-border education," since namely the relationship between these two terms determines the real boundaries of the regional education system [18]. Currently, most publications no longer dispute the actual disappearance of 'hard' boundaries between national education systems, although the term "cross-border education" inevitably emphasizes precisely the fact of their existence.

Both approaches, in our opinion, reflect the realities of today. At the same time, in a period of unprecedented growth in distance and e-learning, simply recognizing or denying geographical boundaries is apparently not enough [2; 3]. In any case, the importance attached to boundaries is growing, especially when the focus is made on regulating the responsibilities of educational institutions (primarily universities), particularly in the areas of quality, financing, and accreditation.

This point is particularly relevant in terms of how definitions can shape educational policy practice, and how practice, in turn, can influence educational policy definition.

Given the changes in the mechanisms for justifying and delivering methods of cross-border general and higher education, it is important to consider the issue of its definition and provide meaning to the current changes and problems it reflects. It is becoming increasingly clear that internationalization must be understood primarily at the national and industry level, as well as at the organizational level [4-7]. Thus, a new definition of the process of internationalization of education is needed so that it can cover both all levels of education (and the dynamics of relations between them) and reflect the realities of today.

The most challenging part of analyzing evolving definitions is considering their application across different countries, cultures, and educational systems. This is not an easy task. After all, it is not a universal definition that is being developed, but, first of all, the one that is meaningfully suitable from a wide range of educational contexts in countries around the world [12; 13]. It is therefore important that the definition does not specify the specific benefits and outcomes of activity subjects or internationalization participants, as these elements vary from institution to institution. It is necessary to realize that the international aspect concerns all aspects of education and the role it plays in society. With this in mind, we can propose the following working definition: "internationalization" as a socio-economic phenomenon at the national and institutional levels is defined as the process of integration of international and intercultural socio-economic relations, their forms and institutions (or, in relation to the globalization of the regional education system, - as general goals, functions, and methods of delivery and implementation of various levels of education).

In turn, in the regional aspect, the internationalization process is often considered from the point of view of a tripartite model of education (input, processing, and output of innovative educational knowledge). If the internationalization process determines the materials, outcomes, and benefits of the regional educational process, then there are correspondingly fewer commonalities in the educational process, since it must first of

all reflect the specific priorities of the country, institution, or specific group of stakeholders.

The international, intercultural, and intersectoral scales of globalization of national and regional education reflect three conditions that are usually used as a "triad" definition. Indeed, the concept "international" is used to characterize relations between nations, cultures, and countries [14-16]. But internationalization also refers to the diversity of cultures that exist in countries, communities, and institutions, and the concept of "intercultural" is also used to capture this same aspect. Finally, "global" reflects the contradictory perspectives of the global sphere.

These three levels complement each other and together systematically reflect the richness of the entire range of both internationalization and regionalization of education [62]

Like other public institutions, education, under the influence of the comprehensive process of internationalization of life, is becoming increasingly open to international cooperation. Moreover, due to the special role of knowledge in the post-industrial era, education appears to be one of the decisive elements of "high" world politics. And while earlier the process of internationalization of education went as if "following" its development in the economy, today, in our opinion, the need for its rapid development in the field of education is becoming increasingly more obvious [20; 21]. Under the influence of the major political and economic changes taking place in the world, the evolution of the value systems of many countries, as well as in the face of global challenges to humanity, modern education is acquiring an increasingly global, worldwide character.

The internationalization of education is accompanied by strengthening of the international component of the development of its individual elements - national and regional educational systems. This, however, does not mean that they have lost their identity [22; 23]. Rather, the point is that in the process of internationalization, a new international educational environment is being formed, where the national interests of its participants could be implemented in the most effective forms, and a joint search for solutions to problems that are of vital importance for human civilization as a whole could be carried out.

In cases where the developing processes of internationalization are successfully superimposed on the historically long-standing cultural and economic community of a group of states, large fragments are formed in world education, characterized by fairly similar directions of development and the qualitative state of the national educational systems included in them. In our opinion, such trends can be considered as starting points on the path to the gradual formation of regional educational spaces in certain parts of the world, where, if not unified, then largely common educational concepts are implemented (for example, in EU countries).

The internationalization of education is an objective and constantly evolving process that existed in various forms long before the formation of nations and national entities in their present form was completed. It is connected not so much with pedagogical borrowings, which also took place and are in themselves expedient, but rather with general parallel processes and general socio-economic and cultural phenomena that have developed in the world [23; 35]. These include: world economic relations, constantly increasing in volume and increasingly more diverse in content; new technologies with their developed infrastructure, making almost every 'corner' of the globe accessible to information; modern global problems of humanity. The internationalization of education is also facilitated by new trends in world politics, the ideas of the free market that have rooted in most of the world, as well as the universality of humanism and universal human values.

Today, integration trends in global education are being quite actively studied by specialists, and one can talk about different approaches to assessing them [25-27]. Let us note that there are

two main, in our opinion, points of view on the future of interstate cooperation in the field of education.

Supporters of the first of them, relying on the universal property of humanism, on the commonality of a number of the most important problems of modern education, consider it expedient to accelerate the process of its internationalization on the basis of unifying the main directions of the functioning of national educational systems and modern technologies [28]. However, the prevailing view is that universalism in education is possible only if the diversity of social, political systems, cultural and linguistic traditions of different countries is preserved. At the same time, it is not about the unification of national educational systems or their “harmonization”, but about the need for their greater orientation towards the needs of a rapidly changing and increasingly interdependent world [52].

With varying intensity, the process of internationalization covered all levels of education, reaching its maximum in higher education. In relation to certain regions of the world (Western Europe), there is reason to assert that the process of internationalization in higher education is acquiring the features of a qualitatively new stage - integration, as evidenced by the emergence of the corresponding political and legal superstructure of the integration complex [30-32]. Of course, international integration in education, as in any other sphere of life, is a complex, contradictory, and lengthy process. Moreover, many problems associated with the need to transfer some functions from the national to the supranational level, with a certain limitation of the sovereign rights of the state, are especially difficult to solve here.

In our opinion, in the development of the processes of internationalization of world education, including their highest form - integration, two main levels of goals can be distinguished: global - promoting, through deepening cooperation in the field of education, general socio-economic progress and sustainable development of the world community, easing pressure of global problems and strengthening mutual understanding between peoples; intra-system (educational) - combining the potential of national educational systems to solve problems that go beyond the capabilities of an individual country and related to the elimination of illiteracy of all types, inequality in access to quality education using the latest technologies, education based on universal human values of an individual who is aware not only of his national and cultural identity, but also perceiving the world in all its integrity and interdependence, understanding his personal responsibility for its fate and ready to act constructively in order to preserve and develop it [37; 38]. One of the main goals that can be achieved on the path of integration and creation of a consolidated world educational space (WES) is a significant increase in the quality of education in the world, improvement of human resources, and in this regard, providing opportunities for the effective transfer of knowledge from one part of the world to another.

States that are characterized by a qualitatively higher degree of cultural dynamics and scientific and technological autonomy also face their own colossal difficulties, which is typical in general for Greater East Asia (North-East and Southeast Asia, Central and South Asia). Of course, these characteristics ensure the ability of these countries to break out of the vicious circle of backwardness, carry out enclave economic modernization and not only master imported high technologies, but also independently develop scientific research, enter a new stage of scientific and technological progress, which provides additional opportunities for expanding the impact on the processes taking place in the Afro-Asian world. On the other hand, the presence of a generally large unskilled, illiterate population did not allow them to apply many of the models of developed countries [40]. Thus, there is little point in introducing new resource-saving technologies (extremely low cost of manual labor, the need to provide work for the population, etc.); it is no coincidence that most technological advances are “export-oriented” in nature. In the countries of Greater East Asia, there was an understanding of the need to make fundamental decisions to correct the situation.

Over the past 25+ years, a radical educational reform has been carried out here, and it followed a coinciding trajectory and had the following common characteristic features:

- Formation of a new image of national concepts of education;
- Restructuring of the education system and its large-scale expansion;
- Ensuring standards and quality of education;
- Extensive use of the non-state sector and finding a balance between equal access to education and promotion of competition;
- Diversification of education;
- Transition to decentralization;
- Emphasis on the use of development planning and strategic management [59];
- The use of information technologies in the teaching and learning process;
- Development of new curricula and teaching and learning methods;
- Changing the practice of examinations and knowledge assessment;
- Searching for opportunities to improve the quality of teachers' work;
- Recognition of the need for continuous professional development of teachers and management of educational institutions [51].

Countries have adopted special programs for the comprehensive development of education. In Japan, the National Council for Educational Reform was created back in 1984, and in 1991 the Standards for the Establishment of Universities were revised. Various new laws and projects were adopted over the next quarter century. In China, in 1995, the strategy “Prosperity of the state through science and education” was put forward. In the same year, South Korea presented an education reform plan; in 1999, the government adopted the “Brains of Korea” program. 21st century”, and in 2008 - a special “World Class University Program”. In 1996, a new law on education appeared in Malaysia [44].

As a result, in 2015, according to the QS World University Rankings, which are recognized as the most reliable, almost a fifth of the world's elite universities are located in Greater East Asia. The list of 500 best universities includes 31 universities from China (including 6 Hong Kong), 15 from Japan, 13 from South Korea, 11 from Taiwan, 9 from India, 5 from Malaysia, 2 in each Indonesia, Singapore, and Thailand, 1 each from Pakistan and the Philippines. The higher education system of the Asian powers has achieved enormous success in terms of quantitative indicators [51].

At the same time, experts believe that radical education reforms occurred not so much under the influence of exogenous forces (world processes of globalization), but rather at the regional level [41].

Principle scheme of ASEAN regional education cooperation is presented on Figure 1 below.

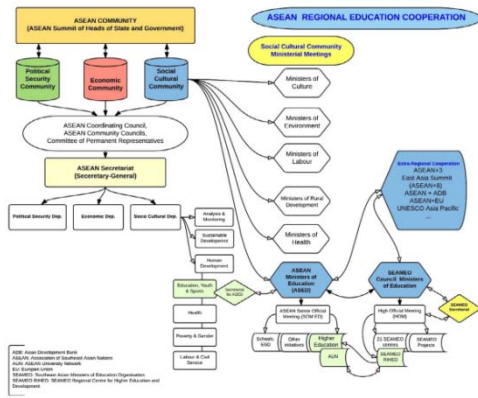


Figure 1. ASEAN regional education cooperation [10]

Although the region underwent processes of decentralization in the field of education, and universities became much more flexible and autonomous (a very high degree of their autonomy is recognized in Singapore and Japan, high in China and Taiwan), the state largely retained its control functions. In particular, in the PRC the state and especially the Ministry of Education remain the main determining factor in the education system. At the same time, at the local level, the autonomy of educational institutions can be very high (for example, Shanghai is the only large city in East Asia where parents have the right to hire and fire teachers) [8; 9].

International regional cooperation especially contributes to the formation of a cluster of people interested in the development of their own country in the international context. The university in the countries of Greater East Asia is gradually taking on the function of building up human and social capital (human capital implies the training of international-level professionals, and social capital means the creation, with the help of a university center, of such a social organization of society that is capable of "strengthening the effectiveness of coordinated actions carried out by society") [51].

It should be especially noted that in the countries of Greater East Asia, the effectiveness of interaction between higher education and other scientific institutions of a given society is growing, society is increasingly using new scientific knowledge generated in universities, and authorities have the opportunity to rely on universities in the development and implementation of public policy [42; 43]. A developing society is capable of ensuring the stable development of higher education with a clear understanding of national interests and the manifestation of the will of the ruling elite. The example of China, South Korea, India, and other countries of Greater East Asia shows that a developing society is capable of ensuring the stable development of science with a clear understanding of national interests and the will of the ruling elite.

Singapore has been consistently implementing the Intelligent Island program since 1992, accompanied by investments in educational institutions that meet high international standards. In accordance with the recommendations of the World Bank in the field of HE, Singapore is implementing measures to partially privatize universities, attract domestic investment in HE, develop competition and cooperation between the state and the private sector in the field of HE. The government's "Intelligent Nation" strategy involves the implementation of Singapore's competitive advantage, which consists in the presence of a highly educated population in the country (more than 85% of secondary school graduates continue their studies at universities). As part of this strategy, based on the system of mass education, the "smart city" program, programs for teaching new skills and promoting innovation in creative industries are being implemented with the goal of creating a "national innovation system".

In addition, the city-state is planned to be turned into an educational hub - the so-called "Boston of the East". Students from all over the EA and SEA regions enroll in Singapore universities. Leading universities in the region organize joint educational and research programs with Singapore universities, and also open branches of their campuses. The Singapore government pays foreign specialists working in the Singapore HE system a guaranteed honorarium [19].

Hong Kong is betting on creating an educational hub of regional significance with the prospect of turning it over time into an international hub. Hong Kong attracts students from Southern China, Singapore, and Japan. The strategy to expand the presence of Hong Kong educational institutions in the region is being implemented through the opening of research centers and branches of Hong Kong universities in mainland China, in particular in Shenzhen, an industrial center located near the border with Hong Kong.

Recently, authorities in mainland China and Hong Kong have been taking steps to integrate the Pearl River Delta manufacturing hub and Hong Kong, as well as to liberalize trade in the integrated region. These processes open up broad opportunities for the development of HE in Hong Kong, namely: for the development of applied research based on industrial enterprises in China; access to new sources of financing; creating educational and advanced training programs for citizens of mainland China; organizing internships in China for Hong Kong students; development of joint academic programs with Chinese universities. The Pearl River Delta Business Council's 2010 report provided recommendations for transforming the hub into a model area for integrated education reform, using Hong Kong specialists' expertise in institutional development, education workforce development, and formation of standards of educational disciplines. This regional initiative will allow Hong Kong, on the one hand, to "export" its educational services, and on the other, to influence the socio-economic development of Southern China [29, p. 84].

Malaysia is implementing HE policies with the aim of transitioning from an economy driven by commodity exports, low labor costs and labor-intensive industries to a knowledge economy. First, the Malaysian government increased the level of investment in mass education, vocational training and workforce retraining. Recently, measures have been taken to improve the skills of workers, promote and popularize HE and develop innovation. Back in 2007, the Ministry of Higher Education was established, whose main task was to develop and implement a long-term plan to strengthen the link between HE and economic development, as well as measures to liberalize, privatize, and develop private educational institutions in order to improve the effectiveness of HE. In addition, the most important task of the Ministry of Higher Education was the expansion of the higher education system. As a result of the policy, from 2005 to 2012 the number of Malaysian students increased by 54%. The share of secondary school graduates who continued their education was 44.12% in 2016 [50, p. 21].

The Ministry of Higher Education back in 2011 formulated a number of development priorities at the regional level: the construction of regional research centers, the creation of regional research programs, cooperation with regional associations in the field of education. Malaysia actively attracts students and holds educational fairs in poor countries in the region - Cambodia, Laos, Myanmar, and Vietnam.

In addition, since 2009, the country has been participating in the implementation of a student mobility program together with Indonesia and Thailand, one of the goals of which is the harmonization of HE in Southeast Asia [29, p. 73].

Research also shows a clear regional trend of expanding and deepening cooperation between business and universities, which contributes to the development of innovative and new creative industries, especially in South Korea and Singapore [9, p. 19].

The countries of East Asia and Southeast Asia are making serious attempts to increase their competitiveness by strengthening regional cooperation, in particular, by creating regional educational hubs and using education as a new industry driver of economic growth. It is important to note the decisive role of consistent government policy in the implementation of educational hub projects in Singapore, Malaysia, and Hong Kong. The governments of Singapore and Hong Kong initially saw the creation of the hub as a means of "soft power" to promote their regional leadership. Subsequently, educational hubs allowed them to capitalize on their achievements in the field of HE and their favorable geographical location [39, p. 9].

Most countries in the region will achieve middle-income status in the near future and will face new challenges. Focus on the development of knowledge-intensive industries and, accordingly, national education systems helps create conditions for sustainable and long-term economic growth [47-49]. The development of educational hubs, as a result of which the infrastructure of the territories involved in the relevant projects is created and improved, knowledge transfer networks are formed and cluster effects arise, helps strengthen the competitive advantages of the region and its position as a new world economic center.

Regarding European regional educational systems, it should be noted that education is one of those areas of life in the countries of the European Union that are not subject to complete unification. No one is imposing a certain model of education on anyone, and each member country of the European Community is given the right to form its own educational and examination systems in accordance with national needs and historical educational traditions. At the same time, the openness of the EU countries provides young Europeans with the opportunity to obtain higher education in any country of the European community [53; 54]. The unified requirements imposed by universities on applicants from any country have led to the fact that each state itself strives to bring its education system in line with common European requirements and take its rightful place in the integrating European educational space.

Among the organizers of European education, there is an understanding of the many problems and difficulties that accompany the convergence of education in individual European countries, which differ both in the level of socio-economic development and pedagogical traditions [55]. Experts are aware of the fact that the formation of the main directions of educational policy in the EU countries is carried out in conditions of the predominance of global processes that generate persistent contradictions between the global and local, universal and individual, traditions and modernity, long-term and immediate tasks, competition and equality of opportunity, unlimited expansion of knowledge and limited person's ability to assimilate them, as well as between spiritual and material [45].

Education in the EU is perceived as a key element influencing the success of genuine European integration. The approval by the EU countries of uniform rules required the updating and unification of a number of legal acts regulating the education process in European countries, in particular, laws on education systems, laws on higher vocational schools, laws on the principles of recognition of professional qualifications acquired in EU countries, etc. Reforms of education systems in European countries have become an important aspect of the social policy of these states, manifested in the formation of a single European identity [56-58]. A key function in this process, in the absence of social cohesion in European societies, is to be performed by the integration of educational systems, based on educational dialogue and international mobility, implementing open education strategies based on multilingualism and multiculturalism.

The observed development of integration processes in European education gives grounds to judge the trend towards its complete Europeanization. In the absence of direct influence of the EU leadership on the formation of the educational systems of the Commonwealth countries, the European Union, through

regulations, indirectly influences the formation of a unified educational policy of states, regulated by the relevant articles of the constituent documents of the EU.

Currently, the educational systems of the European countries of the Union are being restructured on the basis of the European model of education, which aims to prepare young people for the effective implementation of the ideals and objectives of integration [61; 62]. This model is based on four fundamental principles formulated in the report prepared for UNESCO by the independent International Commission on Education for the 21st Century, headed by former President of the European Commission J. Delors, "Education: The Treasure Within": learning to know; learn to do; learn to coexist and learn to live.

European education, implemented on the basis of these principles, is considered from the position of equipping the younger generation with knowledge about Europe, taking into account global and local politics; training in Europe, which involves the formation of attitudes and skills necessary for young Europeans, familiarization with European reality, ensuring the acquisition of international experience, and training for Europe, including preparing young people for constant contacts and joint work with representatives of other European countries. According to the Commission, the implementation of the stated principles will contribute to the demand for all individual's talents [46].

At the same time, the EU policy within the framework of European educational integration does not find full support in the scientific and public environment of Western European countries. Despite the positive attitude of the majority of European politicians and researchers towards the idea of creating integrated educational systems, an interconnected and open European educational space that determines the future of Europe and its citizens, opponents of this process believe that it leads to a decrease in the level of education and its subordination to market priorities [33].

Meanwhile, international integration in education is the result of the development and deepening of the process of internationalization and bringing it to the level of integration of national educational systems. Integration is characterized by increasing mutual convergence, complementarity and interdependence of national education systems due to a coordinated international educational policy, a growing degree of their "cohesion", synchronization of actions through their regulation by relevant supranational institutions, the gradual outgrowing of national educational systems of their state framework and the emergence of tendencies towards the formation of a single educational space as the most effective form of implementing tasks.

Of course, any definitions of integration are not universal, since they do not take into account the entire complex of elements involved in it. However, integration itself is also relative, because it is a process of unification, but not yet unification itself [64; 65]. And nowhere in the world has complete unification occurred in any area yet. At the same time, a certain degree of development and constant improvement of integration processes is a necessary condition for social progress.

Integration processes in the field of education begin to develop if at least three necessary conditions are present: a solid economic foundation in a certain group of countries, an established rule of law that guarantees the binding nature of relevant international treaties, and democratic decision-making based on the principles of compromise and consensus.

In general, integration processes lead to a shift in emphasis towards non-traditional actors, who are increasingly shaping international educational policy, without, however, displacing the state as the main participant in the international communication. In education, which is part of the global socio-economic complex, these general trends of qualitative transformations in the internationalization process are, of course, in full effect [66]. Regionalization of education, simultaneously

with the inclusion of the educational system in existing and developing innovation clusters, leads to very positive results. Lysenko et al. (2020) [34], researching higher education space in EU, studied the relationship between the cluster development and the higher education development. They identified indicators of the effectiveness of regional innovation clusters and evaluated the impact of these indicators on the higher education system. Data analysis shows that, generally, with the increasing indicators of the cluster development, the value of the higher education development demonstrates similar dynamics (see Figure 2 below).

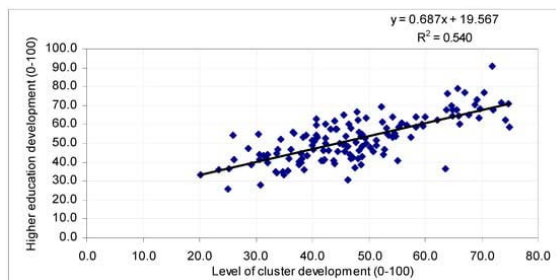


Figure 2. The relationship between the cluster development and the higher education development [34]

In our opinion, at present, in global education it is possible to distinguish integration associations of several types and levels of maturity:

1) Integration associations of educational systems of various groups of countries (some Arab states, European Mediterranean countries, etc.), aimed at harmonizing individual elements of educational policy, in particular mutual adjustment and recognition of training courses, recognition of diplomas from educational institutions of various levels and scientists degrees, expanding academic mobility. As a rule, such measures are regulated by relevant conventions and are a certain stage on the path to closer regional or subregional integration in education;

2) Integration associations based on the historical and cultural commonality of individual countries, on the similarity of the goals and objectives of educational policy at certain stages of development. The main forms of activity of such associations are the development of general standards for the quality of training of specialists, measures to prevent their mass outflow outside the regions. At their core, these measures are protectionist in nature and are aimed at protecting national educational systems from powerful external pressure. Typical representatives are associations of Latin American countries: "Andean Group", "Contadora Group", etc.;

3) Integration associations of the new industrial states of Southeast Asia, which aim to radically improve the quality of education through the fullest use of the internal potential of national educational systems, the latest technologies, and the experience of other countries, including by massively sending young people to study abroad. A typical feature of such associations is the desire to develop interstate cooperation primarily on the "upper floors" of education and science, where the main resource of the post-industrial era – knowledge – is most efficiently and efficiently produced;

4) Integration associations of the highest type, which set as their goal the formation and implementation of a unified educational policy at all levels of education, regulation of this process with the help of relevant supranational bodies. In associations of this type, education (as well as culture) is assigned the role of a central (cementing) link in the entire integration chain. Some of the operational functions for managing education in the states that form such associations are transferred from the national to the supranational level. The state, to a greater extent, assumes the functions of a guarantor of social justice in the sense of access to education and its appropriate quality. The only example so far of such a level of integration associations is the European Union. Both in terms of the economic and social

spheres, the European Union is a project that does not yet have analogues in other parts of the world. It can be considered as a model of international integration, "...the distinctive feature of which is the conscious refusal of the participating countries from part of national sovereignty in favor of supranational regulation" [1, p. 74]. In almost each of the listed types of integration associations, the determining role of the "motor" of globalization – transnational corporations – is increasingly visible.

Like in other areas, integration in education is developing in two main and, at first glance, contradictory directions – regional and global. Regional integration in education grows out of the general process of its internationalization. This is happening under the influence of two trends: on the one hand, the continuously growing need for the convergence of educational systems of different levels of development in different parts of the world, on the other, clearly expressed narrow regional needs associated with increased competition in the global market of educational services. However, in our opinion, this contradiction is objective in nature and is a necessary stage of integration, the further development of which, most likely, will take place under the increasingly decisive influence of the line on the globalization of education.

Unlike the previous period of internationalization of education, where the predominant forms of cooperation were unilateral agreements, the stage of integration is characterized by multilateral interstate agreements, large targeted and comprehensive international educational projects and programs implemented under the auspices of the UN, well-known international foundations created with the participation of transnational corporations, and non-governmental organizations, as well as legislative acts of relevant supranational institutions (for example, regulations and directives of the Council of Ministers of the European Union), that are binding for all countries participating in the integration process.

Integration in education, in contrast to internationalization, is characterized by the stability of connections between national educational systems, certain possibilities for planning and regulating these connections with the help of a specially created institutional and legal environment. At the same time, the inextricability of connections is guaranteed by the fact that emerging phenomena of disintegration in the emerging educational space encounter created political, sociocultural, legal and economic barriers that prevent movement back.

In direct connection with this feature is another distinctive feature of integration in education – the need for its proactive nature. Different spheres of social reproduction have different "propensities" for integration and dissimilar dynamics of these processes. Let us assume that the monetary sphere is superior in this regard to commodity trade, and that, in turn, is more prone to integration than the production sphere. It seems to us that, in contrast to the previous period of international cooperation, characterized by the fact that the internationalization of education followed the internationalization of the economy, in modern conditions, when knowledge acts as a decisive resource, when the process of its accumulation becomes continuous, cooperation in the field of education in its pace should be ahead of the development of this process. Interstate cooperation in education should precede subsequent effective mobility and the necessary quality of professional services and specialists both at the regional and global levels. In a certain sense, integration processes in global education should acquire a pioneering character, and their results should act as a kind of common "substrate" for international cooperation in other areas. Ensuring the advanced nature of integration processes in world education is facilitated by the rapid development of modern means of telecommunications and the latest technologies based on them, which make it possible to a certain extent to "level out" the existing sharp differences in the qualitative state of individual parts of the world educational space and, as it were, to "step over" the accumulated in some of them material and personnel problems.

The formation of an education integration strategy should be based on the principles of humanism, democracy, regionalization, variability and freedom, and not a technocratic interpretation of the interests of the state, a pragmatic attitude towards education and people as a means of solving some political, economic, state and similar problems. Regional integration of education is an effective mechanism for the implementation of these principles, the transition from their declaration to practical implementation.

The real integration of education and the preservation of a single educational space are largely ensured by electronic governance mechanisms.

In this context, the following areas of digital transformation of the education sector can be identified, which are emphasized by public administration [59]:

- Development of material infrastructure. This includes the use of data centers, as well as the emergence of new communication channels for the use of digital educational materials
- Development of online learning and teaching
- Improving the professional skills of teachers in the field of digital technologies
- Development of a student identification system. At this point in time, all information about the student is stored in specialized databases.

The implementation of an electronic (digital) mechanism for managing the education system at the national and regional levels based on improving the sources of information in demand in the management process involves the introduction of a unified national and regional database of open sources of information in demand in the management of the education system, which allows making informed and thoughtful decisions.

At the same time, the essence of the principle of integration mobility is to deepen the relationships between all elements of the management process to increase the sustainability and efficiency of the educational program (in a broader sense, the quality of education) in various situations, regimes, conditions, which allows taking into account the unevenness of the social, economic, and political landscape in the countries participating in the regional educational system.

The next important thing for designing the concept of digital quality management of higher education is compliance with the principle of variability in management strategies and technologies. Variability is one of the main ways to humanize not only the content, but also the learning process itself; it manifests itself in various methods and forms of education, types of educational institutions, and varieties of training courses. The principle ensures the interconnected activities of participants in the management process, carried out in conditions of choice of content, means and methods of activity and communication, value-semantic communication. The core of the implementation of the principle is the free establishment of the main positions and requirements for an educational program or process, which makes it possible to determine the strategy and technology for the implementation of these requirements by all participants in the management process. The selected principle provides [11]:

- Assessment and accounting of the state in which the control system is located, and determination of the influence of environmental factors and their changes on it;
- Timely determination of the need to make changes to the current strategy, taking into account the analysis of changes in the external environment and the capabilities of the educational institution;
- Identification of the strengths and weaknesses of an educational institution in each specific case (material and technical equipment, human resources, etc.), which are necessary to achieve high quality education.
- One of the directions of the participatory-synergetic approach is compliance with the principle of instrumental flexibility. The prerequisites for this principle are the

features of the organization's flexible management system, among which experts note [24]:

- Interdependence of the management process at all stages of achieving both strategic and operational goals. At the same time, the management process cannot be a broken process;
- Parallelism of various stages of management, their merging into a single system.

Valuable for our research is that the content of the concept of "organizational flexibility" is associated with changes in management functions that ensure synchronization of relations between elements of the internal and external environment. Managerial flexibility in this context is presented in the form of an integrated system of motives for an innovative management model, ensuring a rapid change of action strategies, as well as the constant search, restructuring, and implementation of new management technologies. The principle ensures a quick response of the management system to changes occurring in the internal "production" and "institutional" external environment within the capabilities of the subjects of management. This principle reflects the objective processes of integration of education, production, science, as well as trends towards diversity in all social spheres.

Today, the principle of openness is traditional for any development in the field of education. This is a view and a type of reasoning in which not only social institutions (kindergarten, school, university, etc.) have educational functions, but also each element of the social and cultural environment can have a certain educational effect [46]. The implementation of the principle of openness is considered in two aspects that are significant for our research. The first is embodied in granting independence to educational institutions, the ability for them to determine the main characteristics of the educational process, in particular methods and technologies, the structure of human resources, sources of funding, student populations, and more. The second aspect is related to the changing role of participants in the management process in an open environment. The principle of openness ensures [59]:

- Significant increase in awareness of representatives of management subjects;
- Understanding the quality of education as a result orientation;
- Changing the composition of actors in the development of the educational program and implementation of the educational process;
- Recognition of self-realization as the driving force of effective education;
- Providing choice to participants in the educational process and creating a "culture" of choice and co-organization of various educational offers into own educational program;
- A high level of transparency of control, monitoring and rating of all types of "products" of the educational process.

In particular, in the EU, public consultations have identified the need for more targeted EU action to support the introduction of innovative approaches and digital technologies in education, including management in educational systems. The action plan focuses on implementation and the need to stimulate, support, and expand the purposeful use of digital and innovative educational practices [52]. It is intended that the plan will draw on a wide range of education and training stakeholders, including business, research, NGOs, and non-formal education where appropriate. For each priority, the action plan includes measures to help EU Member States address these challenges. This is also an important element in the creation and implementation of electronic governance mechanisms for the regional educational system. New expert- and practitioner-led training workshops for both policymakers and educators, including the European Associations platform, can further strengthen connectivity by developing specific content in multiple languages and using key EU platforms such as the School Education Gateway and Teacher Academy. Blended mobility will be further promoted with new opportunities in

Erasmus+ to support both online and face-to-face learning and increase the mobility of students from different countries [52].

User-centered innovation is a key factor for early adoption of innovative solutions in education. Materials in the field of education are generally collected from the top down under the guidance of international organizations and governments. The user's point of view is often not sufficiently taken into account, which can limit or distort possible solutions. In this context, the commission will explore ways to promote citizen engagement and user-centered innovation through the annual EU-wide Education Hackathon to develop innovative solutions to key challenges in education and training. Among the most interesting initiatives, there are the following [46]:

- Eurydice - a network for technical support and promotion of European cooperation in the field of education. All countries participating in the Erasmus+ program can receive information from the network on how to improve the quality of the education system in Europe. Educators, schools, and institutions have the opportunity to obtain descriptions of national education systems, comparative studies, indicators and statistics, as well as detailed information on practical working conditions, such as school calendars and even salary comparisons;
- eTwinning - a platform for school staff to find potential partners in other schools throughout the EU. Partnerships can consist of simple communication or joint creation and launch of educational projects. The eTwinning initiative is a real learning community created through the Erasmus+ program, which provides direct contact between European teachers to develop potential projects in their educational institutions.

Moreover, a strategic tool is the creation and launch of pilot projects on artificial intelligence and learning analytics in education. The basis for these projects is the optimal use of the vast amount of available data. These data actualize specific problems of digitalization of education based on the implementation and monitoring of educational policy and contribute to the development of appropriate tools [52].

Modern data mining technologies make it possible to create new knowledge by identifying hidden patterns, predicting the future state of systems, and therefore allowing predicting the effectiveness of making a particular management decision. Impacts on educational systems are subject to various types of uncertainties. The main reason for this is the fundamental delay in the information collected in the field of education management during monitoring, errors in statistical reviews, inaccurate answers from consumers of educational information during expert surveys, etc. The introduction of artificial intelligence and machine learning technologies can solve the above problems, as well as optimize the balance of interests of all stakeholders, particularly within the Triple Helix.

When describing the activities of the state as an "electronic" object of management, the so-called "models of activity" are considered as the basis, displayed in the form of "architectures of activity", and the management of activity itself is considered as the implementation of certain development strategies (reflecting management tasks - Why and With What Aim should we manage?), carried out through the establishment of organizational management structures (Who manages?), management objects (What does it manage?) and targeted influence on them with the definition of directions (Where to manage?), management methods (How to manage?) and within a given time frame (When to manage ?) [17].

On the other hand, when analyzing educational activities as a controlled process, significant analogies can be established. They most clearly follow from the consideration of the problems of modern education [59]. Thus, when managing territorial educational systems, it is also necessary to create models for the development of relevant processes, determine an effective organizational management structure, develop rational ways to manage various aspects of educational activities, etc. Essentially,

in the base of the concepts of designing information analytical systems that provide organizational support and information support for the management of educational processes, lie the organizational-managerial management mechanisms that are materially implemented at the objects of management of educational activities. The essence of the functioning of such mechanisms consists in targeted actions to manage various aspects of educational activities according to given regulations (cyclograms). Thus, the development of a scientific and methodological approach to describing the processes of managing educational activities can and should be carried out using the methodology for constructing the architecture of the electronic state.

In accordance with theoretical recommendations for the development of the main elements of "electronic governments" and the problems of education management, the resulting needs for education management and the capabilities of the educational system in terms of using education management methods can be systematized in the form of a matrix, which should reflect the following aspects [59]:

- Reasons for the relevance of education management, where it is necessary to formulate goals, results, and criteria for assessing management work in the field of education.
- Management objects, where elements of education system should be described as management objects and their relationships, including the external environment.
- The subject of management activity, which considers the content of educational processes in the education system as a subject of management, classification of educational processes, description of flows of educational information, data on educational processes and their effectiveness.
- Methodology for constructing a system for managing educational processes, which examines the requirements for the elements and subsystems of the educational management system and its infrastructure.
- Methods for implementing management of educational systems, which highlight methods for issuing control actions, establishing feedback, making decisions to adjust management, etc.
- Temporary factors for the implementation of management activities, where plans for the implementation of all processes over time are justified.

Consideration of activities in the context of these issues allows to generally cover the main issues on which the preparation of conscious positions is required in the interests of identifying the essence of activities in managing educational processes. This involves the construction of multidimensional dynamic matrices of needs - they can be easily constructed for each of the four levels of education management (regional, national, municipal, and educational institution level).

It is obvious that in real educational environments there is a convergence of linear and nonlinear control processes. Therefore, it is important to highlight four main properties that characterize the management functions of information environments in the electronic management of regional educational systems: stability, controllability, individuality, and self-organization.

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INSTITUTIONALIZATION OF INFORMATION POLICY IN THE DIGITAL SPACE OF POST-WAR UKRAINE

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Abstract: The article examines the media environment and aspects of information policy in Ukraine in the digital space during a full-scale war and in the perspective of the institutionalization of information policy in the post-war landscape. The opportunities, risks, and role of digital citizen journalism in the institutionalization of information policy are outlined. It is shown that the field of information policy operates within a multifaceted institutional framework, exhibiting a wide range of meanings, applications, and implications. It is assumed that institutionalization of information policy in the digital space of post-war Ukraine should be carried out within "quadruple helix" model.

Keywords: media; information policy; institutionalization; civic journalism; digital platforms.

1 Introduction

Features of the modern society' development are an increase in the possibilities of accumulation, dissemination, and processing of information, as well as the emergence of new forms of communication and interaction. The information component becomes increasingly significant in the process of forming an individual's worldview, values, norms, rules, standards and behavior patterns. Information technologies influence interpersonal relationships, various forms of communication and can significantly transform them in various spheres of social activity. Such rapid, all-encompassing development and spread of information technologies causes a kind of virtualization of social relations, socio-economic, cultural and political processes. A new level of social relations contributes to the individual's awareness of the existence of a new digital and even virtual reality, in which the boundaries of his interaction with the world are significantly expanded.

The introduction of digital technologies into public administration and politics is accompanied by discussions about the benefits, challenges, and risks of the digital world. Modern digital management requires adaptability, mobility, flexibility, sensitivity and speed of response to emerging problems [61;62]. All this affects transformations in the field of management institutions and culture. It includes data requirements, including principles of collaboration, transparency and openness, innovation and co-production. At the same time, digital technologies have exacerbated problems of surveillance, raising public concerns about "Big Brother" (after George Orwell), "Panopticon" (after Jeremy Bentham and Michel Foucault), or the All-Seeing Eye (an ancient stereotype) [9].

Discussions about freedom, domination, and intervention are accompanied by the hope of a conflict-free strategy for the interaction of digital governance and relations between citizens, which is based on cooperation, transparency, and fairness, that are based on the algorithms of digital technologies. Many are convinced that algorithmic governance will eliminate the dangers of inefficiency and mistrust by placing some of the responsibility on impersonal procedures [16].

Historically, the transformation of public policy in the era of the digital revolution in the 21st century is already constrained by traditions established by the practice of embedded e-government,

in which a significant attention is paid to services, information, and responsive behavior. Electronic government is becoming "narrow" for the development of digital technologies, providing new opportunities for public administration and politics not only in form, but also in content and culture. At the same time, the movement for "electronic government 3.0" is gaining momentum, which breaks the old familiar forms of interaction between the state and society. Some researchers say that it seems necessary to abandon the adjective "electronic" when describing the structure and activities of government bodies and talk either simply about "Government 3.0" or focus on its new mechanisms and culture of interaction with citizens, using the term "civic government". This transition is associated with the technological and political basis of modern interaction coordination structures. In particular, the concept of "platform" should be noted, which emphasizes not only the importance of open and neutral means of communication, but also the public basis for the formation of a new administrative and institutional configuration [21].

A striking example of the rapid development of new digital platforms is Ukraine during the current full-scale invasion of the Russian Federation. Innovative digital solutions were successfully implemented during almost two years of war in the field of public services, social programs, education, entrepreneurship and tenders, etc. The Ukrainian application of online public services Diya is today one of the most innovative developments in the world. Diya has been repeatedly called a superapp - an application that combines many different functions. Diya is indeed a kind of multi-tool of government services. At the same time, Diya's team sees the application as a universal tool that is at the user's fingertips for all occasions. Diya continues to develop rapidly and in the next few years it is likely to receive many interesting features and capabilities associated with artificial intelligence-based technologies. A dozen countries are interested in the Ukrainian state application "Diya". The right of first implementation was provided to digitalized Estonia.

In the process of transforming e-government from portals to platforms, the political nature of the possible use of the state as a platform emerged. A narrowly technological approach to platforms has only made it possible to increase the efficiency of service provision [2]. A broader interpretation spoke of a change in the ideology of public policy, which came to be characterized by features such as an orientation towards citizen inclusion, collaboration of key stakeholders in the development of public solutions, discursive agenda-setting practices, and so on. And here, cooperation can now lead to a new role for the state: a state that rather enables and enhances the social creation of value by its citizens. It protects the infrastructure of P2P collaboration and the creation of communities, as well as a shared administrative culture [11].

Under these conditions, the question arises of how the controllability of systems is transformed in the context of digitalization of society and politics. The question also sounds like this: Can we just talk about adapting it to the changing demands of digitalization? Or are we seeing some kind of policy of institutionalization of digital management, which radically changes the principles, methods, approaches, and norms of management activities? What is this digital governance policy and how does digital culture shape its institutional culture?

At the same time, as history shows, post-war realities imply obvious changes in the institutionalization of policies. Taking into account today's digital environment for the functioning of society, the institutionalization of information policy comes to the fore. Thus, studying the potential for institutionalization of information policy in the digital space of post-war Ukraine is a very urgent scientific task.

2 Materials and Methods

When developing the theoretical and methodological part of the research, methods of analyzing scientific literature devoted to the problems of informatization, post-industrialism, globalization, and the method of conceptual synthesis were used.

Since the research is interdisciplinary in nature, the methodological basis includes various scientific disciplines and directions, paradigms, approaches, and principles. When studying information policy and culture, synergetic and reflexive paradigms were used; systemic, socio-informationological, political- informationological, sociocommunicative, functional, information-synergetic, cultural, axiological approaches are employed.

An important place in the study is occupied by the provisions of political science and the theory of journalism as a political science, the general theory of information and social informationology, the theory of modern civil and information society, which made it possible to substantiate the interdependence of information and political cultures and to identify the need for the influence of state information policy on shaping of the political culture of society.

3 Results and Discussion

Information policy, the subject of which is, first of all, the state, serves as a humanitarian tool for building an information society, which is impossible without the formation of the so-called "information person". Accordingly, state information policy acts as a factor in the development of the information culture of an individual (group, society), which in turn determines an increase in the level of political culture of the population. That is, the state information policy should 'spell out' and elaborate the humanitarian and cultural component, and develop a set of measures aimed at achieving the set goals [47].

Thus, the state acts as the main subject of information policy formation. The competence of state authorities as a subject of state information policy includes determining its essence, strategy and tactics of implementation, the formation and development of legislation in the field of information activity - one of the main tools for its implementation [4-6]. Due to objective circumstances, state power is called upon to play a leading role not only in the formation, but also in the practical implementation of information policy as a multifunctional complex task of public administration. The state has numerous resources in implementing its information policy in the space of political culture.

Qualitative changes caused by the processes of globalization and informatization, and occurring today in all spheres of society, can be considered at the level of functioning of social institutions (state, politics, economics, culture, media, etc.), which will make it possible to determine the features of the institutionalization of new forms of public interaction, and show the significance of the phenomenon of virtualization in this process. Analyzing the prerequisites for social transformations in society as a process of transition of social objects from one state to another, V. Holub [28] rightly notes that they must be considered at three main levels: theoretical, axiological, and practical. Thus, the researcher notes that social transformations occur initially at the level of consciousness, the formation of new views, values, ideas, rules, norms, behavioral stereotypes, which subsequently materialize in the process of forming new social structures and relationships [7; 8]. A significant role in relation to the analysis of social transformations belongs to social connections and sociocultural components of transformation, consisting of patterns of behavior, ways of thinking, etc.

Considering information policy in the cultural space from a humanitarian perspective, it should be noted that the main goal of such a policy is not even the construction of an information society, but the formation of an "information person", the education of an individual who is adapted to life in the information society.

The current stage of the information revolution is characterized by an ever-increasing speed of transmission of information circulating in the political system, and its increasing volume. The degree of information impact on people has increased many times over. It is becoming increasingly difficult for a modern person not to get lost in a huge variety of information sources, because in order to objectively evaluate the information they provide, analytical skills, the ability to find and correctly evaluate information are needed [10; 15]. At the same time, people's information needs have increased proportionally - the need to know about events taking place in the world and to navigate the surrounding reality.

It is about the formation of an information culture in society. As researchers point out, a person must independently interpret the information he receives, while information culture is necessary for its adequate perception [24]. On its basis, other types of spiritual culture are formed in society, in particular, political culture. Information culture is closely linked to the stability of its socio-political system. From our point of view, namely it acts as a necessary link in the process of formation of civil culture as a mixed type of political culture that is most consistent with a stable democratic system. Thus, we can talk about the syncretism of the information and political cultures of the subject.

The main task of forming strategic priorities of modern information policy is to create a flexible and representative system of public and state regulation of the information sphere to ensure media' pluralism and their independence from strong private interest groups. The formation and functioning of information content created by the media in the sphere of public authority serves to accumulate various ideologies, feelings, values and symbols, doctrines, official norms and opposition assessments and opinions of various actors [17]. Modern democracy needs modernization based on effective models of interaction between the state and civil society through the formation of a system of civil solidarity and the introduction of information and communication technologies into practice. Existing representative democracy with the help of information and communication technologies and their most powerful embodiment - the Internet - can be transformed into a model that will have the characteristics and elements of direct democracy with the active participation of citizens in governance through open communication channels.

Speaking about the information impact on public activity, one must remember the dichotomy of its two forms, which can overlap each other. The first and main one is cognitive, the second is media. Moreover, the latter is assessed ambiguously by researchers. For example, Gerstle [25], speaking about putting problems on the political agenda, contrasts the "quiet" path with the "noisy" one, i.e., with the help of the media. Favre [20] emphasizes the undoubted contribution of the latter to the process of raising problems in the policy field. At the same time, five aspects of the very concept of information impact should be distinguished: 1) the process of knowledge generation, 2) the social knowledge thus developed, 3) the consequences of information asymmetry, 4) the consequences of mediatization, and 5) the sociopolitical consequences arising from all this. As for mediatization, its peculiarity is that it brings to general attention the existence of a problematic situation, which without its participation would have remained undisclosed. But "there are cognitive ways and forms that they take when included in media communication" [3]. In other words, not knowledge itself, but namely its dissemination distinguishes the impact of mediatization.

In general, in Europe, like in America or Asia, multimedia maintains, even at an early stage of its development, a socio-cultural structure characterized by the following features: firstly, wide social and cultural differentiation leading to segmentation of users/viewers, readers/listeners, and secondly, the growth of social stratification among users [22; 23]. Media choice will not only be limited to people with the time and money to access and countries with sufficient market potential, but cultural /

educational differences will be critical to using interaction for the benefit of each user.

Finally, perhaps the most important feature of multimedia is that they cover in their scope most types of cultural expression in all their diversity. Their advent is tantamount to the end of the division, even the distinction, between audiovisual and print media, public and high culture, entertainment and information, education and propaganda [49].

Modern media not only have a positive impact on society by influencing mass consciousness, but also carry out subversive activities against society, the state, and the individual. In his famous monograph *"Power shift,"* E. Toffler writes the following about the role of modern electronic media: "This new media system is one of the reasons for the growth (as well as the reaction to this growth) of the new knowledge-based economy; it represents a quantum leap in the ways in which humanity uses symbols and images. No part of this vast web can be completely removed from it. In turn, this makes it potentially dangerous, and not only for those remaining somewhere in the Ceausescu world, but also for all holders of power. The new media system is an accelerator of changes occurring in the system of power" [63, p. 423].

Thus, on the one hand, modern media appear to be potentially and actually dangerous not only for power holders, but also for society as a whole and for individuals in particular. At the same time, one can hardly deny the presence of positive effects of the communication development of our time, such as the creation of favorable conditions for an expanded dialogue of cultures, the formation of tolerance, the growth of information and educational resources of societies fitting into the orbit of the information revolution [26; 32]. At the same time, the means of mass communications play the role of a common communication field, organically connected with individual cultural regions and consumer markets, without the unification of which the existence of a modern global society is impossible.

In modern society, media structures, first of all, perform the function of "merging" social structures, defining a system of relatively stable cognitive, normative, and evaluative coordinates necessary for the normal functioning of subsystems and institutions of society [30; 31]. In addition, the most important functions of the media are the socialization of individuals and the formation of a legitimate picture of the world. Thus, the mass media form certain parameters for the vision of reality in society. These parameters are used as reference points when discussing current issues of the past state of the system, as well as when choosing perspective solutions.

The media acquires all the features of a social institution, the functions of which cover the societal level. In the era of a developed industrial society, the media are actually turning into a subject that forms mass socio-political, economic, and cultural preferences (while the mass audience is increasingly acquiring the qualities of an object) [34-36]. The result of this was an increase in the functional importance of information policy and experts in the field of information support.

State power is public in nature and in a democratic society it is exercised openly and publicly. Therefore, a close relationship with information dissemination channels is inevitable. For the state, the media represent the most important source of implementing interests, including political programs.

The relationship between state power and the media in the modern political process is expressed in at least two forms: cooperation and conflict [29]. This can be seen both at the federal and regional levels in any country. Within the framework of the cooperation model, the authorities meet halfway, providing them with a variety of information about own activities, which is conveyed to the audience. As part of the conflict, government pressure on independent media largely contributes to the radicalization of opposition forces, driven into the format of blogs.

In modern society, state-controlled media play a central role in the formation and implementation of information policy. Their cooperation with government agencies, civil society institutions, and military command structures is of paramount importance. National government agencies use these government media sources as a conduit to communicate defense objectives and comprehensive directives to citizens and civilian institutions [37-39]. This strategic use creates a channel for clear communication, facilitating the dissemination of important information related to defense initiatives and comprehensive government directives. On the other hand, non-state media have very significant potential and influence, which in the digital space is no less, and often noticeably more significant, than the influence of state media.

During the war, a third of Ukrainians got used to reading news on Telegram. Top channels have more than 1 million subscribers and are ahead of traditional media. Although the channels are mostly anonymous, and the quality of the news is sometimes questionable, the income of the owners of the largest networks can reach up to \$1 million per month [53]. However, Telegram's reputation in Ukraine is ambiguous - it is both a source of news with a powerful audience, a platform for pro-Russian propaganda, and software for digital espionage.

In wartime 2022, Telegram became the main social network for news consumption, overtaking Facebook, YouTube, and television. More than 74% of Ukrainians said they get news from social networks, and 60% of them - from Telegram, according to research by USAID and Internews [53].

Telegram is anonymous, there is almost no moderation. Unlike Facebook, Instagram, YouTube, and other global platforms, Telegram turns a blind eye to content about war, erotica, cruelty, etc. Getting through to administrators for copyright infringement is also problematic.

It is not possible to find channel owners in state registries. For example, Maxim Lavrinenko calls himself the founder of Trukha. "I was born in Kharkov, graduated from the Lyceum of Arts", he told the host of the M1 channel, Mila Eremeeva, for her YouTube in October 2022 [13]. However, it is problematic to prove that the channel, and especially the network, belongs to him or another person.

A significant drawback of most Telegram channels is the lack of a minimum verification of information for accuracy. Meanwhile, during the war, Ukrainians began to read much more news. And first of all, as it was mentioned above, they read them in Telegram. According to data from Kantar Ukraine, using Telegram became a new habit of Ukrainians during the war. The popularity of the application itself did not change so radically (Telegram coverage increased from 85% to 90% of all Android smartphone users), but the amount of time spent in Telegram increased eightfold. And in the first two weeks of the war, Ukrainians devoted up to 1 hour of time every day to the Telegram [14].

From the beginning of the war, the Telegram began, if not to replace, at least to supplement the "classic" news feed. Its main advantage (compared to Facebook or Twitter) is that the user himself (and not algorithms) chooses what to read [40]. And this means that one can receive messages in chronological order and from a single source at a time, read only the news and, for example, unsubscribe from channels with memes in the first months of the war. It is also easy to set up notifications. It should be noted that from the very beginning of the war, in many cities, information about the air alert was given namely in telegram channels, and only later did special websites and a mobile application appear.

In general, channels exploiting the content of their subscribers have gained a significant advantage over Telegram channels of "classic" media, which continue to rely on professional journalists and reliable sources.

The more dedicated subscribers in the channel, ready to send their video to the bot, the more original content. In turn, the more original content, the more subscribers [43-45]. However, content from subscribers is not always reliable and true. And this is where the problems begin.

Especially popular Telegram channels like Trukha often publish news without thoroughly checking its authenticity [46; 48]. This channel has been repeatedly accused of spreading fakes and correcting enemy fire. And this is not without reason.

On April 29, 2022, a post was published on the Trukha channel: "Putin is preparing an important statement on May 9 about the announcement of a mass mobilization of the population for a decisive strike on Ukraine - The Daily Mail with reference to the British Defense Minister". Already after 20 minutes, a clarification appeared in the feed that these are only guesses, and there is no exact information yet.

Everyone makes mistakes and corrections, it can be said. But there are two nuances here.

The first - after five days, The Daily Mail again became a source for another manipulative throw-in for Trukha (although they promised not to believe it anymore) [50; 52]. This time - with a forecast of Russia's possible use of nuclear weapons ("The President of the Russian Federation sends a signal to the West about the seriousness of his intentions to use nuclear weapons - The Daily Mail").

Second, this case was only the beginning for the study of corrections and edits that took place on the channel after the three letters "UPD" (this is how it is customary to denote information updates on the Internet, derived from the word "update"). And moving from post to post, it occurred increasingly more often that Trukha had repeatedly come in handy for Russian disinformers.

If to look at all Trukha's posts since the beginning of the war, the note "ed." (that is, "the post has been edited") is available in 15% of materials, and this is no more than in the Telegram channels of leading Ukrainian publications. For example, since the beginning of March, LIGA.net has edited 15.5% of its posts, TSN - 18%, ZN.UA - 35.5%, and the official Telegram news channel of Suspilny - 41.6% [14]. At the same time, unfortunately, Telegram does not provide an opportunity to read the publication before editing. And therefore, it is hardly possible to assume whether it was a matter of correcting spelling errors, or whether these were serious changes in content.

Another question is how Trukha signals detected fakes. Most of the time they do not make a separate rebuttal post, they just edit the original post and add a clarification after "UPD:". But then another question arises: how often does the used re-read the already read news feed in Telegram?

Trukha (like dozens or even hundreds of less popular similar channels) actually remains an anonymous, unverified source of information – the one that by no means describes its rules, sources of funding, and editorial policy.

While media professionals debate the permissibility of publishing information based on anonymous sources, channels like Trukha simply repost content from hundreds of anonymous subscribers, what to say about journalistic standards.

Thanks to mass feedback from the audience, the channel administrators got the opportunity to be ahead of other media in terms of providing operational latest information [51]. This gave a huge increase in the audience, because Kharkiv was one of the key cities that Russian troops wanted to capture and was in the center of attention.

Trukha has an audience of 2.7 million, and has repeatedly come under fire for publishing landing sites that clearly show where the missiles hit.

Thus, during the war, gaps emerged in the institutions of information policy, which, in addition to violations of journalistic ethics, carried direct threats to national security.

The field of information policy operates within a multifaceted institutional framework, exhibiting a wide range of meanings and applications. Political institutions, intertwined with government functions, governance models, state composition and political systems, are deeply influenced by the economic framework of a society, the political will and cultural structure of its inhabitants [54; 56]. The trajectory of social progress and the consequences of internal and external forces influence largely determine the evolution of political institutions and the broader political landscape.

It is essential that social institutions, including political entities, dynamically adapt to changing social landscapes, especially in the transition to the information age [55]. These institutions have a significant impact on the behavior of subjects in the field of information policy, shaping their behavior and interactions.

A comparative analysis of different countries' approaches to information policy and its institutional framework provides valuable information. For example, in the United States, the strategic use of information technology and the effective management of the information market have led to the creation of highly efficient administrative structures. Notably, organizations such as the US Office of Management and Budget are taking responsibility for overseeing information technology and conducting risk assessments. Joint efforts with the participation of representatives of news agencies and the media together with the state played a key role in solving the problems of information policy [33].

Central place in the discourse is occupied by the imperative to promote the development of the information sphere and unhindered communication between authorities and society within the vast information sphere [57; 58]. In cases where government agencies encounter difficulties in solving these problems, other stakeholders in the information sphere take responsibility for their implementation.

The institutional structure involved in the formation and implementation of state information policy includes governing and coordinating bodies, analytical units, databases, information security centers, centers for developing information interaction standards, public relations services and research organizations. These diverse components form a complex network designed to align information policy with the needs of society and the goals of the state [41]. Moreover, social institutions play a key role in the formation and implementation of information policy, in strengthening reliable information links and in resolving complexities between the ruling elite, the population, and the military community.

At the same time, mobile and internet technologies are central to changing how people view news. The importance of social media for news consumption is growing [60]. People use social media and social media technologies to filter, evaluate, and react to news.

Today, active Internet users challenge professionals, easily mastering such traditional stages of journalistic work as collecting information and distributing it [27]. The idea, which seemed "both realistic and utopian at the same time" at the dawn of the development of network communications, has recently acquired more tangible and concrete contours.

In general, networked civic projects are very diverse. They apply to all areas of public and private life. There are many social niches where civic action replaces official institutions, but there is also a significant share of Internet applications where horizontal connections actually develop, where civic activity is aimed at developing and optimizing the living environment.

In different parts of the world, civic (citizen) journalism is sometimes called participatory journalism, sometimes guerrilla

journalism, sometimes called street journalism, but mostly - democratic.

At the same time, different types of civic journalism have qualitatively different characteristics: in one case, its character of social issues is manifested, in another - the pursuit of popularity and ratings, regardless of or to the detriment of the ethical component [63; 64]. Also, citizen journalism, depending on the type, may represent competition and a threat for some media, while for others it can be a means of expanding the audience and new opportunities for solving professional tasks.

In Iraq in particular, journalists have faced censorship for decades. However, in recent years, the rise of social media and online news platforms has given Iraqi journalists a platform to bypass censorship and share their stories with the world. Over the past few years, Iraqi journalists have increasingly turned to digital media to share stories suppressed by state media. Using online platforms, journalists in Iraq can share stories about political unrest, civil rights abuses, and other controversial topics without fear of censorship. In the face of censorship, Iraqi journalists have found ways to share their stories and spread the truth. By using online news platforms and social media, these journalists can bypass censorship and reach a global audience. In addition, citizen journalism has played a vital role in providing accurate and timely coverage of events in Iraq. During the fight against the Islamic State in Iraq in 2014-2015, citizen journalists provided critical information about the conflict that was often not covered by traditional media. This allowed the world to get a more accurate picture of the situation on the ground. Citizen journalism has also contributed to increased media participation. By providing a platform for citizens to share their stories and opinions, it has created a more dynamic and diverse media landscape. This allowed more voices to be heard, which was necessary for the development of a more open and democratic society [1].

Something similar is observed in Ukraine during the war. Namely civic journalism provided the world with shocking stories that clearly demonstrated the blind cruelty of the Russian army towards the civilian population of Ukraine [65; 66]. Civic journalism in Telegram tries to provide the audience with information in almost real time about the state of affairs at the front, about interaction with foreign partners (in particular, primarily regarding the supply of weapons), about the fight against corruption on a national scale and locally, etc. Despite the risks of Telegram journalism described above, it plays the role of impartial independent media, the culture of which in the official media space of Ukraine, unfortunately, has not been properly formed over the years of independence.

The European Commission recently published a report on the progress of reforms in Ukraine. In particular, the EC criticized the activity of the telemarathon, noting that it reduced people's access to pluralistic mass media in Ukraine [67]. It is noted that the situation of journalists remains dangerous both economically and physically, and "Ukraine needs to enable new ways of ensuring the post-war structure of pluralistic and independent non-online mass media (in particular, television), including the long-term perspective of the public broadcaster and the independence of the national regulator" [19].

Some experts note that the recovery of post-war Ukraine will have more in common with the recovery of Europe after World War II than with the recovery of countries affected by more modern wars, such as Afghanistan. Information policy must play an important role here. It should be remembered that, in accordance with the Marshall Plan, the CIA received 5% of the money to finance projects to resist the subversive activities of the USSR in Europe [59]. In today's digital space, the potential for disruptive information activities is incomparably greater than it was at the end of World War II.

Dmitry Ermolaev [18] rightly notes that during the occupation of Donbass, the Russian Federation launched a meaningful de-modernization of the mass consciousness of Donbass residents: replacing the "miner's myth" with all its modern content about

the edge of a progressive industrial type of activity and way of life, the method of its fundamental organization, with myths of traditional way of life "Novorossia/Russian world", "heroism of the Russian spring", "Soviet pioneer carnival", and other mythologies of collective historical memory, far from the historical experience of Donbass itself. The Russian Federation has drawn this industrial region into its own fictitious resentment, stealing historical memory and the idea of self in the past, on which it is only possible to build an adequate image of the future. The internal demand for positive change was replaced (with the help of propaganda technologies) by a meaningless emotional denial of the previous order and nostalgia of an imaginary past [68]. To transform the post-war Donbass into a region that will finally gain an adequate identity in a renewed union with greater Ukraine, the competent participation of information policy institutions is necessary.

The formal establishment of information policy as a formal institution is of great importance in democratic societies, especially during periods of transition marked by profound shifts in political and economic paradigms. Creating an information policy framework is critical because it ensures that information is accessible and widely disseminated, helping to 'create' informed citizens [12]. This is especially important in times of transformation of society and the state apparatus, when the effective flow of information becomes necessary for social cohesion and democratic governance. This is all the more so especially important in the post-war period.

Effectively managing the process of institutionalizing information policy poses a major challenge for government agencies and political stakeholders. This multifaceted task requires careful identification of emerging conflicts, in-depth study of prevailing social problems and needs, and comprehensive research and analysis to facilitate their effective resolution.

A key strategy for the development of information policy is to create and strengthen specialized institutions with skills in working with information. These institutions play a key role in representing the various interests of subjects in the information sphere. For example, careful analysis of the effectiveness of public relations institutions or detailed research assessing the impact of social networks on information policy are important areas of research. These studies and analyzes serve as valuable tools, facilitating information policy practical implementation and more effectively achievement of its goals. Through such focused work, a deeper understanding of the complex interactions between information, public perception, and social behavior is developed, providing the necessary insights to refine and optimize information policy strategies in today's democratic digital environment.

The information policy institutions of post-war Ukraine should, even in their current functioning, ensure in public discourse the understanding of some important points, namely:

1. The population of the territory that the country will occupy within the post-war borders needs to acquire the skill of peaceful coexistence with each other. This means that already now it is vitally important to look for a meaningful platform for seeking public consent.
2. On the territory of post-war Ukraine, people will need jobs and a decent (at least initially acceptable) standard of living. This means that it is necessary to convince domestic investors not to withdraw capital from the country, and external investors not to be afraid to invest in its development.

Precisely this kind of strategically oriented and far-sighted information policy is needed in Ukraine today, in addition to effective wartime special operations. Because, after a war, there is always a good or bad peace. And it is better to come prepared.

The peculiarities of the intersection of two modern media institutions, possessing high popularity - citizen media and

professional media - should become one of the foundations for the institutionalization of information policy in post-war Ukraine. Thanks to the mechanism of interaction between these media institutions, primary content under ideal conditions should develop into concrete actions, moving from the network sphere to the real social environment, thereby changing it. Professional media in this situation perform more socially significant functions of journalism, ensuring control over the work of decision-making subjects through the organizational functions of journalism, while citizen journalism provides more opportunities for interaction with public opinion due to openness, accessibility, and a wide range of authors themselves. The peculiarities of the interaction of these media institutions allow concluding that the content of citizen journalists, being the primary source of information about the problem, significantly increases the visibility of the event in the information field, while publications in the Internet media allow obtaining a complete analysis of the situation, expert comments and the ability to influence the subjects of decision-making according to the algorithm "event – news feed – publications of citizen journalists – media – reaction of decision-making subjects – additional comment – measures to eliminate the problem".

The field of information policy operates within a multifaceted institutional framework, exhibiting a wide range of meanings and applications. In the philosophical realm, a social institution transcends its physical and bureaucratic dimensions, becoming a complex system of social norms that determine the behavior, ethics, and expectations of society [42]. Unlike transient social groups or specific organizations, a social institution is a stable form of organization of social life. It is deeply integrated into complex social structures, providing the necessary material resources and favorable conditions for its life support and functionality. These resources include financial investments, intellectual capital, and other vital elements. All of them are aimed at fulfilling the mission and purpose of the institution.

In the field of research and analysis, it is worth noting that the institutionalization of information policy is considered an innovative process in modern conditions. The results of studies demonstrate that information policy leads to concrete consequences in the information space and promotes more active participation of government agencies. In addition, it is important to recognize that in modern society, information policy is seen as a professional practice, an academic discipline, a scientific theory, and an integral component of overall information policy.

The idea that special times require special measures is fraught with danger. The primary duty of journalism, even in times of crisis (in particular, was and after-war period), is not the patriotism of blind obedience, or even the journalism of muted, cautious criticism. The primary duty of a journalist is to serve the public, not the state. This public duty calls for uncompromising news coverage, investigations, analysis, and a variety of initiatives on the most important events. Ukraine needs journalism that will not hesitate to take on the responsibility of preparing society to make important decisions.

Journalists must help citizens find the historical roots of their troubles and deepen their understanding of the characteristics of their regions and cultures. News organizations should promote public discussion about making difficult decisions. Journalists should be skeptical of all sources, check facts, identify lies, reject gossip and reflect controversial opinions. They must protect their independence when dealing with political or military leaders.

Journalists must deal with the unconditional complexity of the world and not strive for 'monosyllabicity'. They are not indifferent to terrorist attacks or to the fate of their country. However, given that, like other people, they are susceptible to feelings, it is imperative to remain vigilant to avoid emotional manipulation.

Scientists should also act. Joint interdisciplinary research by specialists in ethics, communication, and international relations is needed. In general, it can be assumed that institutionalization

of information policy in the digital space of post-war Ukraine should be carried out within "quadruple helix" model, to enable innovation in all spheres of society life, and not only reconstruction, but transformation of Ukraine, based on strengthening of identity, consolidation, and civil participation.

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COMPETITIVENESS OF HIGHER EDUCATION IN THE PROCESS OF EUROPEAN INTEGRATION OF UKRAINE

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Abstract: The modern higher education market poses the task for universities to ensure a strong competitive position. The relevance of the presented study is determined by the objective need for a theoretical understanding of the essence of global competitiveness of universities and the factors determining its formation, as well as a comprehensive analysis of state scientific and educational policy designed to increase the competitive potential of higher education in Ukraine in the context of European integration. The possibilities of using strategic marketing tools to assess the competitiveness of universities in the labor market and within the framework of the triple helix model, as well as assessing the attractiveness of universities for applicants are outlined.

Keywords: higher education; competitiveness; attractiveness; strategic position.

1 Introduction

The modern world is a world of competitive relations. Globalization, on the one hand, has become a powerful incentive for the development of interuniversity connections, academic mobility, joint educational programs and scientific projects. On the other hand, it has sharpened to the extremum the rivalry not only of individual universities, but also of national educational systems as a whole. Both of them are trying to form and declare obvious advantages in relation to other universities and states in the field of the educational process, scientific research, and innovation.

Competition inevitably gives rise to the problem of competitiveness. The latter applies both to national education systems and to specific universities that claim to occupy a worthy place in global educational networks. Universities are forced to compete for segments of influence, reputation, resources, for the opportunity to establish rules for regulating the educational services market, and so on.

This raises the question: What is meant by a competitive university? By definition, which we can agree with, this is “a higher educational institution capable of occupying and maintaining stable positions in certain segments of the global market of educational services and intellectual products thanks to the effective implementation of intellectual potential, a developed innovation system and sufficiency of financial resources ensuring a high level and quality of teaching and research” [14].

The most striking examples of a competitive university can be considered the so-called “World Class Universities” (WCU). Strictly speaking, all universities included in well-known international rankings are world-class universities. According to the creator of the concept of “world-class universities” J. Salmi, these universities are characterized by the presence of three main characteristics: 1) concentration of talent - talented teachers, researchers and students, 2) abundance of resources and modern infrastructure, 3) effective system of university management [14]. “Concentration of talent” is the ability of a university to attract talented students, teachers, researchers, while “abundance of resources” refers to significant amounts of government funding, private capital, tuition funds, research grants, etc. Finally, “effective management” is the productive management of a university institution, achieving high results, promoting at the legislative level the institutional independence of the university, its autonomy and academic freedom, the presence of

a strong management team, strategic thinking and a leadership culture.

Competition in the global education and science market has stimulated the emergence and intensive development of tools for comparing universities on a number of indicators recognized as the most important ones for assessing the success of their activities [5; 6]. These indicators vary from ranking to ranking depending on the comparison methodology used by their creators, however, experts recognize that in fact international university rankings form models and set standards for a modern university, which many universities around the world are trying to follow.

It is obvious that world university rankings are a reflection of competition not only between individual universities, but also the competition of national education systems. In various countries, university rankings serve as a guideline for the implementation of policies for the development of education systems [1]. The strategy for a particular university to achieve a level of competitiveness that makes it possible not only to get into the international rankings and gain a foothold in it, but also to rise up, is directly related to the national (state) strategy for the development of higher education. Ukraine, being in the process of European integration, is a country for which the problem of competitiveness of higher education is of great relevance. Meanwhile, extremely alarming trends are being observed in Ukraine today. According to the information of the State Statistics Service of Ukraine, in Ukraine, since 2008, there has been a process of gradual reduction in the number of students, graduate students, and doctoral students. Thus, at the beginning of the 1990-1991 academic year, 881,300 students of higher education studied at Ukrainian higher education institutions (universities, academies, institutes). This figure reached its peak in the 2007-2008 academic year - 2,372,500 people, after which it began to gradually decrease (see Figure 1) [34].

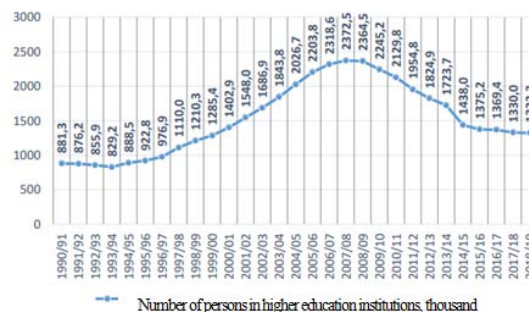


Figure 1. Number of students in higher educational institutions in Ukraine, in dynamics of 1991-2019 [16].

For comparison, in 2020, 41% of the European Union (EU)'s population aged 25-34 years had completed tertiary education. The EU Member States have set themselves a target of increasing the share of the EU population aged 25-34 who have completed tertiary education to 45% by 2030 [16]. The dynamics of tertiary educational attainment in EU-28 for the period of 2002-2015 is shown in Figure 2.

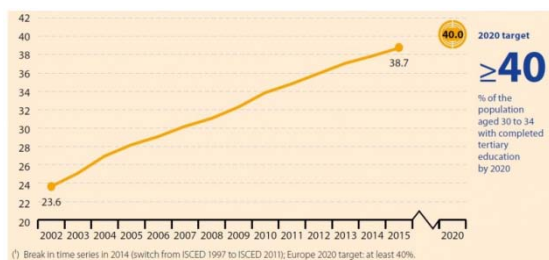


Figure 2. The dynamics of tertiary educational attainment in EU-28 for the period of 2002-2015 [17]

Thus, clear discrepancy between the situation in Ukraine and pan-European trends is obvious.

At the same time, planning and forecasting in the field of higher education at the stage of European integration acquires qualitatively different features: increased flexibility of higher education and the introduction of new forms of management. In this regard, higher education institutions must enter into closer relations with the national labor market, bring the content of education closer to the needs of sectors of the economy and society, and also eliminate imbalances between them [4; 7]. Accordingly, the education system must be constantly improved taking into account changes in the economy and society, that is, focus on the principle of continuous adaptation to future changes. To do this, it is necessary to take into account factors influencing the development of the educational services system: demand for educational services, the structure of specialties, the competitive environment, changes in the volume of government orders, the requirements of consumers of educational services, and the economic opportunities of the population.

The transformation of the Ukrainian economy in the direction of European integration involves fundamental changes in the content, principles, and forms of organization and methods of training of highly qualified specialists who are competitive in the modern labor market. The new economy is based on human capital, which provides high returns in the form of intellectual rent.

Ukraine officially joined the Bologna process, that is, the process of structural reform of higher education and bringing its standards into line with pan-European ones, at a meeting of education ministers of 45 countries in the Norwegian city of Bergen back in May 2005. However, there are obvious gaps in the competitiveness potential of Ukrainian higher education in the European and global education markets. First of all, there is an urgent need to replace the existing "reproductive" form of education with a creative and research one [12; 13]. One should not forget also that in the context of the rapid introduction of new technologies and even the emergence of new scientific fields, there is an increasing need for the integration of a number of disciplines that were previously considered independent and unrelated to each other, which involves the introduction of interdisciplinary and multidisciplinary training programs. Thus, a systematic study of the problem of competitiveness of Ukrainian higher education in the process of European integration of Ukraine is an urgent scientific task.

2 Method

The theoretical and methodological basis of the work consists of works on the economic theory of various economic systems, scientific developments of scholars on the issues of assessing the competitiveness and potential capabilities of a higher education institution. The subject of the research is socio-economic and managerial relations in the field of marketing in higher education, which determine the conditions and ways to increase the competitiveness of educational services, as well as scientific and methodological principles for forming the structure of competitiveness indicators and relationships, taking into account the peculiarities of the educational activities of universities.

3 Results and Discussion

The global competitiveness of universities is determined by their international competitive advantages in carrying out scientific research, providing educational services, and fulfilling important social tasks. To maintain a high competitive status, the nature of the competitive advantages that higher education institutions achieve due to certain factors is important: highly productive intellectual capital (talented researchers, teachers and students), capable of generating unique results of scientific research in breakthrough areas of knowledge; developed material, financial, and infrastructural base, ensuring high research productivity and the highest educational standards; a transparent and effective management system, built on the principles of academic freedom and autonomy of the university and allowing for the full and productive use of its internal potential; carrying out breakthrough research in priority areas of world science; ensuring high educational standards based on the systematic integration of research into the educational process; institutional and financial support from the state, designed to contribute to the modernization of the university sector and its qualitative evolutionary development. These are the factors most often mentioned by researchers [45; 57].

In our opinion, when developing and implementing state policy in the scientific and educational sphere, aimed at the formation and development of globally competitive universities, it is necessary to take into account the potential of all factors of competitiveness without exception and ensure the achievement of their synergistic interaction.

In modern conditions of globalization, three main models of development strategies for world-class universities are practiced in different countries of the world [14]. The first one is a breadth-strategy: from high-quality mass higher education to the creation of world-class universities. The "breadth" strategy implies the country' achieving of the highest standards of higher education in the field of teaching, expanding general access of the population to high-quality educational services, increasing the research potential of universities, and the gradual formation of university institutions capable of competing in the global market [9-11]. This strategy is used mainly in Western European countries. The second strategy, the depth-strategy, means the development of world-class universities based on a limited number of universities capable of breakthrough research and development, while maintaining high standards of education. This strategy is being implemented with the active participation and financial support of the state. It was used by East Asian countries (China, Japan, Taiwan, South Korea, etc.) in the second half of the 20th century. Currently, regulators are trying to apply this model in Saudi Arabia and Brazil. The third, combined breadth-depth-strategy, is a combination of the first two. Today it is used in the USA, China and is becoming widespread in some Western European countries.

In the coming decades, we should expect a significant increase in the role of higher education in China and India in the global dimension, both in terms of participation in the global market of educational services and in the development of technology. Universities in Brazil will serve as regional centers for the development of education and technology. Universities in Malaysia, the Persian Gulf, and Jordan are vying for the role of international higher education hubs [15]. The sharp increase in the internationalization processes of universities in Tunisia, Morocco, Egypt, Lebanon, Thailand, Argentina, Mexico, Chile, and South Africa will allow them in the next decade to reach a level of quality training in a number of areas vital for national economies, comparable to leading countries.

The strategies that states choose in terms of emphasis and methods for creating world-class universities based on their national universities depend on the existing institutional forms, as well as the cultural characteristics and traditions of the state.

However, from the standpoint of the rating approach, this idea turned out to be debatable. Many authors and experts believe that rankings, as a tool used to compare universities on a global

scale, actually measure the degree to which universities correspond to the largest universities in the US (and partly in the UK) - successful, rich, conducting large-scale scientific research and having a significant portfolio of educational programs in a variety of disciplines [14]. As a result, universities in developing, and even developed, countries tend to emulate the American model rather than “develop their own unique character”. Largely because of the orientation of leading university rankings towards the American standard, many universities that play an important role within their countries do not fall into the top groups [2].

Meanwhile, the Bologna process is a voluntary and multi-subjective process. It is based on the values of European education and culture, but does not neutralize the national characteristics of the educational systems of different European countries. For Ukraine, with its traditionally powerful educational industry, this is especially important [19; 20]. After all, while for countries that do not have developed fundamental education and science, which are focused primarily on consuming foreign technologies and goods and selling their own natural resources to other countries, copying models well-established in states that are more developed in the scientific and educational sense is optimal, for Ukraine, with its strong scientific and educational traditions, this path is unacceptable. Moreover, for the domestic higher education system, unconditional borrowing of some formal procedures and abandonment of own developments can actually lead to its degradation [67]. Therefore, reforms should be approached wisely, at the same time, however, following the general vector and best practices for the development of modern advanced higher education.

Some one optimal, or “golden” path, i.e., the best strategy for the development of world-class universities, does not exist and cannot exist in principle (“No golden development path” [22]). Each country is distinguished by its economic potential, available resources, cultural characteristics, and mental values. As a result, there are several regional educational systems in the world that are building different trajectories for strengthening the competitiveness of their universities and bringing them to the top of international rankings: American (USA) - there are 137 universities in the Shanghai Ranking, including 50 of them in the top hundred; Westminster (Great Britain, Australia, New Zealand) - 64/14; European - 164/19; countries of the Confucian tradition (Japan, Korea, China, Hong Kong, Taiwan and Singapore) - 83/7; Gulf states and Saudi Arabia - 4/212. Among the identified regional educational systems, Ukrainian education certainly belongs to the European system [21]. At the same time, cultural, institutional, economic, and political characteristics determine the specific features of the domestic strategy to ensure the competitiveness of Ukrainian higher education system.

Taking into account all the challenges and circumstances described above makes to think once again about the chosen strategy for increasing the competitiveness of Ukrainian universities, i.e., improving their place in global rankings. It seems that in Ukraine it is quite possible to transform the guidelines and turn to the strategy “in depth” in the form of universities focusing on advancement in disciplinary global rankings [25; 26]. It is obvious that only a small number of the largest Ukrainian universities can realistically qualify for inclusion in the top groups of global university rankings, but a much larger number of universities (both public and private) are capable of being successful in disciplinary global rankings. The transition to a promotion strategy in disciplinary (subject) rankings fully correlates with the target scenario of scientific and technological development of Ukraine: ensuring competitiveness by gaining leadership in selected areas of scientific and technological development within the framework of both traditional and new markets for technologies, products, and services and building a holistic national innovation system [65]. Examples here include the Hong Kong University of Science and Technology, Pohang University of Science and Technology in South Korea, etc.

In the interpretation of representatives of economic sociology, competitive higher education supplies society with positional goods [31], providing people with access to social prestige and receiving decent incomes. From the point of view of American researchers J. Macionis and L. Gerber, universities, in particular, constitute an integral system of social institutions - an educational system, which, along with economics, politics, and religion, forms the social structure of society [49]. At the same time, the status of a world-class university makes it possible to maximize the production of positional goods and fulfill the important social task of facilitating the well-being of the entire society and its individual regional communities (the so-called “third role of the university”) [31].

An innovative system of vocational education must correspond to a knowledge-based economy. Essentially, it is currently about a paradigm shift in education. Changes in its orientation, goals, and content are focused on “free human development”, creative initiative, independence of students, competitiveness, and mobility of future specialists [23]. It is possible to rise to a qualitatively new level of technological development only with a correctly chosen overall strategy. Over the past decades, the working conditions of engineers and technical specialists, as well as the essence, content, methods, and forms of their engineering activities, have fundamentally changed. Modern production technologies are rapidly progressing, continuously increasing their knowledge intensity, requiring all participants in the technological process to have competencies not only at the appropriate level, but also at a necessarily advanced level, making it possible to anticipate, predict, and evaluate possible options for action [66].

The key goal of modern higher education is to prepare graduates who are capable of offering and implementing new types of activities, creating modern and ahead-of-time products and services, solving problems that previously had no solution, and flexibly adapting to the conditions of a changing environment. Only under these conditions, will the scientific and educational community be interesting for real production.

In accordance with global trends, in Ukraine, a university acquires the features of not only a scientific and educational organization, but also an economic entity which offers to the market a very specific product that is in demand [29]. On the one hand, this can, to some extent, ensure its academic freedom; in addition, the university acquires such additional features as innovativeness, entrepreneurship, and orientation to the labor market. On the other hand, the university risks turning into a “diploma-issuing factory”, forgetting about the fundamental principles of its existence in the pursuit of economic efficiency indicators [30]. The interests of making a profit are beginning to take center stage, and leadership is moving from representatives of the academic community to “purely managers” from education. Large corporations interested in training specific specialists for the tasks they need are beginning to influence the development of directions for the development of universities. “Corporate universities”, created to meet the needs of economic and social groups, are another phenomenon of modern higher education. Often, commercialization intentions can also come from the state, which seeks to reduce its financial burden on supporting the activities of universities.

The report “UNESCO Science Report: towards 2030” [58] notes that the most noticeable trends in the world are increased investment in science and technology, an increase in the number of large international projects in the field of science, high mobility of scientists, and a shift in focus towards sustainable development and energy, increasing the number of scientific publications. The main conclusion that the authors of the report make is that most countries around the world perceive research and innovation as a factor in economic growth and achieving sustainability. Experts have discovered several new phenomena that were not previously noticed, and the first among them is that there is the impressive role of universities in the world, which have become literally global development institutions [32; 33]. Competition for students and the quality of education has

brought universities to an unprecedented level of development and influence.

It is interesting to address, in particular, the U.S. experience. It is no longer true that basic research conducted in the United States will inevitably benefit American firms or American workers in a global innovation environment, even though most people agree (and econometric evidence supports) that federal R&D funding contributes to U.S. economic growth. Instead, the financial gains are contingent upon the extent to which academic institutions - as well as businesspeople, venture capitalists, and corporations - are able to convert the findings of fundamental research into commercially viable technologies. The advantages now also rely on how businesses decide to use international networks to generate and market those inventions. It is no longer a given that the innovations, factories, or jobs developed here will result from the research being done here [8].

While this does not imply that federal R&D investment is a waste of money, it does make one consider the ways in which it encourages innovation in the US. "If knowledge is universal, why should it matter where it is produced?" is the question posed. From the standpoint of a peer review panel, location might not be important, but a wealth of research indicates that location is important to someone attempting to commercialize information. For instance, venture capital is very regional, and creative activity often "spills over" from institutions into the surrounding areas [3].

The primary reason is that the most valuable knowledge is frequently implicit knowledge, or knowledge that cannot be evidently expressed in papers or patents. More than in equations or machines, cutting edge scientific and technical knowledge is embodied in individuals. Additionally, it moves through unofficial networks that are frequently concentrated in one place. Innovation is a contact sport, as Randall Kempner, a specialist in regional economic development, loves to emphasize [27]. Furthermore, the knowledge gained from economic geographers and regional economic developers is that innovation is facilitated by the interpersonal relationships that exist between academics, business researchers, venture investors, and entrepreneurs. These networks can take decades to evolve and are exceedingly difficult to imitate.

In terms of higher education, this indicates that the amount of innovation which is fostered depends not just on the volume of inputs but possibly even more on the interactions that faculty members have with the community, especially in their local area [35; 36]. In this domain, the involvement of government regulations is minimal, and independent institutions are having difficulty coming up with more effective strategies to promote novel forms of behavior. It necessitates reconsidering how students are taught and how faculty members are compensated.

An ever-widening spectrum of scientific and technology capabilities have almost become commodities as nations throughout the world have enhanced science education, boosted R&D investments, and encouraged multinational firms to participate in high-technology manufacture or research. Global access to high-tech manufacturing, skilled engineers, PhD researchers, and state-of-the-art laboratory facilities is now commonplace [37; 38]. These elements no longer offer the same competitive advantage when taken alone. National governments now relentlessly seek originality and innovation in an effort to carve out a new market niche.

Nonetheless, the argument in the US keeps centered on the need to graduate an increasing amount of scientists and engineers in order to boost American competitiveness. "While we must continue to improve standards and encourage more students to study science and engineering, we need to acknowledge that we will never win the race to produce the highest test scores or the most engineers. Simple demographics dictates that we will never outproduce China in engineers. But that does not mean that America's innovation capacity is doomed" [3]. The top test-takers are not usually the best inventors, and a number of high test-scoring nations, including China, Singapore, Japan, and

Korea, are growingly concerned that their educational systems place too much emphasis on conformity at the expense of originality. Training the scientists, engineers, anthropologists, and managers who can most effectively collaborate within the global innovation system to produce innovative and valued products and services is the problem, not training the largest number of scientists and engineers.

For instance, Georgia Tech, like most universities, was seeing a decline in computer science enrollment, and its graduates were up against more competitive graduates from emerging countries who were highly competent and much less expensive. They were having difficulty redefining the value of a degree in computer science. One employer remarked, "Don't send me engineers who can be duplicated by a computer. I am sending that work to India. Send me engineers who are adaptable, who can think across disciplines." Georgia Tech remade their computer science curriculum using the concept of "threads" [3]. Eight alternatives remain for a computer science major: Foundations, Embodiment, Intelligence, Computational Modeling, Platforms, Information Internetworking, People, and Media. Currently, there are two threads available. Every thread outlines a problem - such as how humans can connect with machines or how computers can mimic natural phenomena - that gives computer science courses, as well as those from other disciplines, like anthropology or design, context and significance [40]. Maintaining student engagement and assisting them in acquiring the abilities necessary to address challenges in the actual world are the two main objectives.

Today, foresight education is gaining popularity. An example of foresight education is the European Science Link project, focused on the potential opportunities provided for engineering activities and real business by European science [41; 42]. Opportunities are grouped into seven main areas: agriculture and food industry, chemical industry, construction and engineering design, energy and transport, production of personal care and sanitation products (cosmetics, perfumes, etc.), materials science, and nanotechnology. The list of possibilities can easily be used when creating the content of educational programs.

Of particular importance may be the creation of a sustainable system of student research work (SRW), which provides for the participation of students in the implementation of scientific and contractual work of the university together with teachers.

In addition to combining scientific research, modern educational methods with their practical implementation, universities become a place for the development of new social practices, global and local social projects. At universities, structures aimed at developing their innovativeness are beginning to appear - business incubators, technology parks, scientific and educational clusters [43; 44]. The leaders of this process, commonly called "world-class universities," are turning into influential players in the global economic market, acting as flagships of innovation in the most promising areas. The most advanced universities participate in triple helix models, which is also a very important factor in university competitiveness in the 21st century. Thanks to interaction within the framework of the triple helix, the university creates a stable, predictable social environment in which it is possible to build long-term development strategies. Secondly, it becomes attractive to applicants who can be confident that the knowledge they receive will be in demand in the regional or national economy [46; 47]. Thirdly, it provides important social competencies for students who are involved in real processes in the economy and social sphere of their country or local community.

In terms of competitiveness, it is also important that many university rankings include indicators of scientific and innovative activity as indicators of competitiveness [62; 63]. It is obvious that the research activities of universities in their interaction with the state and business within the framework of triple helix can increase the relevance of the university, its attractiveness.

Empirical work shows that applicants are guided by the choice of a university under the influence of ranks, that is, high

positions in rankings are a factor in the demand for a university [68]. Accordingly, universities are changing their functions in order to be more in demand. Meanwhile, for Ukrainian universities, research and innovation activities were not previously a priority, and therefore were not considered as an indicator of competitiveness [48]. However, in the 21st century, the situation is changing dramatically, and Ukrainian universities are faced with the need to adapt to a new environment in order to ensure their competitiveness in the European educational space, especially taking into account the ongoing process of European integration.

Currently, the competitiveness of an individual Ukrainian university, associated with the preferences of applicants, can be determined by the function of creating human capital (F_{HC}) and the signaling function (F_{sign}). The first function is associated with factors that describe a certain "real" quality of education, or the ability of a university to prepare highly productive personnel: characteristics of teaching staff, students, and university infrastructure. The second function is related to the perception of the university by applicants and potential employers, and the main factors are the cost of training, brand awareness, and the success of graduates.

However, taking into account the triple helix, it is necessary to include in the model the research and innovation activities of the university (F_{RD}), as well as factors characterizing the interaction of the university with government agencies (F_{gov}) and business (manufacturing enterprises, startups, business incubators, etc.) [56]. As additional proxy variables, one can use the characteristics of the region where the university is located (which is especially important in connection with the tangible differentiation of regional development in Ukraine) - (F_{reg}) and its specialization (F_{spec}). At the same time, the number of specialties (included in F_{spec}) acts as an indicator of the diversity of the university's activities, which, other things being equal, increases the "flow" of knowledge between students of different specialties and leads to an intensification of innovative activity. Thus, the model describing the choice of enrollee (Ch_{enr}) may include the following factors:

$$Ch_{enr} = f(F_{HC} + F_{sign} + F_{RD} + F_{gov} + F_{reg} + F_{spec}) \quad (1)$$

There is a well-known concept that assumes that the competitiveness of a higher educational institution is determined by the integral set of various types of its resources - material and technical, information, personnel, etc. This set is called differently: the competitive potential of the university, the business potential of the university, etc. [28]. It should be noted that in this model, cost indicators come to the fore, i.e., the principle "higher costs - higher competitiveness" is implemented. However, it seems to us that when analyzing the competitiveness of educational organizations it is necessary to operate not with cost assessments, but with effective (result) ones, because namely the results of a university's activities are important for determining its real competitive capabilities in the dynamic market of educational services.

In this context, the idea of using stakeholder theory as a starting postulate for forming the concept of competitiveness of a higher education institution may be fruitful.

In the modern interpretation of stakeholder theory, stakeholders are viewed not simply as groups and individuals affected by the activities of the organization, but as contributors to a certain type of resource. Stakeholders supply the organization with the resources necessary for its activities, since these activities allow them to satisfy their needs [50; 51]. At the same time, satisfying the stakeholder's requests represents his receipt of resources from the organization. Thus, the relationship between the organization and its stakeholders is built around resource exchange.

Stakeholder theory may be particularly useful to those organizations that have the greatest need to maintain relationships with a wide range of stakeholders. An example of such an organization is namely a higher education institution,

whose behavior, according to experts, can be described as "maneuvering between the interests of various stakeholders" [18].

The positioning of universities in terms of competitiveness can be carried out on the basis of a McKinsey matrix. In this case, the X axis represents the attractiveness of the university for applicants, and the Y axis is competitiveness, calculated as function (1), described above. This method will allow identifying three areas in the McKinsey matrix: 1) the area of leaders (universities have better or average values of indicators of attractiveness for students and competitiveness in the labor market and within the Triple Helix compared to others); 2) the area of outsiders (universities have at least one of the lowest and do not have any of the highest values of indicators); 3) border area (sectors of the main diagonal) - competitive sector (with low attractiveness), attractive sector (with low competitiveness), and neutral sector [52]. The analysis can be carried out both for the domestic education market, and for the European or even global one. This method of strategic assessment will enable universities to comprehensively assess their position in the educational services market, and will also allow municipal, regional, and national authorities to carry out scientifically based structural changes in higher education and plan the necessary education reforms.

Also, in the modern world, universities are called upon to play the most important role of reproducing culture and even "cultural creation", educating a person, his socialization, creating conditions for personal self-realization, ensuring sustainable development and preserving cultural continuity in society [53]. The social role of universities is to counteract social fragmentation, acting as an integrator in the face of weakening traditional political institutions.

The above-mentioned "third role" or "third mission" of universities combines social, entrepreneurial, and innovative components. The social component is an area in which profit-making or economic effect is not expected. This is the area of providing social services, university participation in the development of urban spaces, interaction with the local community, cultural environment, student activity [54]. The entrepreneurial component is associated with conducting scientific research under contracts with the state and business, commercialization of intellectual property, paid educational programs, and the use of university facilities on a commercial basis. The innovation component involves the introduction of scientific developments of universities, consulting authorities and government organizations [39].

Often, the "third mission" is interpreted as the entrepreneurial activity of the university, the commercialization of intellectual resources [31]. The social orientation of activities is as important as the commercialization of scientific knowledge or the development of advanced training programs. Others include social programs and projects implemented by the university in the region [24]. Still others complement this with a system of continuous education and innovative development." However, the very concepts of "lifelong education", "continued education", in various national education systems also require in-depth study and comparative analysis. The interpretation of the concept of "third mission" depends on a particular university's understanding of its role and essence in a dynamically developing, constantly changing society and world. However, in general, the "third mission" can be understood as a set of specific services based on actions and capabilities that serve the benefit of society.

Many modern researchers identify two models for defining and implementing the third mission of universities: European and American, which differ in the priority of components: the European one is focused on the social component, while the American one is focused on technology transfer [57; 64]. For Ukrainian specifics, taking into account the increasing importance of both the socio-cultural and innovative-technological components in conditions of military conflict and

the prospects for post-war reconstruction, it seems appropriate to combine these two models.

At the same time, the social aspect of the activities of universities is not sufficiently recognized by the administration and staff of Ukrainian universities as an independent direction. Rather, it is perceived either as one of the forms of social and educational work, the development of educational services, applied scientific research, and other “traditional” channels of communication between the university and the external environment [55]. Often work is carried out, but fragmentarily, unsystematically, without an ultimate goal, without reliance on scientific methodology. In addition, universities are not always ready to change based on the needs to implement new tasks, the university community is quite conservative, and the administration is not always capable of taking decisive steps to change traditional operating principles. For example, work to develop innovation requires a revision of approaches to the training load for certain categories of workers and the wage system [60]. On the other hand, the scientific activities of teams are not flexible enough to adapt to the needs of partners (enterprises, business, government). It is not uncommon for universities to have nothing to offer that might interest potential investors, and it takes considerable time to develop something new. The development programs of most universities do not contain direct references to the implementation of the “third mission”.

However, a number of universities have consciously chosen development models for themselves as entrepreneurial or innovative universities, and the results of this work are manifested, among other things, in their effective implementation of the “third mission.”

Responding to the challenges of the time, universities strive to join the general information field and find their place in it. The informatization and digital transformation factor leads to the emergence of new methods of education, individual educational programs, the emergence of network universities, a departure from the classical forms of organizing study groups, which can physically be located in different parts of the world (similar to distributed teams principle) [60; 61]. The possibility of instantly obtaining any information leads to a revision of approaches to the personality of the teacher, who ceases to be a repeater and acquires the functions of a mentor, a coach, performing not only an educational, but also an educational function.

In today's situation, ensuring the enough enrollment of students and the effective functioning of any university has become impossible without implementing activities related to special issues of marketing research on the competitiveness of the university. In the context of European integration of Ukraine, this is one of the most pressing problems, since higher education is an industry that constitutes the main vector for the development of human capital production. It is necessary to eliminate the significant imbalances in the higher education system that exist in Ukraine. Its main problems are now the non-optimality of the network of universities, the lack of consistency of educational and qualification levels of bachelor's and master's with the requirements of employers, the uncertainty of the place of these levels in the labor market, and the excessive number of directions, specialties, and specializations of higher education. To ensure a worthy place for Ukrainian universities in the European educational market, it seems appropriate to conduct a comprehensive strategic assessment of the competitiveness factors of universities, encourage and expand opportunities for the introduction of triple helix models on a national and regional scale, as well as study and adapt the best practices in teaching and organizing the educational process, both in didactics and in terms of technical support (primarily based on the latest digital technologies and platforms, many of which are publicly available and do not require significant capital investments from the university).

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Primary Paper Section: A

Secondary Paper Section: AE, AH, AM

PEDAGOGICAL ASPECTS OF “SOFT SKILLS” FORMATION IN FUTURE SOCIAL WORKERS IN THE CONDITIONS OF HIGHER EDUCATION INSTITUTION

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Abstract: The article highlights the results of a three-stage experimental study on the formation of “soft skills” of future social workers. The necessary organizational and pedagogical conditions for the formation of “soft skills” in the conditions of a higher education institution are indicated. A comparative analysis of the obtained data of the experimental and control groups was carried out at the beginning and at the end of the experiment. The dynamics of motivational-value, cognitive, personal-volitional, social-communicative, activity-practical, analytical and critical criteria were determined according to the indicators: desire to work in the social sphere; awareness of oneself as an agent of change in the community and attitude to a positive result; the ability to achieve the goal and solve the tasks of professional activity; understanding the importance of developing “soft skills”, the ability to acquire and develop them throughout life; knowledge of socially significant problems of social work; application of innovative technologies, methods and resources of social work; emotional intelligence and empathy; the ability to solve complex situations and react quickly; confidence in own practical skills and competence; ability to negotiate and manage conflicts; knowledge and observance of business and professional ethics; the ability to communicate with representatives of other cultures and nationalities; the ability to build an effective team to achieve a single result; effective planning and organization of professional activities; orientation to the result of achieving goals; the ability to think in conditions of time shortage and psycho-emotional stress; the ability to make decisions and find alternative options; application of structural and systemic thinking; attentiveness and observation; application of analytical and logical thinking; the ability to establish relationships. The article will be useful for students and teachers who are interested in the professional development of social workers.

Keywords: social work; social workers; professional education; professional training; professional skills; “soft skills”.

1 Introduction

In the modern conditions of the development of Ukrainian society, the transformation of the Ukrainian state and the need to respond to emergency situations, the requirements for the efficiency of the provision of social services and the professionalism of social workers are increasing. The implementation of professional social activities, as a mechanism for the fulfillment of social policy, depends on the level of knowledge, abilities, and skills of the social worker. In particular, we emphasize the importance of the formation and development of “soft skills” as universal, non-specialized, interconnected, acquired, difficult to track, variable, situational, closely related to the nature social and psychological skills that contribute to the implementation of highly effective professional social work and successful career growth.

Since the main stage of the professional development of a social worker is the acquisition of professional education, the formation and development of “soft skills” of students becomes relevant for higher education institutions of Ukraine. Therefore, the focus of our attention is the study of pedagogical aspects of the formation of “soft skills” in future social workers in the conditions of a higher education institution.

Professional education and the peculiarities of the formation and development of soft skills have become the subject of research by many domestic and foreign scientists. In particular, the topics for study include: soft skills as the basis of flexibility, adaptability and the embodiment of competitive qualities of future employees [28]; publications in Scopus are devoted to soft skills [10]; the main determinants of soft skills and the influence of socio-economic and family status on their formation [23]; application of a context-dependent approach to distinguish hard and soft skills [36]; the use of media technologies in the formation of creativity in future psychological and pedagogical specialists [20]; soft skills of a case manager [22]; integration of system thinking skills with multi-criteria decision-making technology for recruitment of job candidates [17]; continuous and professional education, which provides an opportunity to

expand and develop one's own knowledge and skills [7]; development of professional abilities among early career workers and implications for the development of work-based learning [16]; career adaptation, vocation and professional competence of social work students in China, career building prospects [12]; preparation for work and professional development [33]; continuous professional development of child protection social workers in Romania [29]; development of skills of immigrant children [9; 15]; changes during life in the mediation of cognitive and non-cognitive skills [14]; the role of non-cognitive skills [2]; assessment of the consequences of childhood social and emotional skills at the end of life using middle age mediators [26]; the influence of participation in e-sports on the development of 21st century skills in young people: a systematic review [34]; social skills [11]; the use of interthinking for learning the skills of the 21st century in education [32]; strategies and challenges of teachers in teaching 21st century skills [35]; development of soft communication skills in the creative economy [26]; evidence of soft skills [13]; constructivist analysis of cross-sectional data on types of skills [37]; analysis of the demand for technical and soft skills of graduates in the UK [5]; soft skills of emergency management [24]. The publication of G. Mozgova, V. Yevtushenko, and A. Mozgova [25] is devoted to the theoretical justification of the system of formation of soft skills of specialists in the field of marketing based on the competence approach.

Olena Kirdan and Oleksandr Kirdan [18] studied the peculiarities of the formation of “soft skills” of higher education students.

The practical experience of forming “soft skills” in the conditions of a higher education institution is characterized in the study of N. Kolyada and O. Kravchenko [19].

I.P. Krasnoshchok, O.M. Demchenko, and T.O. Kravtsova studied the peculiarities of the use of innovative methods and technologies in the practice of educational institutions of Ukraine for the development of “soft skills” [21].

The development and implementation of clear organizational and pedagogical conditions are the basis of modern experimental research, which ensures the following: the formation of professionally oriented communicative competence in technical higher education institution [31]; forming the readiness of future social workers to organize volunteer activities [6]; formation of readiness of social workers to work with young families [27]; formation of social leadership in future social workers in the conditions of professional training [4].

However, there are not enough scientific studies that highlight the issue of pedagogical aspects of the formation of “soft skills” of future social workers.

The purpose of the study is to determine and experimentally verify the pedagogical conditions for the formation of “soft skills” of social worker students.

2 Method

The experimental study of the formation of “soft skills” of future social workers was carried out in several stages:

- The first stage implies: an interdisciplinary analysis of the chosen topic; definition of the object, subject, tasks and purpose of the research; study of scientific and methodological literature on the formation of “soft skills”; analysis of approaches to the problem of formation of “soft skills” in the implementation of professional training of future social workers. At this stage, the structure of “soft skills” was theoretically substantiated and its content was clarified with the help of expert evaluation; criteria, indicators were identified, characteristics of the levels of formation of “soft skills” among future social workers were

developed; the experimental base for the research was determined, experimental and control groups were formed; selection of diagnostic tools for the experimental stage of the research was carried out.

- The second stage implies: analysis of the current state of manifestation of “soft skills” among future social workers; assessment of effectiveness at the stage of ascertaining experiment in accordance with the determined indicators of the structural components of “soft skills”; development of a structural and functional model of the formation of “soft skills” of students majoring in “Social Work” in the conditions of professional training; study of the organizational and pedagogical conditions for the training of future social workers and their expert assessment regarding the impact on the formation of “soft skills” among students of higher education institutions. At this stage, a formative experiment was organized to clarify the expediency of implementing theoretically grounded organizational and pedagogical conditions that ensure the success of the implementation of the model of formation of “soft skills” in future social workers.

- The third stage is a repeated check of the state of formation of “soft skills” among students of the experimental and control groups, the probability of the obtained results and their statistical significance. It implies formation of conclusions regarding the effectiveness of the implementation of organizational and pedagogical conditions for the formation of “soft skills” in future social workers.

We believe that the following organizational and pedagogical conditions should be taken into account when developing the “soft skills” of future social workers:

- Deepening the knowledge of future social workers about “soft skills” as professionally important skills (meaningful filling of the educational discipline “Technologies of formation of “soft skills” in professional education” and its introduction to the educational and professional program in the specialty “Social work” with the aim of students acquiring knowledge of “soft skills” and means, forms, and methods of their formation and development);
- Organization of an informal environment for the formation of “soft skills” of future social workers (creation of a website with the necessary materials for determining the level of formation of “soft skills”, their shaping and improvement);
- Application of means, forms, and methods of non-formal education to increase the effectiveness of the formation of “soft skills” in the conditions of higher education institutions (use of effective means, forms, and methods of professional training of social workers to increase the level of formation of “soft skills” of students in the conditions of classroom and extra-auditory activities).

The effectiveness of the implementation of the specified organizational and pedagogical conditions was tested experimentally. 260 students (first and second degrees) of higher education institutions of Ukraine took part in the research: Prykarpattia National University named after Vasyl Stefanyk (Ivano-Frankivsk), Ukrainian State University named after Mykhailo Drahomanov (Kyiv). Students studied at the following educational and professional programs: “Social Work” and “Social Pedagogy”. The experimental group (EG) consists of 132 students of higher education, the control group (CG) – 128 people. The experiment was carried out in the conditions of the educational process of training social workers.

The study was carried out taking into account the elements and components of “soft skills”, criteria and their indicators in accordance with the determined levels of formation (Figure 1).

The diagnostic toolkit for conducting the research included the study and analysis of the documentation of the educational program “Social Work” and “Social Pedagogy”: curriculum, typical and working programs, educational and methodological complexes of the educational program, reports and results of

scientific research, social-educational and social-project activities of students - future social workers, as well as diagnostic methods and questionnaires.

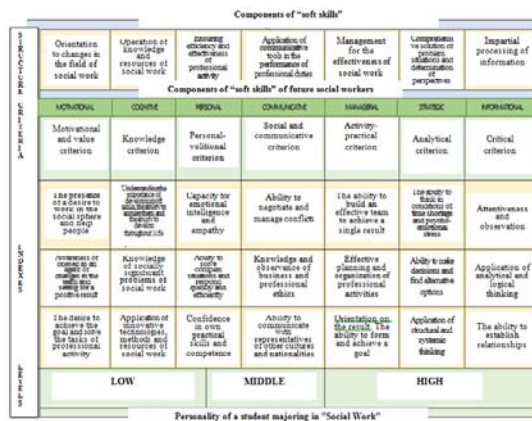


Figure 1. Structure of “soft skills”: criteria, indicators, levels of formation

3 Results

We generalize the results of the research on the formation of “soft skills” of future social workers on the basis of the following:

- Final cut and re-evaluation according to each criterion and relevant indicators to determine the level of formation of “soft skills” of future social workers in the experimental and control groups;
- Comparative analysis of the obtained data in the experimental and control groups at the ascertainment stage and after the completion of the formative stage;
- Identification of positive dynamics of quantitative indicators of the levels of formation of “soft skills” of future social workers;
- Use of mathematical statistics methods (Kolmogorov-Smirnov criterion; content analysis method) to confirm the reliability of results and the effectiveness of experimental research work.

The expected result of the final assessment for each criterion and their indicators was a positive dynamic of growth in the number of students with medium and high levels of “soft skills” formation and their decrease at a low level.

Data on the level of formation of the “soft skills” components according to the relevant criteria and their indicators in the experimental and control groups of students-future social workers are highlighted in Table 1.

Table 1: Levels of the state of formation of “soft skills” indicators according to the defined criteria at the beginning and at the end of the experiment

The level of formation of the indicator	Initial data				Final data			
	Experimental groups		Control groups		Experimental groups		Control groups	
	132	%	128	%	132	%	128	%
MOTIVATIONAL AND VALUE CRITERION								
Levels of formation of the indicator “desire to work in the social sphere and help people”								
Low	41	31.06	38	29.69	26	19.7	35	27.
Middle	73	55.3	75	58.9	58	43.94	69	53.91
High	18	13.64	15	11.72	48	36.36	24	18.75
Levels of formation of the indicator “awareness of self as a agent of changes in the community and adjustment to a positive result”								
Low	42	31.82	43	33.59	24	18.18	40	31.25
Middle	78	59.09	76	59.38	60	45.46	71	55.47
High	12	9.09	9	7.03	48	36.36	17	13.28
Levels of formation of the indicator “desire to achieve the goal and solve the tasks of professional activity”								
Low	47	35.61	49	38.28	27	20.46	41	32.03
Middle	69	52.27	66	51.56	49	37.12	59	46.09
High	16	12.12	13	10.16	56	42.42	28	21.88
Knowledge criterion								
Low	43	32.57	42	32.82	28	21.21	38	29.68

Middle	71	5379	71	5546	55	4167	62	4844
High	18	1364	15	1172	49	3712	28	2188
Levels of formation of the indicator "knowledge of socially significant problems of social work"								
Low	45	3409	42	3282	33	25	38	2968
Middle	73	553	75	5859	58	4394	67	5234
High	14	106	11	859	41	3106	23	1798
Levels of formation of the indicator "application of innovative technologies, methods and resources of social work"								
Low	48	3636	48	375	34	2576	41	3208
Middle	73	5531	70	5469	57	4318	63	4922
High	11	833	10	781	41	3106	24	1875
PERSONAL-VOLITIONAL CRITERION								
Levels of formation of the indicator "ability to emotional intelligence and empathy"								
Low	44	3334	37	2891	25	1894	30	2344
Middle	69	5227	75	5859	52	3939	67	5234
High	19	1439	16	125	55	4167	31	2422
Levels of formation of the indicator "ability to solve complex situations and quick response and efficiency"								
Low	46	3485	39	3046	23	1742	34	2656
Middle	73	553	76	5938	54	4091	65	5078
High	13	985	13	1016	55	4167	29	2266
Levels of formation of the indicator "confidence in one's own practical skills and competence"								
Low	48	3636	41	3208	26	197	34	2656
Middle	68	5152	74	5781	48	3636	65	5078
High	16	1212	13	1016	58	4394	29	2266
SOCIAL AND COMMUNICATIVE CRITERION								
Levels of formation of the indicator "ability to negotiate and manage conflicts"								
Low	45	3409	39	3046	22	1667	30	2344
Middle	67	5176	70	5469	47	356	61	4766
High	20	1515	19	1485	63	4773	37	289
Levels of formation of the indicator "knowledge and observance of business and professional ethics"								
Low	39	2955	41	3208	23	1742	35	2734
Middle	69	5227	70	5469	51	3864	61	4766
High	24	1818	17	1328	58	4394	32	250
Levels of formation of the indicator "ability to communicate with representatives of other cultures and nationalities"								
Low	38	2879	49	3828	24	1818	41	3208
Middle	72	5455	67	5234	57	4318	61	4766
High	22	1666	12	938	51	3864	26	2031
ACTIVITY-PRACTICAL CRITERION								
Levels of formation of the indicator "ability to build an effective team to achieve a single result"								
Low	43	3258	43	3359	27	2046	38	2968
Middle	68	4773	72	5625	49	3712	63	4922
High	26	1969	13	1016	56	4242	27	211
Levels of formation of the indicator "effective planning and organization of professional activity"								
Low	42	3182	42	3282	28	2121	39	3047
Middle	76	5757	72	5625	59	447	68	5312
High	14	1061	14	1093	45	3409	21	1641
Levels of formation of the indicator "orientation on the result; the ability to form and achieve a goal"								
Low	47	3561	47	3673	29	2197	40	3125
Middle	70	5303	71	5546	56	4242	63	4922
High	15	1136	10	781	47	3561	25	1953
ANALYTICAL CRITERION								
Levels of formation of the indicator "ability to think in conditions of time shortage and psycho-emotional stress"								
Low	37	2808	46	3594	27	2045	42	3281
Middle	78	5909	67	5234	58	4394	59	4609
High	17	1288	15	1172	47	3561	27	211
Levels of formation of the indicator "ability to make decisions and find alternative options"								
Low	46	3485	40	3125	25	1894	36	2813
Middle	74	5606	75	5859	48	3636	67	5234
High	12	909	13	1016	59	447	25	1953
Levels of formation of the indicator "application of structural and systemic thinking"								
Low	43	3258	46	3594	30	2273	42	3281
Middle	61	4621	73	5703	49	3712	67	5234
High	28	2121	9	703	53	4015	19	1485
CRITICAL CRITERION								
Levels of formation of the "attentiveness and observation" indicator								
Low	39	2955	48	375	27	2045	42	3281
Middle	71	5379	64	500	54	4091	55	4297
High	22	1666	16	125	51	3864	31	2422
Levels of formation of the "application of analytical and logical thinking" indicator								
Low	41	3106	46	3594	31	2349	41	3208
Middle	75	5682	69	539	61	4621	62	4844
High	16	1212	13	1016	40	313	25	1953
Levels of formation of the indicator "ability to establish relationships"								
Low	43	3258	40	3125	30	2273	34	2656
Middle	68	5152	73	5703	57	4318	67	5234
High	21	159	15	1172	45	3409	27	211

By comparing the obtained data of the experimental and control groups at the beginning and at the end of the experiment, we determine the dynamics of each criterion according to specific

indicators. To compare the two empirical distributions and determine the dependence of the level of formation of the specified indicators and the corresponding criteria on the implementation of the organizational and pedagogical conditions mentioned above, we calculate the λ - Kolmogorov-Smirnov criterion, the obtained data are shown in Table 2. The criterion allows finding the point at which the sum of the accumulated differences between two distributions is the largest, and evaluating the reliability of this discrepancy. Under the condition that $\lambda_{emp} > \lambda_{kr}(1.36)$, it is possible to assert the effectiveness of the implementation of organizational and pedagogical conditions.

Table 2: Determination of the statistical criterion of consistency according to "soft skills" indicators

Criteria	Indicators	Value (λ_{emp})
motivational and value	"presence of the desire to work in the social sphere and help people"	1.37
	"awareness of oneself as an agent of change in the community and attitude to a positive result"	1.85
	"the effort to achieve the goal and solve the tasks of professional activity"	1.61
knowledge	"understanding the importance of developing soft skills, the ability to acquire them and the ability to develop throughout life"	1.21
	"knowledge of socially significant problems of social work"	1.05
personal-volitional	"application of innovative technologies, methods and resources of social work"	0.97
	"ability to emotional intelligence and empathy"	1.45
	"ability to solve complex situations, quick response and efficiency"	1.53
social and communicative	"confidence in own practical skills and competence"	1.7
	"ability to negotiate and manage conflicts"	1.53
	"knowledge and observance of business and professional ethics"	1.53
activity-practical	"ability to communicate with representatives of other cultures and nationalities"	1.53
	"ability to build an effective team to achieve a single result"	1.69
	"effective planning and organization of professional activities"	1.45
analytical	"orientation on the result; ability to form and achieve a goal"	1.29
	"ability to think in conditions of time shortage and psycho-emotional stress"	1.21
	"ability to make decisions and find alternative options"	2.02
critica 1	"application of structural and systemic thinking"	2.02
	"attentiveness and observation"	1.21
	"application of analytical and logical thinking"	0.8
	"ability to establish relationships"	1.05

The obtained data indicate significant changes in the experimental sample according to the specified indicators. We also draw a conclusion about the effectiveness of the implementation of organizational and pedagogical conditions in the case of the formation of soft skills in future social workers according to the following indicators: the presence of a desire to work in the social sphere and help people, awareness of oneself as an agent of change in the community and attitude to a positive result, the desire to achieve the goal and solve the tasks of professional activity, the ability for emotional intelligence and empathy, the ability to solve complex situations and ability of quick response and efficiency, confidence in own practical skills and competence, the ability to negotiate and manage conflicts, knowledge and compliance with business and professional ethics, the ability to communicate with representatives of other cultures and nationalities, the ability to build an effective team to achieve a single result, effective planning and organization of professional activities, the ability to make decisions and find alternative options, the use of structural and systemic thinking.

The obtained numerical values indicate that the application of organizational and pedagogical conditions significantly affects the positive dynamics of the development of such indicators as the understanding of the importance of developing "soft skills", the ability to acquire them and the ability to develop throughout

life; knowledge of socially significant problems of social work; application of innovative technologies, methods and resources of social work; result orientation; the ability to form and achieve a goal; the ability to think in conditions of time shortage and psycho-emotional stress; attentiveness and observation; application of analytical and logical thinking; the ability to establish relationships. However, they are not the main factors in their development.

4 Discussion

Аналіз змісту наукових досліджень [1; 3; 8; 30; 38] щодо педагогічних умов формування “м'яких навичок” майбутніх соціальних працівників дозволяє зробити висновки щодо оригінальності отриманих нами результатів стосовно даних інших дослідників.

Our research confirms the effectiveness of the implementation of organizational and pedagogical conditions for the formation of soft skills of future social workers in the context of professional training, taking into account the seven-component structure of “soft skills”. The results of experiment indicate that the experimental group (EG) has a higher level of formation of “soft skills” compared to the control group (CG). Evidence of this is the transition from low and medium levels of their formation to a high level, which is a reflection of the quantitative and qualitative aspects of the formation of soft skills of future social workers in the conditions of a higher education institution. There is a noticeable increase in the number of students-social workers with a high level of formation of motivational-value, personal-optional, and social-communicative criteria by all indicators.

Quantitative and qualitative processing of the results made it possible to reveal a more or less pronounced development of “soft skills” indicators. We confirmed the statistical probability of different levels of formation of “soft skills” relative to the experimental and control groups according to the indicated structure of “soft skills” using λ - the Kolmogorov-Smirnov criterion. This allows assuming that the implementation of organizational and pedagogical conditions is effective and efficient to ensure the effectiveness of the formation of “soft skills” of future social workers, and, therefore, they can be comprehensively recommended in the training of social workers.

The process of formation of “soft skills” of future social workers was studied in the conditions of professional training. This fact confirms that namely professional training mainly allows students to form an integral personal formation – “soft skills” of social workers.

The practical significance of the obtained research results lies in the introduction of organizational and pedagogical conditions for the formation of soft skills of future social workers in the conditions of professional training into the educational process of higher education institutions of Ukraine, which will contribute to the optimization of the quality of training of future social workers.

Research materials can also be used by social workers and social pedagogues, psychologists, employees of local self-government bodies, persons responsible for the development and implementation of educational and training programs aimed at optimizing the formation of “soft skills” in children and youth.

The prospect of further research remains the search for innovative methods and tools for the formation of “soft skills” of social worker students, the determination of effective directions for the implementation of soft skills development policy as a priority way of improving higher education institutions.

5 Conclusions

Thus, the formation of “soft skills” of future social workers should be considered as a complex, multi-stage, specially organized process of high-quality professional training of social worker students.

The basis of the formation of soft skills is the orientation of a person to the implementation of changes in the field of social work, the use of knowledge and resources in solving social problems, ensuring the efficiency and effectiveness of professional activity, the use of communicative tools in the performance of professional duties, management for the effectiveness of social work, comprehensive solution of problem situations and determination of perspective, as well as objective processing of information.

Effective formation of “soft skills” of future social workers in the conditions of their professional training in higher education institutions is possible on the basis of well-founded scientific, theoretical, and organizational-methodical principles, provided the necessary conditions are met.

The organizational and pedagogical conditions for the formation of “soft skills” are a set of factors of the educational environment, which ensure the professional training of students and the possibility of effective implementation of the relevant blocks of the structural and functional model of the formation of “soft skills” in future social workers. These include: deepening the knowledge of future social workers about “soft skills” as professionally important skills; organization of an informal environment for the formation of “soft skills” of future social workers; application of means, forms, and methods of non-formal education in order to increase the effectiveness of the formation of “soft skills” in conditions of higher education institutions.

Specifying the organizational and pedagogical conditions for the formation of “soft skills” of social workers, we single out the following:

- Meaningful filling of the educational discipline “Soft skills formation technologies in professional education” and introduction to the educational and professional program in the specialty “Social work” with the aim of students acquiring knowledge of “soft skills” and means, forms and methods of their formation and development;
- Creation of a website for students with the necessary materials for determining the level of formation of “soft skills”, their formation and improvement;
- The use of effective means, forms and methods of professional training of social workers in order to increase the level of formation of “soft skills” of students in the conditions of classroom and out-of-classroom activities.

An experimental study of the organizational and pedagogical conditions for the formation of “soft skills” of future social workers showed the effectiveness of the implementation of these conditions as part of professional training in the institutions of higher education, taking into account the seven-component structure of “soft skills”.

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THE ROLE OF INFORMATION TECHNOLOGIES IN TRAINING OF MODERN HIGHER EDUCATION GRADUATES (IN UKRAINIAN CONTEXT)

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Abstract: The relevance of the chosen topic is due to the fast-moving process of digitalization of the life activities of society in general, and education in particular. Traditional education is losing its relevance and competitiveness in the modern labor market, which causes the tendency to transform the educational process towards digitalization. The use of information technologies in the educational process (both traditional and modern) makes it possible to provide all participants of the educational process with continuous education in the period of the distance format. Purpose of the article was to analyze the role of information technologies in the preparation of modern graduates of higher education institutions, taking into account the martial law. To achieve the purpose of the article, the following general scientific methods of learning social phenomena and processes are used: logical-historical, structural-functional and comparative; analysis and synthesis; classifications; structural and functional analysis; generalization. The term "information technologies" was analyzed and it was highlighted that they contribute to the provision of a new level of education (the ability to study from any corner of the world, build an individual student trajectory, facilitate communication between a student and a teacher, etc.). Varieties of information technologies in the educational process and its digitalization as a whole are studied: automated educational systems, intelligent educational systems, interactive programs, multimedia technologies, virtual reality, the Internet. The place of innovation in the educational process and its difference from novelty are highlighted. It is emphasized that the strategic task of the state today is the modernization of higher education of Ukraine at the level of international standards, and the fulfillment of this task becomes possible under the condition of improving pedagogical skills and introducing the latest information technologies into the educational process. Taking into account the close connection between a person's level of education and his professional development, the introduction of information technologies into the educational process is gaining increasingly more relevance. And solving this problem requires, first of all, joint efforts and mobility around the reconstruction of the system of higher education during the period of martial law, and, accordingly, its complete transition to a digital format.

Keywords: information technologies; higher education institutions; educational process; latest information technologies; innovations; traditional information technologies.

1 Introduction

The fast-moving social process of informatization of modern Ukrainian society consists primarily in the production, accumulation, processing, preservation, and transmission of information flows, which contributes not only to the improvement of everyday life, but also to the creation of an interactive educational environment. Traditional higher education is losing its competitiveness (especially in view of the distance mode of its conduct for the 3rd year in a row), which leads to the use of a large number of information technology tools and methods in the educational process, that form a modern paradigm of relationships focused on multifaceted personality development, according to requirements of the modern labor market. The educational process has acquired a certain brightness and multifacetedness, acquiring at the same time constant feedback and emotional coloring. Along with the use of information technologies in the educational process, the quality of information delivery, its specificity, content, structure, and the means of assimilation of this knowledge by students in the learning process have completely changed.

One of the main factors of the transformations caused by the influence of information technologies, in particular, was the type of thinking of modern students and the distance mode of the educational process in which we found ourselves (given the martial law). Almost all modern students belong to generation Z, who were born at the beginning of the 21st century and found themselves at the center of digitalization of society and can no

longer imagine their lives without the Internet and modern gadgets. Since birth, people of Generation Z have been included in information flows and learned to analyze them. The most important thing is that they know how to quickly process large amounts of information and find the right answers. They are able to simultaneously perceive and process information from different sources and significantly increase the speed of its processing.

In particular, if to talk about the modern world, in which information has become of paramount value, it can be noted that the quick assimilation of information flows is a really useful and important habit (which previous generations lacked). However, in this regard, there are 'adverse reactions' of the mind to the reduction of information, for example, it may begin to get bored or slow down due to a lack of information or its slow delivery. Namely this was one of the impetuses for the informatization of the educational process, which set the primary goals in the form of the introduction of modern information technologies at all stages of preparing students for the labor market.

For the system of modern Ukrainian higher education, the formation in students of a systematic approach to the acquisition and assimilation of relevant knowledge, strategic thinking, the ability for academic mobility, the drive for self-study and self-improvement during professional life, starting from the period of study at the higher education institution, should be the determining factor [1]. And it is quite possible to achieve this during the period of study at a higher education institution, as stated in the Strategy for the Development of Higher Education in Ukraine for 2022-2032 [12], and this is primarily due to the transformation of the skills of teachers of the higher education institutions, their mastery of the latest modern approaches to professional activity in relevant field of knowledge, etc.

Based on the above, it can be argued that the chosen topic is becoming extremely relevant, however, there is a certain contradiction between existing research and the modern realities of Ukrainian society in which we find ourselves, namely, the waging of a full-scale war by Russia against Ukraine, due to which higher education found itself in a comprehensive distance educational process. Previous studies by scientists (both Ukrainian and foreign) are based on the introduction of information technologies into the traditional system of higher education. But we are talking about the complete transformation of higher education and its transition towards digitalization (without the traditional component). And the transition to information technologies was forced and not adapted to modern realities (in particular, it is about technical means, teachers' skills, students' readiness, etc.), which determines the choice of topic.

2 Materials and Methods

To achieve the purpose of the article, the following general scientific methods of learning social phenomena and processes are used: logical-historical, structural-functional and comparative - to analyze the terms "information technologies", "latest information technologies"; analysis and synthesis - to highlight the content and specifics of information technologies in the educational process; classifications - for typology of types of information technologies in higher education; structural and functional analysis - to clarify the main directions of modernization of higher education, which requires studying and rethinking the most effective means of developing the quality of the individual; generalization - to determine the quality of higher education in view of the distance format of work and the use of the latest information technologies in it.

The fundamental scientific provisions in the field of information technologies in the educational process, presented in works of the following scientists, served as a theoretical base of research: R. Gurevich, I. Dychkivska, M. Zhaldak, N. Kiyanovska, Yu.

Kolisnyk-Humenyuk, V. Kremen, I. Melnychuk, I. Podlasiy, E. Polat, H. Selevko, O. Romanyshina, Yu. Trius, T. Turkot, D. Chernilevsky, and others. The general trends of higher education in view of the globalizing world process are revealed in the work of P. Saukh. The theoretical aspects of the implementation of digitization of the educational environment in higher education institutions are revealed in the studies of I. Dychkivska, E. Polat, and others. A large number of scientists paid attention to the combination of traditional teaching methods and informational methods in the context of the transformation of higher education in view of the modern requirements of the labor market – in particular, T. Turkot, D. Chernilevskyi. The methodological requirements of the formation of professional identity through information technologies in the educational process are disclosed in the works of O. Romanyshina.

However, firstly, the rapid development of the scientific and technical process and the updating of information technologies, and secondly, the martial law in which Ukrainian society is located open up new aspects of the introduction of modern information technologies (both the latest and traditional ones) into the educational process of higher education institutions, which prompts us to the analysis of this topic.

3 Results and Discussion

During the period of martial law in Ukraine, digitization of all spheres of life is the main factor in the formation and growth of modern society [8]. Based on the Digital Agenda of Ukraine [12], namely the system of higher education and its transformation towards digitalization is important for the implementation of digitalization processes in Ukrainian society. The legislative framework of Ukraine states that the priority direction of higher education is the open and transparent activity of higher education institutions, which is not limited by time and place of access to all educational materials and integration with the European educational space. Digitization of HEIs is a certain challenge and at the same time a positive aspect for universities. This will contribute to increasing competitiveness, attracting additional resources (in particular, from abroad), improving digital infrastructure, enhancing the quality of the educational process, promoting academic mobility, raising the flexibility level of the educational process, etc. [10].

The phrase “He who owns information owns the world” is gaining considerable relevance today. The current state of the implementation of information technologies in all spheres of life in society requires the expansion of their implementation in the educational process. In view of this, it is necessary to dwell in more detail on the term “information technologies” and its use in the educational process. N. Kiyanovska notes that information technology (IT) is a general term that emphasizes the role of unified technologies and the integration of telecommunications, computers, firmware, software, storage and audiovisual systems that allow users to create, access, store, transfer and change information [4, p. 119]. According to Yu. Trius, innovative information technologies of education are original technologies (methods, means, ways) of creating, transmitting, and preserving educational materials, other information resources for educational purposes, as well as organization and support of the educational process (traditional, electronic, remote, mobile) with the help of telecommunications and computer systems and networks, which are purposefully, systematically and consistently introduced into pedagogical practice with the aim of improving the quality of education [14].

Yu. Kolisnyk-Humenyuk notes that all technologies that use special technical information means (audio, video, film) are included in the number of educational information technologies. An important component of educational information technologies is multimedia (multicomponent environment) - combining several means of presenting information in one computer system: text, sound, graphics, animation, video, illustrations (images), spatial modeling. Other forms of multimedia, such as presentation of information in the form of slides and magnetic recording, interactive video and video

production, which have been used for a long time, also do not lose their relevance [5, p. 344].

Information technologies of education contribute to the provision of a new level of education. Their application in the educational process of a higher school will increase the quality of professional training of specialists. The goal of informatization of education, according to Yu. Zhuk, consists of the global rationalization of intellectual activity due to the use of new information technologies, a radical increase in the efficiency and quality of training specialists with a new type of thinking that meets the requirements of modern society, the formation of a new information culture of thinking through the individualization of education [2; 11].

In particular, based on the above, it can be argued that the introduction of information technologies (and in some cases the complete transition of the educational process towards digitalization) diversifies the process of communication between a student and a teacher, and greatly simplifies it. To date, when the level of informatization of higher education institutions has reached the level of forming a single informational educational space, when information technologies allow higher education institutions to reach a new level of modernization of educational resources, when the standards of transmission of messages are changing, namely distance learning is becoming increasingly more relevant. It encourages students to independently process a significant amount of educational material and self-discipline themselves. The majority of scientists believe that the teacher, in the context of the informational educational environment, performs the function of a consultant or coordinator and aims to strengthen the cognitive and creative functions of students, to help achieve goals in accordance with the perspectives defined by the student.

The primary task of information technologies in the educational process (given the analysis of the terminology of this concept) is the implementation of the latest programs in professional activity, which in turn help to develop and motivate students to study, to work independently with information arrays, to form creative and critical thinking, i.e., comprehensively develop the student, in accordance with the requirements of the modern labor market.

The information society requires from specialists: intellectual (constructive thinking) and creative (creative thinking) development; development of communication skills based on implementation of joint projects; professional development (formation of the ability to make optimal professional decisions during computer business games); development of research activity skills; formation of information culture (when using text, graphic and tabular editors, local and network databases) [5, p. 344]. That is it is necessary to focus on the analysis of the types of information technologies in the educational process and its digitalization as a whole.

First, these are automated educational systems that act as comprehensive educational and methodological material for students (theoretical, practical, controlling, etc.) and the corresponding software (programs, platforms, etc.), which helps in managing the educational process. The appropriate software products are their electronic versions (presentations, handbooks, textbooks, test tasks, etc.).

Secondly, these are intelligent learning systems that are able to independently perform relevant tasks, using logic and rules, and have the ability to accumulate knowledge. Namely intelligent systems combine computerization and human potential, increase the value of expert knowledge and make it quickly mastered. This technology is capable of the following: independently modeling the educational process; using the existing knowledge base and dynamically accumulating it (using both traditional and innovative knowledge); automation of the learning strategy of each individual student; automation of accounting for the arrival of new information, etc. However, despite the convenience of this technology, it has not yet been widely used by modern higher education institutions in Ukraine.

Thirdly, these are interactive programs, which include graphs, charts, diagrams, drawings, etc. The use of additional graphic materials in the educational process makes it possible to transfer information to students at an improved level, which greatly facilitates its analysis and assimilation.

Fifth, these are multimedia technologies - combining of several means of presenting information in one computer system: text, sound, graphics, animation, video, illustrations (images), spatial modeling. Other forms of multimedia, such as presentation of information in the form of slides and magnetic recording, interactive video and video production, have been used for a long time. But the term "multimedia" became popular relatively recently, in connection with the appearance of powerful inexpensive computers equipped with monitors with great operational capabilities. Currently, there are personal computers capable of working with sound and video information, manipulating it to obtain special effects, synthesizing and reproducing sounds and video information, creating all kinds of graphic information, including animated images, and combining all this into a single multimedia presentation. The educational process using multimedia tools is exciting because they simultaneously affect several senses and, therefore, cause increased interest and sustained attention of the audience [13].

Sixth, there is virtual reality, which is implemented with the help of multimedia and the illusion of presence in real time. In virtual reality, illusions of the user's location in the virtual world are created.

Seventh, it is the Internet that gives a new impetus to the educational process. The global Internet network provides all participants in the educational process with access to masses of information stored in different parts of the world. With a gadget in hand, a student can study from any corner of the world thanks to the Internet. And in this aspect, the Internet network should be divided into subdivisions, taking into account the educational process: the general Internet network (search system); Moodle (electronic student account); social networks (TikTok, Instagram, Facebook); messengers (Telegram, Viber).

The specificity of Internet technologies is that they provide enormous opportunities for choosing information sources: basic information on network servers; operational information sent by e-mail; various databases of leading libraries, scientific and educational centers, museums; information about CDs, video and audio materials, books and magazines distributed through Internet stores. Means of telecommunication (e-mail, global, regional and local networks of communication and data exchange) provide the widest opportunities for learning, in particular: prompt transmission of information of any volume and form over different distances; interactivity and operational feedback; access to various sources of information; organization of joint telecommunications projects; request information on any issue through the electronic conference system [13].

The active introduction of innovative information technologies into the educational process of higher education institutions, and their replacement of traditional technologies, led to the emergence of a whole series of scientific studies, which we will dwell on. Innovation in education is necessary: to solve those pedagogical problems that have been solved differently so far; as "the result of a creative search for original, non-standard solutions to various pedagogical problems"; as systemic new formations emerging on the basis of various initiatives; as products of innovative educational activity, which are characterized by the processes of creation, distribution, and use of a new tool in the field of scientific research [7].

In the general sense, the word "innovation" translated from the Latin language means the introduction of a new, replacement of the old, certain renewal of the existing system. In the educational process, innovation acts as a certain update of the system, which improves the progress and results of student learning. Also, innovation can be considered as a certain process (replacement of a system or activity, partial or large-scale) and the very product of this activity. Thus, it can be distinguished that

innovative information technologies used in the educational process are purposeful, systematic, and consistent implementation of the latest techniques, methods, actions of the teacher in the pedagogical activity, which cover the entire educational process and lead to certain results of student learning.

Innovation in education is the process of creating, implementing, and spreading in educational practice of new ideas, tools, pedagogical and management technologies, as a result of which the indicators (levels) of achievements of the structural components of education increase, the system transitions to a qualitatively new state [3]. The word "innovation" is ambiguous, as it consists of two forms - the ideas themselves and the process of their practical implementation [6, p. 338-340].

In general, it can be noted that innovation represents novelties that improve the education system and introduce information technologies into it, which improves the quality of education in higher education institutions, especially considering the martial law of the country and the distance learning format. Very often, the term "innovation" is equated with novelty, the essence of which is the creation and use of a new product that will satisfy certain needs of society as a whole or of an individual. However, innovations in education necessarily aim at the successful implementation of a certain activity and an effective end result.

Having considered traditional information technologies, and based on the research of scientists regarding innovative information technologies in the educational process, we can distinguish three stages of its path. The first stage is the use of computers or any interactive gadgets that organize the educational process of all its participants. The second stage is the introduction of the Internet into the educational process and the integration of traditional educational processes towards informational side. The third stage is the introduction of the latest information technologies into the educational process, and their replacement of the traditional system of functioning of higher education institutions, and namely at this stage the wide use of information technologies in education, the introduction of distance learning, various forms of electronic learning, etc. takes place.

In particular, the emergence of the latest information technologies is due to the emergence of computers and the Internet, which makes it possible to effectively introduce and use them in the educational process. The creation of a virtual higher education institution enables the participants of the educational process to use all the resources of the institution from any corner of the world. The Internet facilitates the communication of all participants in the educational process. The main formats of such communication are as follows:

- E-mail, social networks, instant messengers, which provide an opportunity to exchange messages at any time and from any place;
- A teleconference using Skype, Zoom, or Google Meet, which makes it possible to conduct classes with all students who are in different cities, thus making the educational process continuous.

Innovative activities in education are specific and quite complex, requiring special knowledge, skills, and abilities. The introduction of innovations is impossible without a teacher-researcher who possesses systemic thinking, a developed capacity for creativity, and a formed and conscious readiness for innovations. A significant impetus for the development of innovations was the use of information technologies for conducting lectures, which involves the use of multimedia presentations to accompany the presentation of theoretical material and electronic lectures. Accompanying lectures with presentation materials makes them more visual, concentrates the attention of listeners thanks to the visual presentation of the material, stimulates its memorization, and increases the amount of presentation of educational information. The use of electronic lectures, which are presented in the format of a web document, makes it possible to save lecture time. These resources have a

convenient structure, the possibility to navigate and search for information; they are characterized by a logical system of presentation of theoretical material with the selection of the main terms and provisions, and are distinguished by the accessibility of the material available in them. Electronic lectures make it possible to transfer the study of simple (but very important) theoretical material to the plane of independent work of the student [6].

Let us emphasize the implementation of information technologies for conducting various classes (lectures, seminars, practical, etc.), which include the following advantages: saving time in submitting materials (presentation of theoretical material on the Moodle platform); the opportunity to do homework at own pace and at any convenient time; improving the quality of independent work and its control, successful implementation of the student's individual trajectory, etc. Information technologies in the educational process significantly improve the capabilities of both the teacher and students, unnecessary time is not spent on the construction of graphic material, there is constant communication between the student and the teacher, the content of the disciplines is updated in a timely manner, and so on.

One of the innovations that have been used in education relatively recently is a webinar. A webinar is an online conference that can be conducted by one or more presenters, and there can be up to a thousand participants. And this is really a convenient form - firstly, the student can connect from any place, or view the recording later, secondly, nothing is needed except an Internet connection and a gadget.

It is also appropriate to mention the innovative technology of web-quest - this is a problem task with elements of a role-playing game, for the implementation of which information resources of the Internet are used. I. Sokol considers the quest as a technology that has a clearly defined didactic task, a game concept, necessarily has a leader (mentor), clear rules and is implemented with the aim of improving students' knowledge and skills of the 21st century [9, p. 28-32].

Experience shows that the web quest has six components. First, the teacher sets a topic and creates a problem situation. Secondly, the teacher verbalizes a specific task within the framework of the selected topic, which is understandable, interesting, and feasible. Thirdly, the teacher selects and offers students a list of links to Internet resources in advance. At the next stage, students begin the process of searching for the necessary information on the Internet, using the description of the work procedure that each student must perform during the independent completion of the task (stages). After that, students should prepare a presentation of the found and processed information, which can be implemented in any form (slides, Internet pages, etc.). At the fifth stage, the teacher can make a guide to action (how to organize and present the collected information), which can be presented in the form of questions that direct and organize the educational work. The final, sixth component of the web quest is the evaluation of the work performed by the students themselves. Evaluation criteria may be different (for example, by presentation time, originality, innovation, etc.). The basis of web quests is the project method, which is focused on the independent activity of students - individual, pair, group, that is carried out over a certain period of time. This method is organically combined with a group approach to learning (cooperative learning). The project activity is most effective if it can be connected with the program material, significantly expanding and deepening the knowledge of students in the process of working on the project. The project method always involves solving a problem. Solving a significant problem contributes to the fact that it is possible to switch the attention of students from the form of expression to its content [9].

The implementation of the latest system of the educational process, which is oriented towards entering the European educational space, requires from Ukrainian higher education institutions global changes in the innovative direction in the training of modern graduates. And in our opinion, the decisive

moment in the implementation of innovative information technologies in education is the uncompromising replacement of the function of the teacher, who should cease to be a translator of knowledge and a rigid controlling body, and instead should become a teacher-manager who guides students and consults and develops together with them.

And in this aspect, it is very important not to lose the quality of education, but, on the contrary, to improve it. Therefore, it should be noted that the quality of education in higher education institutions in the process of transition of the educational process to information technologies depends primarily on how all work processes are established in the conditions of the distance format. In this format, it is crucially important to take into account several factors: the appropriate infrastructure of higher education institutions; stable Internet connection of all participants of the educational process; competence of teachers in matters of information technologies (both traditional and modern).

4 Conclusions

Thus, summarizing the above, it can be stated that the strategic task of the state today is the modernization of higher education in Ukraine at the level of international standards. And the fulfillment of this task becomes possible under the condition of improving pedagogical skills and introducing the latest information technologies into the educational process. That is why information technologies have already actively entered the field of education and require all participants in the educational process to take appropriate actions for their adaptation in the system.

Taking into account the close connection between a person's level of education and his professional development, the introduction of information technologies into the educational process is gaining more and more relevance. And the solution to this problem requires from us, first of all, joint efforts and mobility around the reconstruction of the system of higher education during the period of martial law, and, accordingly, its complete transition to a digital format.

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INNOVATIVE METHODS OF UPBRINGING PROCESS MANAGEMENT IN SECONDARY EDUCATION INSTITUTIONS (IN UKRAINIAN CONTEXT)

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Abstract: The authors substantiate the need for the development and application of modern scientific and theoretical approaches in education management, updating the principles, forms, and methods of management activities that correlate with the requirements of the New Ukrainian School. Scientific approaches (humanistic, competence-based, systemic, axiological, acmeological, environment-based), which define a set of research principles and methods, as well as design the conditions for the implementation of innovative methods of managing the education process, are identified as the leading ones within the scope of the study. Modeling of innovative methods of managing the educational process of a secondary education institution based on a functional approach was carried out. A complex of innovative management methods that ensure the implementation of functions - diagnostic, prognostic, planning, organizational, control, pedagogical analysis, coordination and regulation - is highlighted. It is proven that the management of the educational process will be effective if the use of innovative methods is considered as a subsystem that is consistent with the defined educational problem of the school, the selection of methods of influence, interaction, adequate to this problem, if it corresponds to the capabilities of the institution. The result of the empirical study shows that the rate of coordination of the actions of various educational institutions, the informal approach to conducting educational activities has significantly increased; motivation in the activities of class supervisors (emergence of interest in the original, creation of conditions for self-realization) increased; democratic relations deepened, the right to resolve issues, opportunities to become a leader of student self-government bodies improved.

Keywords: education management; innovative methods of managing the educational process; informal approach; New Ukrainian School.

1 Introduction

In the conditions of globalization, informatization, integration of Ukrainian national education into the European and world educational space, the transition to new educational standards, the role of management of educational institutions is growing as one of the defining links in its reformation - ensuring the international quality of education, implementing entrepreneurial approaches to its functioning, regional and interregional cooperation, solving problems of equality, openness.

Socio-economic transformations taking place in society necessitate the modernization of management activities on the basis of innovation [32]. In view of this, there is a need to develop and apply modern scientific and theoretical approaches in management, to update the principles, forms, and methods of management activities that correlate with the requirements of the New Ukrainian School.

Substantial changes in all spheres of life in Ukrainian society led to the issue of radical restructuring of the education of students in general secondary education institutions.

Information materials of the Ministry of Education and Culture of Ukraine (2021) state that the educational process in the New Ukrainian School is an integral part of the educational process in educational institutions (Article 15 of the Law of Ukraine "On Comprehensive General Secondary Education") and should be based on universal values, cultural values of the Ukrainian people, values of civil (free democratic) society, principles of the rule of law, observance of the rights and freedoms of man and citizen, principles defined by the Law of Ukraine "On Education" [29]. The priority of the field of education in this direction requires restructuring of its management, which will ensure high efficiency of the educational process. This determines the relevance of research of the problem of

implementing innovative methods of managing the upbringing process, aimed at increasing its effectiveness.

In the conditions of distance learning, there is a problem of finding ways of interaction of the educational process participants. And while there were experiences in management activities for the distance learning process, the organization of upbringing in educational institutions was left out attention. In connection with this, a need to develop new management methods that would ensure the full functioning of the upbringing system of an educational institution in a distance form arose.

The basis for the research is scientific concepts from the theory and methods of management of educational institutions by Ukrainian scientists L. Kalinina, O. Kiridan, L. Sergeeva, L. Sushentseva, V. Andreyenkova, I. Beh, T. Vashchenko, M. Shevtsov, and V. Stoykova are working on topical issues of educational work; management of the educational process is considered in the works by S. Bondarenko, T. Rabchenyuk. The problems of the organization of the educational process in the conditions of distance learning is covered in the scientific investigations of R. Gurevich, V. Parkhomenka, V. Stoikova, L. Grynevych, L. Ilyich, and N. Morse.

Analysis of the works of Ukrainian scientists dedicated to the theory and practice of education management (V. Kyrychenko, I. Otamas, L. Sergeeva), current trends in the management of educational institutions in the context of globalization changes (N. Muranova, T. Rozhnova, I. Sidanich), managerial activities of the head of educational institution (L. Martynets, O. Marmaza, L. Danylenko), testifies to the different views of scientists on the concept of "management". G. Yelnikova considers management as a special type of human activity in the conditions of constant changes in the internal and external environment, which provides a purposeful influence on the managed system to preserve and organize it within the given parameters based on the laws of its development and the action of self-management mechanisms [36]. Regarding the management of the educational process, it can be considered as a purposeful influence on the activities of the school team to ensure the maximum result in education.

There is currently no single definition of the concept of "management methods". Summarizing the views of scientists, V. Pikelna considers this concept as a way of influence of the management system on the managed one [23]; E. Hrykov defines management as orderly ways of learning and transforming the managed subsystem, aimed at creating the conditions necessary for the implementation of the educational institution's goals [8]. The author rightly emphasizes that management methods by themselves cannot be optimal outside of specific conditions. And therefore, during their development and use, it is necessary to establish the need for managerial influence, carry out modeling in the system of methods - search for methods adequate to the problem, as well to separate alternative methods and compare their effectiveness (possibility and consequences), to compare the chosen methods with the existing conditions (time, resources, microclimate, opportunities, skills), and choose the optimal method [8, p. 25].

In pedagogical science, several classifications of management methods of educational institutions have been developed. In particular, they are defined by the following criteria: management functions (prognostic, planning, organization, control, stimulation) [14]; areas of managerial activity (organizational-pedagogical, social-psychological, administrative-economic, management of the educational process) [33]; taking into account the nature of the source of information (verbal, research, illustrative-indicative, technical-technological, methods of management activity of the manager) [5]. O. Marmaza differentiates management methods according to two criteria: organization management methods and activity management methods. The first group of methods provides conditions for

social activity of people (methods of organizational-stabilizing, organizational-technological, organizational-management influence and social-psychological management methods). The second group of methods is activity management (methods of performing functional tasks, methods of creative work, methods of self-management) [20]. So, the basis of the classifications proposed by scientists is the dominant factor affecting the management process. Undoubtedly, the system of management methods is directly related to the quality indicators of the organization's management and activity. It is worth noting that when choosing methods of interaction, it is necessary to take into account the specifics of each type of activity.

However, the analysis of scientific and pedagogical research, methodical and practical experience proves the insufficiency of theoretical and empirical studies regarding the use of innovative methods of managing the educational process in the conditions of distance learning in secondary education institutions.

The complexity of solving this problem is exacerbated by the following contradictions: between the traditional methods of managing the educational process of general secondary education institutions and the current need for their renewal; between potential opportunities for the education of the student's personality in general secondary education institutions and the lack of mechanisms for their implementation in the conditions of distance learning; between the needs of society regarding the formation of valuable life skills in students and the lack of development of innovative methods of managing the educational process of general secondary education institutions in the conditions of distance learning.

Within this context, the purpose of the article is theoretical substantiation and experimental verification of the effectiveness of using innovative methods of managing the educational process in secondary education institutions using the distance form of education.

Research hypothesis is formulated as follows: management of the educational process will be effective if the use of innovative methods is considered as a subsystem that is consistent with the defined educational problem of the school, the selection of methods of influence, interaction, adequate to this problem, and if it corresponds to the capabilities of the institution.

2 Method

Theoretical methods included analysis, synthesis, induction, deduction, generalization, systematization to reveal the essence of the concept of innovative methods of managing the educational process in secondary education institutions in the conditions of distance learning; modeling to reflect the process of using innovative management methods in education. Empirical methods included the following: observation, survey (questionnaire, conversation, interview), testing, method of expert evaluations, self-evaluation, experiment to check the conditions that ensure the effectiveness of the researched process; determining the significance of the obtained results, their probability and objectivity.

3 Results and Discussion

The Concept of the New Ukrainian School emphasizes that a strong state and a competitive economy will be ensured by a united community of creative people, responsible citizens, active and enterprising. One of the ways to solve this strategic task is to update the management of the educational process of general secondary education institutions, which will ensure the formation of a creative personality with an active life position, with appropriate moral and ethical, patriotic traits, capable of innovation, competitiveness in the labor market, lifelong learning. That is why innovativeness, openness to the new is interpreted by pedagogical science as a defining characteristic, first of all, of the management chain and its subjects.

Pedagogical practice, focusing on development, without a sufficient theoretical base, embarked on an innovative

“swimming” in search of effective models of education. Their creation at the empirical level caused, first of all, the diversification of the content of education, the nature and structure of which determined the type of educational institution and, accordingly, the structure of the intra-school management system [37]. So, at the beginning of the new, 21st century, large-scale innovative processes in education unfolded.

The concept of “innovation” is interpreted differently in pedagogical literature. The word “innovation” is of Latin origin and means “updating, changing, introducing something new”. In the pedagogical interpretation, novelties that improve the course and results of the educational process are called innovation [37].

Innovation can be considered as a process (large-scale or partial system change and corresponding activity) and a product (result) of this activity. In the sense of the product of activity, we define innovation as original, new approaches, methods of pedagogical actions and appropriate means.

Pedagogical innovations significantly affect the educational system (school). The changes concern primarily such components of the educational system as the purpose, school teachers, structural and content system, management subsystem, external relations. Therefore, according to R. Sheludenko and O. Maron [28], the factors of the development of innovations within the named structural components are innovations in the field of awareness of the purpose of the system, changes in teachers' beliefs and their positions, structural and substantive changes, management transformations, changes in the system of external relations, changes in the method and nature of performance evaluation.

The development of innovative processes in educational institution is ensured by the following conditions: constant attention of management to issues of change and development; orientation in management to methods that lead to effective changes; constant process of feedback and willingness of teachers to engage in self-education; incentives for development and innovation in key areas of development [13].

The main motives affecting the development of innovations are: purposefulness; conditions supporting readiness for change; economic prerequisites; awareness of the need for development; competition; impartiality; structural readiness of the organization; creative approach; a positive example; self goal; ambition, etc. [11].

Thus, innovations are a condition for the progressive development of the educational institution and the teaching staff.

Innovative management methods should be based on the directions of innovation of the management activity of the educational institution' head. Scientist A. Romanchuk defines them as follows: conceptuality in the management of the institution; targeted approach to management; psychologization of management; modeling of the management structure, creation of fast-acting technologies and mechanisms of management activity; construction of a mobile structure of horizontal connections; bringing management functions in line with the tasks of the educational institution; reflexivity of the manager's activity; managing the quality of education and developing new approaches to determining the effectiveness of the pedagogical process; computerization, technologization of management; adaptation of the achievements of management science in the social and industrial spheres to the management of an educational institution [26].

Taking into account the principles of selection of innovations, namely, perspective, intensification, dynamism, flexibility, democracy, humanism, integrativeness, realism, integrity, controllability, economy, relevance [20], we singled out methods that will contribute to the formation of an effective management system of an educational institution. These methods are aimed at the education of the individual, ensuring the quality of the educational process.

It is worth highlighting modern approaches to the management of educational institutions, in particular, taking into account the experience of other countries in educational management [33, p. 260]. The most relevant is participative management, which is based on the optimal use of human resources, the participation of a team of like-minded colleagues in this process, putting forward proposals, developing alternatives, and choosing the final solution.

That is why we highlight the method of expression of opinions (conversation, generation of opinions, expertise, sample surveys, etc.); generation of ideas (brainstorming, synectics method); decision-making (tables of decisions, comparison of alternatives); method of dialogue, discussion [21].

Current areas of educational management include facilitative management (from the Latin "facilitation", "assistance"), which creates conditions for the manifestation of the professional abilities of team members, the implementation of their potential opportunities, and ensures success of activities. Management support (accompaniment) is carried out through cooperation, initiation, warning about negative consequences. Motivation methods are actively used here (stimulation, creation of a creative field, motivational control) [8].

We will also outline the analytical method (system analysis, economic analysis, SWOT analysis); assessment method (risk, chance of effectiveness, innovation), forecasting methods (expert method, analogies, comparison of alternatives, Delphi method, simulation models), argumentation methods (presentations, dialogue, negotiations), the method of creating research creative groups, methods of creating conditions for the professional growth of teachers, methods of regulating the social and psychological climate in the team, intra-school culture. Moreover, time management should be mentioned - a technique aimed at improving the efficiency of using not only time, but also the individual's own capabilities to solve everyday production and life problems [33, p.265].

Thus, innovative methods of managing the educational process can be considered as purposeful interaction, mutual influence of process participants, which is based on innovative principles, approaches, content, means and is aimed at achieving optimal final results.

It is also worth outlining the educational problems, the solutions of which are relevant in the modern socio-pedagogical situation.

Among the main ones, there are manifestations in the school environment of such a negative phenomenon as bullying, that is, cruelty and violence among children. The main factors of its popularization are the promotion of the cult of power and cruelty in the mass media, the reduction of the educational potential of the family, the disruption of interaction between the school and the family, and the spread of examples of antisocial behavior.

Prevention and overcoming of this phenomenon can be carried out by developing socio-psychological skills in students, which will contribute to social cohesion, improvement of adaptation to life circumstances, restoration of psychological stability, development of humane relationships between peers.

Emotional alienation of adults and children gives rise to psychological problems in the latter, such as loneliness, fear, anxiety, insecurity. Inquiries about violence and child abuse are on the rise.

The development of informatization and computerization of society has a negative effect on the formation of the student's personality. The departure from reality, the creation of a virtual environment - virtual "friends", virtual "communication", virtual "life" - is especially threatening for children. Prevention of deviant behavior, delinquency, and crime among minors is an urgent problem that needs to be solved and paid attention to by pedagogical teams, families, and the public.

The priority direction of education at the current stage is national education - the formation of Ukrainian civic identity, military-patriotic education, aimed at forming citizens' readiness to defend Ukraine, preserving and strengthening the health of schoolchildren, formation of ecological culture of the individual, caring attitude towards the environment, confirmation of universal and moral values in the mind of a schoolchild, formation of respect for dignity, rights, freedoms, legitimate interests of a person, a citizen [29].

It is worth noting: the implementation of an educational process that as much as possible simulates the classroom learning (video conference mode), the use of innovative learning technologies is acceptable, but they are not sufficient for the implementation of education in the conditions of distance learning. In order to touch the child's soul, this process should be bright, attractive, original, unpredictable, using various methods of influence. Here it is important to create conditions for self-realization, self-affirmation of the individual, involving him in interactive activities as much as possible.

Modern scientists are convinced that the competent selection of the system of management methods affects the qualitative indicators of the school's activity, in particular, the results of education. That is why the conditions under which the selection of management methods will effectively influence the educational process of the school were determined.

We consider the system of methods of managing the school's educational process as a set of interconnected, mutually determined methods of mutual influence, interaction at all stages of its management, aimed at achieving the educational goal of the team. A systematic approach to management involves awareness of the purpose and tasks of education defined by state documents, clear adherence to the principles of education, determination of goals, tasks, content, forms and methods of education on diagnostic basis, ensuring the unity of the educational influence of all participants in the educational process: teachers, students, parents, public organizations. Here one should also mention determination of priority areas of education, creation of conditions for educational work, competent management of the education process, analysis of education results (moral values, position, social activity).

The development and use of innovative methods of education management should be based on innovative approaches to this process, in accordance with the modern needs of society. Scientists distinguish among them humanistic, resourceful, dialogic, person-oriented, axiological, acmeological, personological, competence approaches. Accordingly, the functions of managing the educational process in secondary education institutions, as well as methods of management in the conditions of a distance format, should acquire an updated content. In modeling the system of management methods, the primary task is to construct a list of actions aimed at the implementation of management functions. In the structure of management of the upbringing process of the educational institution, T. Rabchenyuk singled out the following functions: forecasting, planning, organization, control, pedagogical analysis, coordination, and regulation [25]. We have supplemented this list with the function of diagnosis, since it is advisable to forecast the process based on the study of previous results, and taking them into account to determine the problem, formulate goals, tasks, etc.

Thus, one of the tasks of management is diagnosis - studying the state of the institution's upbringing work. The main thing at this stage is to determine the level of upbringing of students (online survey, conversation, interview, observation, etc.). The activities of all management subjects is analyzed, in particular, how the educational process is coordinated by the deputy director for educational work, how methodical services affect the effectiveness of the educational process, how cooperation with the family, the public is organized, how interaction with student self-government bodies is carried out; also, the work of the psychological service, class supervisors is analyzed. The result of the diagnosis should be an outline of positive results in the

organization of the educational process and shortcomings that cause problems in upbringing. The next step is the formulation of educational goals, specified in tasks.

At this stage, a group of management methods is used: research methods (questionnaires, interviews, online surveys, studying the best experience of teachers in education problems, etc.); analytical method (system analysis, economic analysis, SWOT analysis); illustrative and indicative methods (modeling the structure of the organization of the educational process, building graphs, tables, matrices for studying the level of education of students, professional training of teachers for educational interaction) [6];

Realizing the prognostic function, the administration of the institution, the entire teaching staff in relation to the purpose of education are guided by state documents, primarily the Law of Ukraine "On Full General Education", according to the provisions of which the education process should be based on universal, cultural values of the Ukrainian people, values of a civil, free democratic society, the principles of the rule of law, observance of the rights and freedoms of a person and a citizen. The strategic goal is specified in the tactical goals of the school team, taking into account the educational problems of a specific school and conditions (socio-economic, material and technical, personnel). At this stage, the main methods of management are: the method of expressing opinions (conversations, generation of opinions, expertise, sample surveys, etc.); generation of ideas (brainstorming, synectics method); decision making (decision tables, comparison of alternatives).

The main tasks of managing the educational process at the planning stage are the coordination of the predicted actions of various educational institutions: this is the planning of educational work according to the priority directions of education (national, patriotic, civic), measures to counter various forms of violence, prevention of the manifestation of various forms of addiction, measures to promote health and maintaining a healthy lifestyle, etc.; educational activities of the school library, planning of the educational work of class supervisors; work schedule of groups, clubs, sections, electives, activity program of student self-government bodies; planning the work of the parents' committee, methodical work on education problems (work of creative groups, teachers' clubs, master classes, etc.). The main methods at the planning stage are mathematical statistics, control, regulation and correction, decision theory, expert assessments, theory of algorithms, analysis, game theory, argumentation methods (presentations, dialogue, negotiations), dialogue, discussions.

During the implementation of the administrative function of the school upbringing process, the selection of personnel for educational work, outlining of optimal forms, methods, means of educational influence, creation of conditions for successful educational work, promotion of development of children's, youth, public organizations, improvement of teachers' professional skills are provided for [25]. At this stage of management, innovative methods will be appropriate: the method of creating research creative groups; the method of creating conditions for the professional growth of teachers; method of regulation of the social and psychological climate in the team, intra-school culture.

Implementation of the control and analytical function of managing the educational process is ensured by the following methods: control, self-control, analysis, self-analysis, evaluation, self-evaluation. Control is carried out on the basis of the systematic and high-quality implementation of educational work in the priority areas of upbringing, the effectiveness of education is studied and analyzed - the level of upbringing of students.

The function of coordination and regulation involves identifying shortcomings, difficulties, problems at various stages of managing the educational process and determining ways to overcome them. An effective method when implementing this function is SWOT analysis, which has a wide range of uses. Its essence is the division of factors and phenomena that affect the

functioning and development of an educational institution into four categories: strengths, weaknesses, opportunities, and threats. Application of this method will make it possible to identify problems and ways to eliminate them [18, p.164].

Thus, modeling innovative methods of managing the educational process of an educational institution based on the implementation of its functions makes it possible to consider this process as a subsystem of the educational process management system in general.

Research and experimental work was carried out on the basis of the Communal Institution "Vinnytsia Technical Lyceum". Students aged 14 to 16 from the first to the fourth year study here in the following areas: physics and mathematics, the basics of modern business, and information technology. A total of 440 students study at the lyceum. The teaching staff of the institution are young, creative, talented teachers with a high level of professional competence, capable of innovative activities. Most of them are teachers by vocation, professionally motivated, endowed with high moral qualities. Most of them are winners of regional and All-Ukrainian contests "Teacher of the Year", "Class Supervisor of the Year", winners of regional and international grants. A special feature of the management of this institution is the careful selection and placement of personnel. As a result, a team of like-minded people was created in the lyceum, where creativity of thoughts, innovativeness of ideas is supported, and initiative is encouraged. In connection with the quarantine restrictions during COVID-19 pandemic, the management activity of the institution was aimed at implementing the goal of upbringing in the conditions of a distance format. The educational process takes place on the basis of defined educational goals, tasks, content, forms, and methods. The main goal of the lyceum is education and development of gifted and capable children, promotion of enrichment of intellectual, creative, cultural potential of Ukraine. The main tasks of the lyceum are the following:

- Upbringing of a citizen of one's community, the Ukrainian nation, the world with awareness of its diversity and unity, understanding of universal values through the prism of national culture;
- Provision of basic general educational training, which includes the development of the child as an individual, his inclinations, interests, abilities, self-determination, self-realization with further study at a higher educational institution;
- Providing lyceum students with opportunities to implement their individual, creative needs, possessing a system of knowledge and practical skills and abilities in scientific, research and experimental, design, inventive, rationalizing activities, certain types of professional training, folk crafts, working with equipment and new technologies;
- Formation of responsibility to society for natural giftedness;
- Formation and selection of creatively gifted and capable children;
- Development and testing of new content of education, methods [4].

Management of the education process is carried out on the basis of innovative approaches: dialogic, personality-oriented, axiological, competency-based ones. This made it possible to use various innovative methods of managing this process during the implementation of all management functions.

The research was aimed at verifying the assumption that the management of the upbringing process will be effective if the use of innovative methods is considered as a subsystem that is consistent with the defined educational problem of the school, the selection of methods of influence, interaction, adequate to this problem, corresponding to the capabilities of the institution. At the beginning of the academic year, an analytical group was created from the number of teachers, who determined that an important problem in the upbringing of lyceum students is the implementation of this process in a remote format. The teachers

emphasized that in the conditions of military operations caused by Russian aggression, without live communication, students distance themselves from each other, distance themselves from the educational environment created in the lyceum, where they usually draw strength, feel themselves in the family circle. Therefore, the efforts of all management institutions of the lyceum were aimed at creating conditions for the development of a personality that would not lose, but, on the contrary, improve the skills of communication, self-realization, self-affirmation in the circle of lyceum students and beyond. Subjects of the management of the educational process discussed the creation of an educational environment in the conditions of a remote format, where every lyceum student would be in an atmosphere of positivity, creativity, success, psychological comfort, and interest.

Based on the use of the marketing research method, surveys, simulations, and observations were used to create an information and analytical base. With the help of this method, we determined the attitude of students to teachers, to the quality of service provision, etc. One of the methods of collecting qualitative data is a focus group. This technology makes it possible to establish the motivation of 'consumers', to see options for perception/attitude to a certain problem, etc. The following types of focus groups are distinguished: Peer groups (mini-groups); Nominal groups; Conflict groups; Creative groups; Brainstorming; Landing groups; Delphi groups [12].

Based on the collection of original ideas regarding the implementation of the goal of education, a network of educational activities was arranged, which reflected the system of upbringing work of the lyceum. The administration of lyceum clearly defined the responsibilities of everyone, taking into account the possibilities and preferences of teachers in the organization of educational work with students. Consultations, briefings, master classes were held to effectively ensure the education process. The organization of educational work was based on original thoughts, novelty, and creativity. An example can be the prepared online project-presentation "Let's get to know each other" for first-year lyceum students. The institution's administration supported the original unusual project. For an interesting introduction to first-year students, each teacher created an avatar/character for himself that reflected his inner world. Here it was important to convey the specifics of the inner world to the students. The idea of the teacher's presentation is to show oneself as a person with own preferences, interests, hobbies through an avatar/character. For example: "My avatar reflects my inner world. You can see a dog next to me, I love animals, I have 3 cats. I also volunteer at an animal shelter. You can also see an unusual dress, I will share it with you. My hobby is dancing".

The fraternization of first-year students with teachers was very interesting. Some students expressed their attitude towards teachers in the form of emoticons, others - in poetry, songs, witty expressions. The administration of lyceum together with the bodies of student self-government presented prizes in original nominations.

The most important goal we set at the initial stage of a student's stay at an educational institution is to create a lyceum family so that students feel protected and are the center of attention of teachers and peers. In the conditions of distance learning, this becomes almost impossible, but a way out was found. Communication of children not only with classmates, but also with all students of the lyceum is extremely important in terms of communication and acquaintance. We have offered the most comfortable form for getting to know each other, where all students can reveal themselves, while learning more about others. The topic of the meeting is "Me and the Lyceum". First, all students enter the common ZOOM, where 8 rooms are already open. Each room is assigned a topic to talk about, for example: 1. My favorite clothes vs school uniform. 2. Top 3 things (without which I am not me). Things that I will definitely take with me to the lyceum. 3. Food (meals at the lyceum). 4. Traditions (traditions that exist in the lyceum and in my family).

5. My experience (a story about becoming a lyceum student). 6. Educational process and various curiosities (a story about lyceum life). 7. My rest (how I rest). 8. My hobbies (groups that one can attend at the lyceum and which hobbies I have).

The leader explains to the students that they can visit 5 rooms and talk about various topics. In each room, there is one teacher who is responsible for a certain topic. In this way, one student alternately chooses 5 topics for exchange of opinions, at his own discretion, learns more about the educational institution and the students who study there. There is a fixed time of stay in the rooms (15 minutes), after which the participant moves to another room and so on 5 times. After going through all the rooms, the students return to the common hall in ZOOM, and the moderator sums up the results. Also, the teacher can tell important general facts about the lyceum, or provide information that everyone needs to know.

Press conference "Lyceum through the eyes of experts" is also interesting approach. Holding a press conference for students of the 1st year is motivated by the fact that the adaptation period of the students should pass as comfortably as possible. They have a unique opportunity to ask questions that concern them - to better understand what awaits them, what difficulties they may face and how to overcome barriers. First of all, it is necessary to find experts who will 'broadcast' knowledge and experience. We suggest that it should be the director, teachers, psychologist, graduates, student self-government. Their task is to provide detailed answers to various questions of students. All participants of the press conference connect to ZOOM. The presenter explains what will happen, making sure to emphasize that the press conference format provides a unique opportunity to ask questions that bother the students, but they do it in ZOOM chat rooms with the microphones turned off so as not to create a mess. Students will be able to talk to each expert, but questions must be prepared in advance. From the common hall, the students go to the rooms, discuss the question for 20 minutes, then the expert changes in the room, and this happens as many times as the number of experts involved.

Then everyone joins the common hall, the presenter summarizes the conversation, informs that there is an opportunity to ask questions or suggestions anonymously (if necessary) on the Lyceum website.

We proposed to create an anonymous site where both teachers and students can offer their own ideas, complain, and ask questions. As it is known, most people cannot criticize or express a negative opinion openly, but if the criticism is constructive, then it is extremely important. That is why we created an anonymous window that will help to openly express own thoughts and ideas. In this way, the administration will be able to control the climate within the team, be at the center of events (both positive and negative), implement interesting ideas of students, solve problems and help overcome difficulties (<https://apps.apple.com/ru/app/f3->)

For the distance format, such a form of educational work as a quest is common. First of all, the form of the quest ensures the achievement of an entertaining and informative goal. If to set the goal correctly, with the help of a quest it is possible to unite students, inform them of new information, strengthen research interests, etc.

Our main goal is to create a single team that works towards the implementation of the goal. We offer several platforms for conducting quests in distance learning conditions: Padlet, Kahut, Surprise. me, Urban Quest Quiz Whizzer.

The example is quest "Save Ukraine". Everyone who wants go to ZOOM. The presenter tells the story - for example, "criminals from the future stole a time machine and returned to the past to destroy Ukraine. You, dear high school students, will have to stop the criminals and save Ukraine!"

The story should be touching, real, so that the participants immerse themselves in it and be maximally motivated to go up

to the end. After the announcement of the story (which is accompanied by a corresponding presentation), a QR code with a link to the quest in the padlet appears on the screen of the participants. There are 5 stations in total, and 3 tasks to be solved at each station. The next station will open only after solving the tasks.

The tasks can be very diverse: from the study of interesting facts from the biography of famous people who influenced Ukraine's independence to important dates in the history of Ukraine. Also, quest stations can be filled with current events, thus enabling students to learn about artists, poets, athletes, and politicians. After completing all the stations, the teams gradually return to the common hall. It is important to maintain the interest of participants until everyone returns, and online games that the presenter shows on the screen (for example, zoom bingo) will help here. After the return of all participants, the presenter once again emphasizes that everyone worked for a common goal - to save Ukraine, sums up the game.

The decisive role in the management of the school's upbringing process belongs to information and computer support. For effective work in the information space, a register of information platforms, services, programs, which are interesting for organizing and conducting educational work, was created.

Organization of communication is carried out in messengers Viber, WhatsApp, Telegram, Slack, management of educational group work – in Microsoft Teams, Granatum, Training Space, participation in conducting quizzes is ensured in Kahoot!, Socrative, Plickers, Quizizz, Quizalize, Mentimeter, visualization tools are presented in Visme, Easel.ly, Google Charts, Piktochart, Venngage, Canva; Survey tools Classtime, Mentimeter, Kahoot!, Poll Everywhere, Google Forms, EDpuzzle, ClassMaker, tools for creating presentations - in Prezi, Moovly, Emaze, Beautiful, virtual digital whiteboards are used in WikiWall, Tutorsbox, Glogster, Dabbleboard, Twiddla, Scribblar, Padlet, Educreations, Popplet, Realtimeboard (Miro), Twidd. Training was also conducted with teachers on the use of various applications.

An example of an educational event held at the Lyceum is "Study and Discern" (organizers are members of the student self-government). To provide an interactive environment, the AltspaceVR platform was used in 3-D format - effective for interactive interaction in mixed reality. AltspaceVR makes it easy for artists, creators, brands, and businesses to create their own virtual events. Expressive avatars, contact persona, surround sound and immersive virtual environments allow people to appear as if they were far away from each other. In order to understand how to navigate in the information space and not fall into an information trap, one needs to have a certain plan of action, understand how to check the authenticity of a particular post, find the original of a fake photo, etc. That is why the participants of the event received advice on critical evaluation of any information and methods of its verification. During the event, participants looked at fake news, photos, learned to recognize videos about the evil world syndrome, analyzed situations.

In the educational institution, approaches to the organization and implementation of methodical work have changed. At the beginning of the year, the question of creating creative groups on a voluntary basis arose, and therefore these groups were different by the number of participants. The administration of the institution stimulated the presentation of innovative ideas regarding the activities of the creative group throughout the year. Stimulation methods are as follows: thanks, presentation of "Idea Generator" nominations. Management support was partnership, cooperation, initiation. During the generation of ideas, it turned out that the content of the activity should be provided by problem-based learning, using interactive game technologies.

The head of the institution together with the group leader helped each group in developing an action strategy - in particular, "Teacher activity in the conditions of the New Ukrainian School

(NUS) (primary one, 5-9 grades)". Non-standard ideas regarding the activity of a teacher in the conditions of NUS were collected and discussed. In addition, colleagues were informed about how it is possible to improve in this direction in the conditions of informal education, namely about courses, webinars, conferences, trainings, workshops. Colleagues are also involved in participating in the international events for professional development. The discovery of the creative group "Prevention of all types of bullying and mobbing" is the organization of joint activities of the school, parents, and children. The joining of all institutions to overcome these phenomena emphasized that it was the head of the lyceum who initiated the partnership and interaction of the relevant institutions in overcoming negative phenomena.

The results are given below.

Research and experimental verification of the effectiveness of using innovative methods of managing the educational process was carried out on the basis of the Communal Institution "Vinnytsia Technical Lyceum". The following persons participated in the experiment: 5 representatives of the administration, 40 class teachers, 211 students, 207 parents, 15 members of the methodological association, 15 members of student self-government. The participants of the experiment, through self-assessment, determined the degree of manifestation of individual indicators of educational work and upbringing before and after the experiment (5 points). The results shown in the table (Appendix A) indicate that the coordination of actions of various educational institutions, the informal approach to conducting educational activities increased significantly with an indicator of * $p < 0.05$ (Crit - 1.86) (according to the Student's coefficient).

Among class teachers, indicators (emergence of interest in the original, creation of conditions for self-realization) probably increased; the students' desire for self-education probably increased. Accordingly, in members of the methodological association, an indicator of mastering new methods, approaches to upbringing, participation in webinars, master classes, parents have probably increased: relations with teachers, student self-government bodies have improved, indicators of democratic relations, the right to resolve issues, providing opportunities to become a leader probably increased.

The results of the experiment are summarized in Figure 1. Change of views of representatives of the administration (in points from 1 to 5) (Appendix A), Figure 2. Changing the attitudes of class supervisors (Appendix B), Figure 3. Change of students' views (Appendix C), Figure 4. Change of views of methodical association members (Appendix D), Figure 5. Change in parents' views (Appendix E), Figure 6. Change of views of members of student self-government (Appendix F).

Quantitative analysis of the research results is presented in the appendices in the form of tables.

Summarizing the results of the experiment in general, it is possible to state the positive dynamics of the impact of the used innovative methods of managing the upbringing process during the pandemic at the lyceum.

4 Conclusions

The analysis of the theoretical foundations of the researched issues made it possible to model innovative methods of managing the upbringing process of a secondary education institution based on a functional approach. A complex of innovative management methods that ensure the implementation of functions - diagnostic, prognostic, planning, organizational, control, pedagogical analysis, coordination and regulation - is highlighted [27]. To implement the management functions of the upbringing process, a group of modern methods is outlined, which are defined according to the content of the functions: analytical method (system analysis, economic analysis, SWOT analysis); assessment method (risk, chance of effectiveness, innovation); forecasting methods (expert method, analogies,

comparison of alternatives, Delphi method, simulation models), argumentation methods (presentations, dialogue, negotiations); the method of creating research creative groups; methods of creating conditions for the professional growth of teachers; methods of regulating the socio-psychological climate in the team, internal school culture); time management (methods aimed at increasing the efficiency of use of time and the individual's own capabilities).

The conditions under which the use of innovative methods of managing the upbringing process will affect the results of education have been defined, substantiated, and experimentally verified. In order to check the effectiveness of conditions, a method of using innovative methods of managing the upbringing process has been developed, which is a set of interrelated elements: goals, tasks, content, forms, and methods. The methodology was implemented in accordance with the principles of dialogue, democracy, openness, and creativity.

Experimental verification of the conditions that ensured the effectiveness of the use of innovative management methods in the upbringing process of educational institutions proved their efficiency and effectiveness. At the same time, the performed research does not exhaust all aspects of the problem. The problem of this organization in extracurricular activities needs further consideration.

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Primary Paper Section: A

Secondary Paper Section: AM

Appendix A

	M	m	M	m	p
1. Coordination of actions of various educational institutions	3.10	0.71	4.77	0.54	1.87*
2. Creation of conditions for the implementation of the educational goal	3.20	0.80	3.40	0.60	0.20
3. Formal, informal approach to educational activities	2.20	0.32	3.60	0.50	2.36*
4. The interest of the parent community in the problems of upbringing	2.00	0.50	2.30	0.60	0.38
5. Appropriate psychological climate in student groups	3.60	0.70	3.90	0.90	0.26

* p<0.05
(Crit – 1.86)

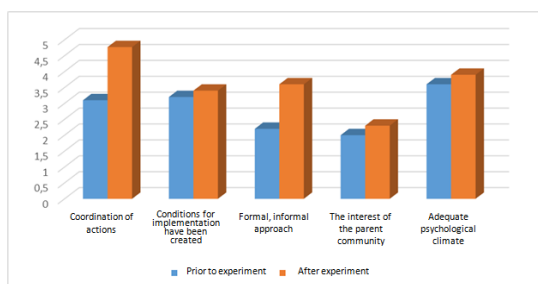


Figure 1. Change of views of deputy directors (in points from 1 to 5)

Appendix B

	M	m	M	m	p
1. Educational work is based on the implementation of the principles of education (upbringing)	2.60	0.60	2.80	0.70	0.22
2. Emergence of interest in the original	2.80	0.50	4.40	0.60	2.05*
3. Conditions have been created for self-realization, self-affirmation	2.10	0.40	3.30	0.45	1.99*
4. Traits of patriotism, citizenship	2.90	0.58	3.10	0.60	0.24
5. Instilling moral qualities	3.30	0.62	3.40	0.55	0.12

* p<0.05
(Crit – 1.7)

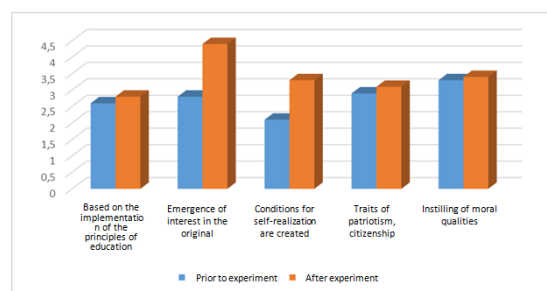


Figure 2. Change of views of class supervisors (in points from 1 to 5)

Appendix C

	M	m	M	m	p
1. I can defend my opinion, position	2.30	0.44	2.60	0.42	0.49
2. Attitude towards bullying	3.20	0.52	3.40	0.62	0.25
3. The attitude of the teachers	2.00	0.40	2.30	0.42	0.52
4. Striving for self-education	2.40	0.35	3.40	0.42	1.83*
5. I think about what is better to do - good or evil to another	2.10	0.32	2.20	0.50	0.17

* p<0.05
(Crit – 1.62)

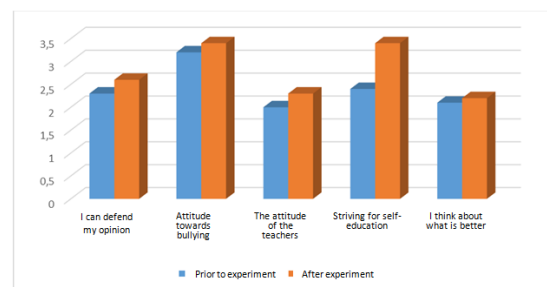


Figure 3. Change of students' views (in points from 1 to 5)

Appendix D

	M	m	M	m	p
1. Improve skills, move away from stereotypes in work	3.10	0.56	3.96	0.60	1.05
2. The desire to change something in education	2.00	0.30	2.20	0.33	0.45
3. To master new methods, approaches in education	2.40	0.45	3.45	0.44	1.67*
4. Participation in webinars, master classes	2.50	0.38	3.60	0.48	1.80*
5. Effectiveness of creative groups (focus groups)	1.90	0.32	2.20	0.35	0.63

* p<0.05
(Crit – 1.66)

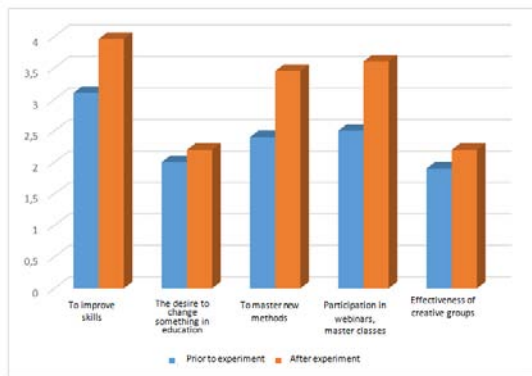


Figure 4. Change of views of methodologists (in points from 1 to 5)

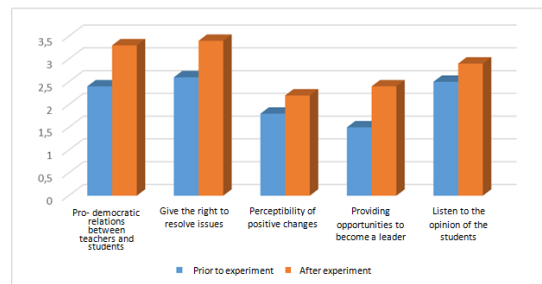


Figure 6. Change of views of members of student self-government (in points from 1 to 5)

Appendix E

	M	m	M	m	p
1. Change of attitude towards the child	1.80	0.22	1.94	0.24	0.43
2. Communication with the child	1.50	0.20	1.60	0.21	0.34
3. Interest in education issues	1.40	0.20	1.65	0.22	0.84
4. Establishing relationships with teachers	1.80	0.25	2.60	0.32	1.97*
5. I want my child to find himself in something	3.50	0.52	3.90	0.55	0.53

* p<0.05
(Crit – 1.62)

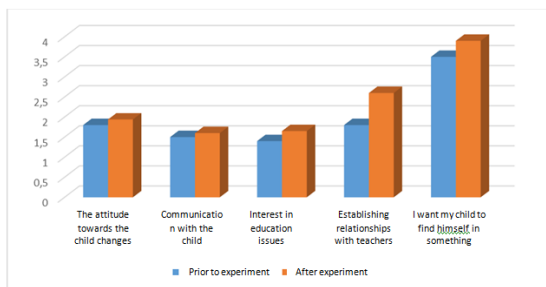


Figure 5. Change in parents' views (in points from 1 to 5)

Appendix F

	M	m	M	m	p
1. Pro-democratic relations between teachers and students	2.40	0.25	3.30	0.34	2.13*
2. Give the right to resolve issues	2.60	0.30	3.40	0.31	1.85*
3. Perceptibility of positive changes	1.80	0.20	2.20	0.25	1.25
4. Providing opportunities to become a leader	1.50	0.20	2.40	0.35	2.23*
5. Listen to the opinion of the students, agree with it	2.50	0.32	2.90	0.35	0.84

* p<0.05
(Crit – 1.66)

CONCEPTUAL TRANSFORMATIONS OF ETHNODESIGN IN UKRAINE, WITH REGARD TO THE PROCESSES OF GLOBALIZATION AND THE INTRODUCTION OF DIGITAL TECHNOLOGIES

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Abstract: In the work, it is determined that the processes of globalization, characteristic of modern society, require an understanding of the problems of national revival, a reflection of the manifestation of the features of national culture in modern ethnodesign. Therefore, the study of its phenomenon in the system of ethno-cultural values as an important component of culture is relevant, because namely design affects the formation of the mentality of both an individual and the people in general. The role of ethnodesign as an element of culture in the context of globalization and multicultural transformations, in particular against the background of glocalization processes, is studied. It is shown that design today acts as a kind of intermediary, reproducing the peculiarities of the functioning of objects, things in the sphere of culture, performs sociocultural functions, increasing the value characteristics of the environment with its works. Conceptual provisions for the development of Ukrainian ethnodesign as a creative modernization of traditional artistic forms, creation of a cultural image and a national brand as a tool of soft power in the conditions of globalization are suggested.

Keywords: artistic culture; ethnodesign; artistic practices; ethnoartistic traditions; cultural creativity.

1 Introduction

One of the essential components for nation-building, attainment national sovereignty, and achieving distinctiveness is ethnic culture. It is a feature that helps set one country apart from another. According to some authors, culture will overtake other assets as the most competitive one in the global economy [32]. As the world grows increasingly interconnected, buyers will look for unique goods with a strong sense of place. In addition to thinking of culture as a resource and a launchpad for design innovation, designers will need to think about how to build or design value.

Design created on the basis of ethnocultural motifs, or ethnodesign, is a global trend today. In connection with the processes of globalization, it is important for a designer today, even when solving local design tasks, to remember social responsibility and solve the problem of preserving and developing positive intercultural interaction. In addition, design expands not only geographical boundaries, but also the boundaries of its influence, from the formation of a subject-spatial environment to an axiological, worldview function. "The designer's responsibility lies in the fact that the environment he creates influences the consciousness and worldview of the subjects. The tasks set by the customer are not the only guideline for the designer, since design in a broader context is part of culture and forms universal human norms and values" [16].

A comparative-typological study of national cultures, the study of the stages of the artistic culture of different peoples confirms the general regularities of the world's socio-cultural processes, despite certain chronological and geographical differences. The historical determination of cultural phenomena is largely manifested in works of art, design, advertising, etc. At different stages of the development of society, the ratio of national and international in culture changed. Nowadays, in the era of mass communications and mass tourism, the development of culture, in particular mass culture, cannot take place in isolation, but the mutual influence and unification of compositional forms and means can be traced in a certain way. In the conditions of globalization, there are trends of a certain rapprochement of

cultures, similarities of the customs of different national groups, consonances in the cultures of different peoples are revealed. But this should not mean deprivation of national specificity, but, on the contrary, its preservation and enrichment.

Ethnic design, according to researchers, is a design activity to create modern forms of the material environment using traditional elements of the culture of a certain ethnic group. Ethnic design corresponds to the semantic and aesthetic characteristics of a particular ethnoculture and uses the national flavor characteristic of the traditions of a particular people [32]. Also, ethnic design is interpreted as an artistic movement that arose as an alternative to the technocratism of modern life, determined by the desire to preserve the originality of folk culture [36]. Ukrainian researcher A. Brovchenko in his research calls ethnodesign one of the areas of modern art. Ethnic design became a cultural phenomenon of social life of the 20th century and does not lose its relevance at the beginning of the third millennium [7]. In Ukraine, the formation of ethnodesign took place at the beginning of the 20th century thanks to the interaction of professional designers and folk craftsmen.

Moreover, in Ukraine, the concept of ecological thinking in design has recently acquired a new meaning: it is not only a solution to technological, utilization, environmental protection, social problems, but today it is also a solution to ethno-cultural problems in the context of ecological protection of own culture from foreign elements. Modern art historians and culturologists consider folk culture to be the ethnic environment, the basis of spirituality, the Tree of Life, on which the worldview and creativity of the people should develop, reinforcing the Ukrainian national style [25].

Creating a national style in design is the most difficult task for a designer. Over the centuries, stable Ukrainian national images and symbols have been formed, which consumers subconsciously identify with Ukraine - a sunflower, a pumpkin, a viburnum, a cherry, a towel, a wreath, an embroidered shirt, red boots, a white hut, painted ceramic products. Among the favorite heroes and motifs in decorative and applied art, one can name a Cossack bandurist, the Tree of Life, a bird on a viburnum, a vase of flowers. However, nowadays the motifs of national symbols, ornaments, and colors are often mechanically transferred to design products and become visual stereotypes. Therefore, there are many negative examples in both printed products and outdoor advertising. Such "folklorism" or tribute to fashion does not contribute to the true development of ethnodesign traditions.

Yurii Legenkyj notes: ethnodesign is a new paradigm of vision of a complex of folk, craft, and professional culture. The development of design with ethnic elements indicates a new period in the cultural development of Ukrainians, which must inevitably break through the layer of universalism. Design shapes a person and influences him, his psyche and behavior. The development and implementation of a new ethnostyle, ethnoartistic traditions, cultural creativity should lead to the revival of elements of traditions, rituals, and the desire to identify with the Ukrainian people [18]. However, it is very difficult to give national features to design objects and not to exaggerate the "pseudo-nationality". In Ukrainian design developments, one can often see the direct borrowing of peasant art motifs and their superimposition on beyond-national objects.

In this regard, it is also important to emphasize that the rapid development of digital technologies and artificial intelligence has not just a significant, but a paradigm-shifting influence on design, including ethnodesign, practices.

With the integration of technologies like 3D printing, augmented and virtual reality, artificial intelligence (AI), and virtual and augmented reality, the design business is fast expanding [28; 29]. With the introduction of innovative technologies like

artificial intelligence (AI) and generative design, which may produce everything from graphics to poetry, technology's influence on the design sector will only increase. Even more chances arise with the introduction of new cutting-edge materials and technologies like 3D printing. These procedures let designers produce stronger, lighter, and more ecologically friendly designs. The possibilities are boundless when paired with ever-more-powerful software and computers [20].

Digital technologies are now widely used due to the advancements in artificial intelligence, big data, and other information technologies. Liang and Cong [18] discuss the case of China. They asserted that in addition to steadily developing deeper cross-cultural exchanges and contacts, China has recently witnessed additional increases in fundamental social competition and ethnic cohesiveness. Enhancing ethnic and cultural identification, strengthening ethnic and cultural identity, altering the national image, and protecting and passing down traditional ethnic culture are all benefited by the digitization of traditional apparel and accessories. Based on this, the authors present a case study of a leather coat from the Northern Wei dynasty, which is part of the Xilin Gol League Museum in Inner Mongolia. Three-dimensional digital software was utilized to finish tasks like designing, cutting, and producing grain effects on clothing pieces. Subsequently, a virtual try-on presentation was conducted using the Style 3D software, which improved the preservation and inheritance of traditional apparel and accessories.

Digital arts-inspired ethno design is a unique and really promising path. The creative embodiment serves as a special intercultural and interdisciplinary instrument for the author's artistic experimentation, showcasing the designer's talent and professional self-realization. The theme of the work is precise, relevant, rich, and diverse. In this context, it should be noted that the potential of folk traditions as a source of design creativity is inexhaustible. A special place in them is occupied by a complex of ethnic symbols, sign systems that reflect the worldview of the ethnos. Namely the signs and symbols, rapports of ethnic patterns can easily be "digitized" [37].

In the most general sense, design is a practical art, artistic projecting (construction) [27]. The design is based on technical aesthetics as the key to harmonizing relationships in the triad "person – object – environment". This is not only visualization, but also the technologization of ideas. At the University of Laval (Quebec, Canada), studies are devoted to similar topics, for example, "Ethnodesign: a dialogue between craft and contemporary design" by Beaulieu. The author reveals the ambiguity of the concept of ethnodesign from the perspectives of: 1) the connection between the past and the present, 2) the relationship between craft and design, 3) the significance of handmade work, 4) ensuring sustainable development, 5) contribution to the development of industries. These projections are not isolated from each other, but create a back-and-forth motion. Design draws inspiration from craft, while craft is renewed through design [3].

Thus, the ethnic is looking for new ways of implementation and renewal through design. At the same time, "ethnic" has become a commodity and is becoming fashionable in some places; design has long turned from a way of following fashion into fashion itself. The combination of "two fashions" in one movement creates a condition for resonance, but at the same time it undermines the old foundations, according to which ethnicity and its symbols were considered the sacred property of the people and were not thought of as "for sale". In a short time, the commodification and souvenirization of ethnicity occurred, and this effect is directly related to ethnic design.

There is a risk that ethnodesign can become a tool of "desacralization", and later devaluation of ethnoculture, the emasculation of its inner meaning, i.e., become, in fact, the profanation of this culture, which means its destroyer.

Among the types of modern design creativity that have been formed and, accordingly, are currently in demand by culture, one

can note: industrial design, graphic design, computer design, architectural environment design, landscape design, exhibition design, clothing and accessory design, art design. Design is perceived simultaneously as a product of culture, and as a tool of cultural construction, and as a factor that actively shapes culture. Design activity, in this way, should combine beauty and expediency, the organization of a coherent object world, technical and aesthetic beginnings, in accordance with the level of development of the material and spiritual culture of modern society [5, p. 26].

The phrase "ethnodesign" embodies the artistic-aesthetic, artistic-culture, ethnoartistic traditions, ethnic, constructive and technological components of modern design. Ethnic design, if to consider it as a general field of interaction between science (ethnography) and practical art (technical aesthetics), can be perceived as the territory of "scientific art" [32]. At the same time, ethnodesign today acquires other dimensions – in particular, geopolitical ones, becoming a tool of "soft power".

In modern Ukraine, in addition to the desire to gain stable positions on the global design market, there are also internal motives for using images of folk art in design activities. In the national space, the need for self-identification emerged acutely, and, therefore, a need to turn to traditional art as one of the factors that helps unite society arose. Thus, today the motifs of folk art are extremely important, as they not only play a cultural role, but also contribute to the strengthening of citizenship, reduce geopolitical risks.

2 Materials and Methods

When studying the problem of ethnicity, the authors proceeded from an integrated approach to the socio-philosophical analysis of the phenomenon under consideration. A constructivist method was also used, implying the study of ethnicity as a "constructed" representation. The methodological basis of the study was the methods of comparative analysis, logical-inductive and deductive methods, as well as methods of analysis and synthesis, dialectical and structural-functional methods, theories of constructing sociocultural space, the principle of historicism and system analysis. The study uses political science concepts - the theory of globalization and the theory of soft power.

3 Results and Discussion

Although there has always been a tight relationship between design and culture, design is frequently presented as the only indicator of culture rather than as being within the social context of that culture. The statement that "[design] has become the embodiment of a larger process of creative 'culture-mongering' that has become a means to capture ideation, innovation, and enterprise and made to stand for cultural identity" is provided by Carson [8, p. 3] in support of this claim.

At the nexus of design thinking (human-centered), circular design (environmental), and culturethinking (behavior-centric) lies ontological design. Considering the long-term effects that goods and services have on consumers as social beings is made possible by this approach. Consequently, design tracks consumers' social development [32].

In modern culture, there is a mixture of styles, the space and time of birth of which determines the ideographic identity of various ethnic groups. Ethnic design originated in the Art Nouveau era and manifested itself, first of all, in following the tradition of shape-making, which is based on specific ethnographic material. By studying the features of the organization of artifacts, the designer seeks to identify those basic (dominant) ideas that underlie them and are guides to the world of meanings of ethno-cultures. Thus, the relevance of the development of ethnodesign, in addition to aesthetic and artistic value, is due to the unique opportunity to "enter" into the world of historical experiences and sensations caused by turning to ethnic images. Design practices of working with ethnographic material involve studying the organizational features of the visual pattern of a particular culture. In contrast to historical,

archaeological, cultural, and other studies, the designer strives, first of all, to identify the features of form-building that determine the method of constructing an ethnocultural model. Artifacts that have the richest symbolic and semantic content become the basis for creating objects in the ethno-style, in which ethno-images not only receive a new interpretation, but also take on a rebirth, are included in the rhythms of modernity, “connect the threads of times and cultures” [10].

The phrase “ethnic design” embodies the artistic, aesthetic, ethnic, constructive and technological components of modern design. This type of design is widespread in interior design, clothing and accessories. The means of ethnodesign are figurative and expressive means common to design and the plastic arts: color, proportion, texture, shape, point, volume and space, but from the point of view of ethnic identification. These elements are combined on the basis of historically established principles of composition characteristic of a particular nationality: movement and rhythm, symmetry and asymmetry, balance and dynamics. Harmony of related and contrasting solutions (in color, in proportions) as typical means of art are basic in ethnodesign. The most important thing in the artistic design of “ethnic products” is the dependence of the shape of the product on the design, materials used and production technology, since for the manufacture of most folk products, natural materials and a special production technology were used, which is the highlight of a particular nationality.

Globalization, however, is leaving its mark. So, for example, Ukrainian embroidery modernizes along with changes in society, fashion trends, and the very purpose of some embroidered products changes. In particular, Ukrainian embroidery can decorate covers for portable equipment, boxes, women's handbags, and window curtains. The types of ornaments are also changing, new patterns are appearing, modern embroidery materials and techniques are used. Although the embroidered products have a modern look, the embroidery gives them a sense of nationality and traditionality. Women's handbags, clutches with Ukrainian embroidery, belts decorated with bead embroidery, handkerchiefs, scarves, shawls decorated with ethnic patterns look interesting. The Ukrainian wreath deserves special attention. While the traditional wreath had to be made of symbolic flowers, with ribbons, and was worn only by young girls, the modern wreath is a hair rim decorated with various artificial flowers (far from traditional bouquets, for example, roses, orchids), and such an accessory decorates the heads of not only young girls, but also adult women. Thus, global trends in fashion and style have a direct impact on ethnodesign. Of course, this applies not only to the design of clothes and accessories, but also to the design of interiors, landscapes, etc.

Globalization processes have created a new socio-cultural environment where there is a “meeting” of national cultures, unification of ethnic cultures, devaluation and destruction of ethnic diversity. There are also opposite trends - transculturalism and the search for self-identification, which are reflected in art, forms of cultural and everyday traditions, artistic and project culture, and in the field of design. After all, namely the design related to everyday spheres affects the formation of the mentality of both an individual person and the people in general. At the same time, ethnodesign awakens interest in national “archaic” and is able not only to shape the visual experience of a modern person, but also to define the national style of thinking, to teach sensory mastering of the modern subject environment [6].

National identity is largely determined by national culture, and not only and not so much by the “high” elitist culture, but by precisely those things that are close, understandable, and necessary for every person. In the age of globalization and the “erosion” of identity by Western “mass culture”, the importance of this factor for the preservation of identity is only increasing. Actually, only those nations that have their own cultural alternative will “survive” in the modern world [30].

Such authors as A. Appadurai, Z. Bauman, P. Berger, G. Ritzer, S. Huntington, and others point out that ethnicity today not only does not disappear, but, on the contrary, ethnic differences,

while remaining significant, move to a fundamentally new level, turning ethnicity into a “new ethnicity”, making it an important component of everyday life [2].

There are two processes going on simultaneously in the world – unification and diversification. Unification is a feature of the Modern era: things, places, procedures, institutions are unified. Diversification is a feature of the postmodern era: people, objects, practices, opinions are diversifying. At the same time, bottom-up cultural influences have become a very noticeable phenomenon. In the focus of attention, there is either resistance to globalization, or (in a less dramatic form) ways of perceiving and mastering (and appropriating) global cultural phenomena within local communities (which remain local in certain aspects) [12].

To denote the interaction of the local and the global, R. Robertson proposed the concept of “glocalization”, in which at least three aspects are distinguished [26]: 1) everyday, routine human ingenuity; people of the “periphery” somehow adapt, change and in their own local way they seem to recreate global cultural borrowings; 2) specificity is inevitable not only because of resistance to globalization; simply responding to the globalizing culture and its conductors, local communities involuntarily emphasize their own uniqueness and originality, for which they even invent traditions for themselves; 3) constructing local exoticism for tourists is a successful marketing strategy for local culture.

The era of globalization with its imposed templates of Western mass culture could not but cause an identity crisis. And it is no coincidence that the struggle in the field of culture determines the essence of the era. An indicator of the struggle for cultural identity can be namely the process of the above-mentioned glocalization taking place in our time. This concept is formed from the combination of two words - “globalization” and “localization”. The meaning of glocalization is that in the period of globalization, when the power of national states transferring sovereignty to various supranational structures is weakening, such phenomena as increased interest in local differences, growing interest in the traditions of ancient times and the revival of dialects become increasingly important. Glocalization has given rise to such a phenomenon as the “return of ethnicity”, that is, the revival of almost forgotten historical cultural traditions. This sometimes takes on semi-comical features when, for example, they try to create rock music with lyrics in ancient dialects, or when they try to celebrate artificially recreated holidays. But it should be admitted that in a number of historical provinces of European countries there is indeed a revival of traditional applied art. And it is about preserving own national identity. These processes are also observed in Ukraine, especially after the start of the hybrid war of the Russian Federation against Ukraine in 2014, which became a catalyst for the rapid rise of national self-awareness and its expression in culture. If to look at the essential description of glocalization in comparison with globalization and localization (see Figure 1), it becomes clear that today's Ukrainian ethnodesign fits precisely into the concept of glocalization.



Figure 1. Meaning of glocalization [15].

Modern design develops in the conditions of the spread of globalization processes, which eliminate individual, ethnic, and national characteristics, directing human needs to universal, uniform, sometimes impersonal standards. In these circumstances, ethnodesign is perceived as one of the vectors of

humanization of the environment. The current achievements of the fashion industry, the design of the urban environment, interiors, in particular the furniture industry and decor, the film industry confirm the success of using such a tool as traditional folk art. Ethnic motifs, ornaments, color combinations, images, creatively reinterpreted and stylized, allow creating a unique product that satisfies the individualized needs of the consumer. Olena Ponomarevska [23] claims that ethnodesign conflicts with the globalized economy, since the demand for such products, with some exceptions, remains within the country of manufacture. However, some world and regional geopolitical processes obviously deny this opinion.

As it is known, the key elements of modern cultural diplomacy are material and spiritual objects of national cultural heritage. In today's world, the sphere of culture has become a real battlefield for states wishing to establish their hegemony in the world, and for states trying to maintain sovereignty. Using "soft power," and in particular its cultural influence, the hegemonic country seeks to change the cultural codes of other countries and replace them with its own code or encourages local political and cultural elites to develop their own mythologized false codes. A coherent approach to the phenomenon of ethnicity allows to fully consider it as one of the resources of "soft power", which has currently acquired the character of an ambiguous multi-level concept with a wide interpretative diversity [13]. The ethnic component remains in high demand within the framework of soft power policy. Therefore, relying on basic national cultural values, protecting national geocultural security, and the policy of "revitalizing" cultural heritage make it possible to implement important social and political tasks in modern society, and ethnodesign can play an important role here. For Ukraine today, in the context of full-scale aggression by the Russian Federation and related information and propaganda operations of the enemy within the framework of information warfare, this is especially important. Thus, the cultural heritage embodied in ethnodesign is not only an important part of historical memory and historical consciousness, but also the most important system-forming factor contributing to the formation of a sense of pride in the achievements of ancestors, continuity of generations, evidence of the vitality of society in both the cultural and political spheres.

The direct influence of culture on geopolitics is manifested in the protection of national cultural interests as part of the implementation of a general policy to promote and protect the country's national interests as a participant in international geopolitical processes and relations [11]. It is carried out through external state cultural policy, maintaining national cultural diversity based on the principle of equality and equal value of all cultures for the world community. The basis for differentiation of cultures is the awareness of the value basis for each culture. In the 1960s of the last century, P. Blau drew attention to this, noting that the value context of culture is not only a means of shaping social relations and common values in a broad sense, but also acts as "... a connecting link of social associations and interactions" [4]. As a result, namely cultural norms determine the field of political interaction between participants in international relations, because they are based on cultural identity, which forms the collective expectations of participants in geopolitical processes in the international arena [17].

Therefore, design, having become an important part of culture, from the point of view of artistic processes of style formation, becomes increasingly more complex and multi-layered. The actualization of ethnic tradition in project culture led to the expansion of the boundaries of the concept of "ethnic style".

In the process of uneven development of territories in Ukraine, two ideological platforms were formed: industrialized Eastern Ukraine gravitates towards international style, while Western Ukraine is based on national style, rethinking ethno-traditions and their use in design and advertising. This is an important specific feature of Ukrainian cultural tectonics, which is expressed in differences in mentality, artistic practices, value priorities, as well as in the peculiarities of consumption. As an alternative to globalization processes with their desire for

standardization and assimilation of cultural features in design, processes of self-identification of the nation were actualized [25].

In the diversity of design, the concepts of shape formation are of particular interest: a) in the triad "function – material – technology" (G. Semper, F. Reuleau); b) in the projection of the utilitarian purpose of a thing, the correspondence of form and function: "what is convenient is also beautiful" (functionalism of the Bauhaus school); c) based on internal structures and combinations of materials in the name of the unity of man and machine (in constructivists' understanding). While "styling" (giving a spectacular appearance) in American design of the 1930s (R. Lowy and others) was guided by commercial motives, the German Ulm school, continuing the Bauhaus line, developed a systematic approach to design at the intersection of scientific and technological progress and aesthetics. Its leader in the 1950s and 1960s, T. Maldonado, convinced that the illusory aesthetics modeled by artists would inevitably be replaced by the beauty of the real world. Criticizing the vastness of design, he insisted on aesthetics: "Our society is not content with making a commodity out of every work of art, it wants more. It wants every product to be a work of art" [36], which can be observed in modern Ukrainian ethnodesign in the landscape of globalization, digital technology and, to some extent, also sustainable development.

Appeals to design as an art were complemented by its intersections with science, which is quite explainable by the accumulation of design experiences, the need for their comprehension and orientation towards the future. The subject of study was design thinking itself - reflection of design.

The idea of design thinking was formulated by economist and control systems theorist Simon in his book *"The Sciences of the Artificial."* On the one hand, he considers design as a property of thinking and a phase of decision-making; on the other hand, he reveals the features of design thinking with its metaphorical nature instead of the inductive-deductive thinking characteristic of science. This is why symbol systems (information-process systems) are "the most significant artifacts" [34]. Design thinking does not resort to analysis, but to a creative solution that is influenced equally by objects (real and symbolic) of the environment and the internal abilities of a person. The last (anthropocentric) factor allows design to be regulated as a process of transforming existing conditions into desired ones: designers are "concerned with how things should be... to achieve goals and desired functions" [33, p.22].

Returning to the meaning of design as a "practical art", we can note that here, too, any project of any significance encourages art and science to symbiosis or to dialogue, where science is explained mostly by text, and art - by image.

Since the 1960s, countless scientific papers and experiments have explored how to help people perform "creative" tasks. Conducted research, combined with the emerging personal computers revolution, allowed companies such as Apple and Lotus to create the first digital applications for creative purposes. This movement ultimately led to the founding of Autodesk (1979) and Adobe (1982), which focused exclusively on creating tools and systems to enable creativity.

Digital tools that imitate analog tools (Photoshop, Autocad, Pro-Tools, Word) can be conditionally classified as first-generation automated creativity systems. Managing the creative process with these systems requires full human attention, and the assistance they provide in solving creative problems is limited.

In second-generation automated creativity systems, the machine is endowed with broader powers. During the creative process, people conduct a dialogue with the machine through a feedback system, and decisions are made jointly with the system. Machines take over some of the routine operations that previously required professional expertise. Today, such systems are ubiquitous, and their significance is to lower the bar of human skill to enable both experts and non-specialists to switch

their attention to higher-level problems and perform complex creative tasks with less effort.

And finally, those tools that one can work with now, represent third-generation automated creativity systems. Such systems coordinate the creative process through dialogue with a person, expand creative possibilities and speed up the time to acquire skills from novice to expert. The principles of third-generation automated creativity are finding practical application in an expanding range of creative tasks [24].

When using third-generation systems, machine and man act in a creative union. The designer determines the algorithms with the help of which the created work is formed, and then manually selects the most successful derivatives. This interaction method is called generative design, used in both experimental and real-world contexts. An example of generative design is presented in Fig. 2 below. A new pattern was created by combining several common components from Ukrainian ornaments from various regions of the nation. The pieces were then rotated and mirrored using the morphological displacement method to create a new design with archetypal characteristics. A new basic element unit can be created using the pattern. This approach resulted in the completion of multiple representative element units, as Figure 2 illustrates. The next design will make further use of these element units.

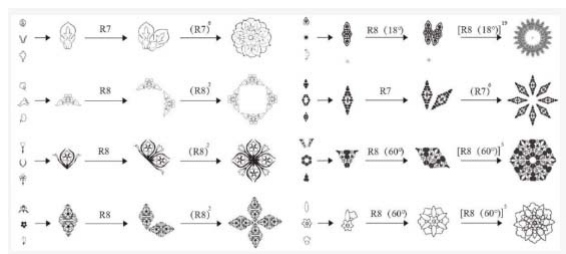


Figure 2. Basic pattern unit generation process

This is actually a capital revitalization method of regional ethnic fashion culture based on digital design method.

The most impressive examples of generative design come from industrial design and architecture. The operating principle of such computer programs comes down to the ability to generate thousands of designs. The designer's task is to select the most suitable ones or to determine such settings that will allow him to obtain the desired result.

In particular, a new development called GauGAN creates beautiful and complex landscapes from very simple sketches (circles, lines, etc.) and is used in landscape design. Users of this tool can change the original idea, modify a landscape or other image, add sky, sand, sea, etc.

In this context, it should be noted that AI ensures that designs are up to date with the latest trends, allowing designers to focus on the 'bigger picture'. The goal of using artificial intelligence in design tools is to create a better design by eliminating the need to perform repetitive or low-value tasks. Using automation enabled by artificial intelligence frees up time for more meaningful creativity.

However, it should be noted that even the use of the most modern and high-quality computer programs in the field of design cannot completely replace the designer. Otherwise, the result of an exclusively machine creation will be cliched and low-quality. The most appropriate is a tandem of a designer and a computer [31]. This allows, in particular, using a huge database of historical information and artifacts, national traditions and features in a design project.

The creation of a national design model based on folk traditions led to the creation of original art samples and allowed scientists to establish the existence of a "new Ukrainian style", which

clearly indicated the desire of the Ukrainian creative intellect to present the peculiarities of the artistic view of own nation [14].

Ethnodesign as a multifaceted concept combines artistic, technical, design, cultural, and ethnic-national features. On the other hand, ethnodesign acts as a kind of transformation of elements of national culture, in particular decorative art, into modern industrial products, that is, into ethnodesign, which combines traditional decorative and applied art with modern industrial technologies [9].

Ethnic design in modern conditions is an innovative trend in the development of cultural heritage, being a "reliable basis and foundation for the formation of the culture of the future" [21].

Thus, modern ethnodesign should successfully combine elements of solutions of traditional decorative and applied art, as well as a combination of aesthetically related colorful and graphic properties. Understanding the complexity of national traditions and bold experiments of young Ukrainian designers clearly shows the polystylistic diversity of the author's interpretations in the general line of postmodern ethnic romanticism.

Ihor Bondar [6] rightly claims that the inclusion of the culture of one or another people in the process of globalization inevitably leads to a certain unification of the means of artistic expression, which is connected not only with the spread of general functional and constructive techniques and forms, but also with certain features of a modern man's psychology of perception of culture. However, the main reason for the still weak use of Ukrainian folk traditions lies not in the Western influence, but in the weak perceived importance of local traditions in the field of modern design and the lack of clearly defined ways of their integration [1].

Meanwhile, as noted by N. Sergeeva [33], an essential indicator of the inevitable changes that have taken place in the ideology of Western design is most succinctly demonstrated by the statement of Carnegie Mellon University professor R. Buchanan: today, designers are no longer faced with the task of developing a design for a universal audience, national groups, market segments or even for such an ideological abstract category as the consumer. Although in many countries mass production still plays a special role, our current task is to create a design for a specific person in his immediate environment. The product should support a person in his desire to take an active part in his own culture, help him in finding relationships and harmony that are important for his environment. The product should represent the consumer's personal route through the labyrinth of cultural ecology. Such individualization of the object of modern design, aimed at the parallel solution of non-utilitarian problems and direct participation in the formation of a person's "dialogue", through the sense of self, with the surrounding world, ultimately, indicates the growing trends of the general socialization of design. In such an environment, namely ethnodesign acquires special significance and potential.

Countries that are leaders in the field of design today, including ethnic elements in their products, emphasize national identity, try to integrate their culture with the world and become a unifying factor of society in their country. Different fields of design use folk, ethnic culture as a source of inspiration, but today this practice is gaining popularity. Interest in popular culture becomes not only a temporary trend, but also a certain cultural policy of companies and even countries.

Today, we see the attempts of individual designers or agency heads to create a conceptual, modern, meaningful product, combining a new visual language with archetypes of folk culture. Representatives of a combination of traditional ethnic motifs with international stylistics try to apply a rational approach to solving communication problems. Conceptualism is expressed through a clear understanding of the task, the creation of a general idea, its visualization and compliance with the customer's requirements. Therefore, increasingly more ethnic motifs are used to create a nationwide, but on the other hand,

universal product, which will help integrate ethnic culture for different population groups of Ukraine and spread it around the world. Gradually, superficial citation moves towards a complex style, to the revival of folk culture.

It should be noted that ethnodesign recently has taken its rightful place along with environmental design and stylization for any period of time, where not only well-known materials are traditionally used (wood, leather, wool, paper, jute, cotton, bone, natural fabrics, metal), but also modern ones. Shift towards sustainability is observed.

It is necessary to view the modern world as a complex system. On the one hand, all barriers - linguistic, cultural, and ethnic - are eliminated by the demands of a globalized economy and the accessibility of contemporary communication tools. Thus, the scientific literature occasionally supports the theory that ethnic groupings can obstruct the further growth of a worldwide economy [38]. However, every country has centuries-old cultural traditions that shape how its representatives view and comprehend global political and social processes. Structures like the renowned Seven or the Visegrad Group, in particular, are the result of tensions between the historical experience of the ethnos and the shifting circumstances of the global socio-economic system. Taking care of the welfare of future generations is central to the idea of sustainable development. Here, the role of the ethnic groups - largely through ethnic design - is noteworthy. One of the important factors in the popularity of ethnic design is its environmental friendliness, since mostly natural materials are used to decorate ethnic interiors - wood, rattan, leather, stones, clay, metal, fabrics; and manufacturers try to emphasize their natural properties.

Sustainable design is becoming an important element of the sustainable development system. The ethnic styles have gained additional value due to the availability of sustainable raw materials such as natural fibers, natural dyes, and recycled materials, as well as sustainable chemical processing, manufacturing, and surface embellishments like hand painting, resist bases, itkat, batik, bandhi, natural dyes, and effluent treatments. Abury Champions and other groups have contributed to the growth of sustainable ethnic styles by combining their expertise with creativity in design. Ethnic styles have a tremendous opportunity to coexist with modern fashion concepts, and generation transitions (Gen Z and X) might be considered as good influences.

Environment design has always remained open to experiments with ethnic motifs. Ethnostyle is also in demand in the world due to purely practical features, namely environmental friendliness, because designers, as it was mentioned above, when creating interiors, mostly use natural materials - wood, rattan, leather, stones, clay, metal, fabrics. Catering establishments remain in the first place. Traditional Ukrainian cuisine has long since become a certain brand, a sign of quality, in demand both among Ukrainians and among tourists. Therefore, it is logical to emphasize the folk component in the design of the "Puzy Hut" and "Potato Hut" establishments, which are in all major cities of Ukraine. With the assistance of the design team, they are trying to create a collective image of the Ukrainian national style. In the process of designing a modern public or residential interior, international trends remain the most popular, and national flavor can be achieved mainly thanks to authentic or ethnic-style accessories and decor. The influence of folk motifs is often present in the interiors of hotel complexes built in the recreational areas of Western Ukraine [35]. Nowadays, there is already an understanding that Ukraine can be attractive in terms of both domestic and foreign tourism, therefore the use of folk motifs in various types of designs serves as an additional means of advertising and forms certain standards of aesthetic quality.

It can be argued that the formation of a national model of design is currently taking place, and scientists are stating the "new Ukrainian style", the expressive representation by the Ukrainian creative intelligentsia of the artistic worldview of its own people. At the same time, the harmonization of the subject-spatial environment should occur through the conscious, justified use of

ornaments, colors, decor, symbols, the combination of natural, ecological materials with modern materials and technologies. The concept of Ukrainian ethnodesign should become the basis for the revival of culture and spiritual values, self-identification and vision of one's place in the global cultural and artistic space. On the basis of the analytical work, the main provisions of the further development of ethnodesign should be determined, namely: form shaping as a connection between utilitarian and aesthetic in a design object, stylistic solution as a manifestation of certain ideological guidelines, the use of Ukrainian ethnic motifs as a creative interpretation of architectural, visual and decorative works - applied art.

Ethnic design in Ukraine is one of the most promising areas of design activity, as it has a strong potential to become the basis of national style and represent Ukrainian design on the world market. In addition, ethnodesign under the current political and social situation appears to be an important factor in the consolidation of Ukrainian society. Creative modernization of traditional artistic forms will contribute to the development of the national style and the establishment of the cultural image of the Ukrainian state.

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CURRENT TRENDS OF THE JURISDICTIONAL IMMUNITY DEVELOPMENT OF A FOREIGN STATE UNDER THE LAWS OF THE UNITED STATES OF AMERICA

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Abstract: The article examines the current trends in legal regulation of relations on granting jurisdictional immunity to a foreign state in the legal systems on the example of the United States of America. The author identifies the main principles of development of this institution, their reflection in the rules of law, and emphasizes the existence of problems associated with the application of state immunity in private law relations. The author substantiates the expediency of analyzing the most optimal legal positions reflected in US law and tested in international practice. The role of judicial practice in this process is shown. The article analyzes the origins of limited immunity in the United States and emphasizes the need to improve legislation and unify the rules of private international law in this area.

Keywords: immunity of a foreign state; concept of limited immunity; legal regulation of state immunity; commercial activity; property immunity.

1 Introduction

The study of the legal nature of jurisdictional immunity of States in private international law relations is relevant given the current state of political development of international relations and private international law, as evidenced by numerous situations, including court cases relating to private international law relations. Issues related to the assessment of trends in the development of State immunity in private international law are also relevant due to legal situations that constantly arise, in particular, for both Ukraine and other States of the international community. A new trend in the development of the concept of limited state immunity is, for example, the denial of immunity to a foreign state in claims arising from the exercise of sovereign power by that state if human rights have been violated in the course of such exercise (e.g., the judgments in *Flatow v. Republic of Iran 1998*, *Republic of Austria v. Altmann in 2004*).

The development of state immunity in the legal positions of foreign countries, its legal nature and legal justification are of great methodological importance for its understanding. The study of the US experience in this regard is relevant given the impact of its legal position not only on the states of the Anglo-American legal system, but also on the legal systems of the world in general, and requires not only study, but also, perhaps, imitation.

2 Materials and Methods

The methodological basis of the study is made up of general scientific methods, including the dialectical, system-structural approach, methods of induction and deduction, as well as special ones – primarily, formal-legal, comparative-legal, and historical-legal methods. The main research method is the formal-legal and historical method analysis, which are used to research current trends of the jurisdictional immunity development of a foreign state under the US laws, conceptual approaches to the main principles of development of this institution, their reflection in the rules of law.

3 Results and Discussion

There are two main concepts of state immunity in the international law: absolute immunity and functional (limited) immunity [10, p. 63-64]. According to the concept of absolute immunity, a state has judicial immunity, immunity from interim relief, and immunity from execution of a court decision, unless the state has given its consent to waive its immunity. As a rule, such consent may be contained in national legislation or international agreements on economic or trade cooperation. For example, Art. 32 of the Law of Ukraine “On Production Sharing Agreements” [16] provides for a mandatory waiver of judicial immunity, immunity from preliminary injunctive relief and

enforcement of a court decision. Nowadays, the national legislation of few countries upholds the concept of absolute immunity [1, p. 331]. American scholar, researcher of the concept of jurisdictional immunity of the state Kevin Simmons notes: “even Supreme Court Chief Justice Marshall, who was otherwise a supporter of the absolute theory of sovereign immunity, recognized that when the government becomes a partner in any commercial enterprise, it loses ... its sovereign character and acquires the character of a private person” [14].

It should be noted that the concepts of “functional immunity” and “limited immunity” are not identical. Immunity based on the division of state functions into public and private law is called *functional immunity*. The main point of the functional immunity theory is that the state, acting as a sovereign, always has immunity. If the state acts as a private person (e.g., conducts foreign trade operations and/or engages in other commercial activities), it does not have immunity. This immunity has its drawbacks: neither the doctrine, nor the court practice, nor the laws have established criteria for dividing the activities of the state into commercial and non-commercial ones. The same set of facts is interpreted differently by the courts of even the same country.

Limited immunity, in contrast to *functional immunity*, formulates a list of specific cases when a state does not enjoy immunity. These cases can be formulated by the states themselves on a bilateral or multilateral basis, as well as on a universal basis. As a result of long-standing judicial practice, certain exceptions to the principle of immunity of a foreign state have been formed, in respect of which the court exercises jurisdiction. These exceptions have been enshrined both in national laws on the immunity of a foreign state adopted in a number of countries (the United States, the United Kingdom, Austria, Pakistan, South Africa, Canada, Australia) and at the international level. First of all, it is about the European Convention on the Immunity of States of May 16, 1972 [5] and the Convention on Jurisdictional Immunities of States and Their Property, adopted on December 2, 2004 by the UN General Assembly [19], which has not been ratified by the United States. The exceptions relate to commercial contracts concluded by the state with individuals and legal entities, labor contracts, torts, and disputes over the establishment of ownership, possession and use of property. The theory of limited immunity is applied in the judicial practice of Greece, Denmark, Finland, France, Italy, Norway, Switzerland, and the United Kingdom.

Despite the fact that the concept of limited immunity is used in the national legislation of many states and enshrined in international treaties, the doctrine and law enforcement practice have not developed a unified approach to determining which state actions should be interpreted as *de jure imperii*, which grant immunity to the state, and which as *de jure gestionis*, that do not grant immunity to the state [13]. As rightly noted by Yevhen Korniychuk, “namely in the absence of evidence of the existence of general rules of international law on state immunities, the national practice of states representing the main families of national legal systems of the world becomes particularly important. This practice includes acts of the legislative, judicial, and executive branches of government. The first two of them undoubtedly deserve special attention” [9, p. 16].

The emergence of the theory of limited immunity was a response to the activation of the state's participation in private legal relations on an equal footing with legal entities and individuals. However, the state, as a special kind of entity, was above the ordinary judicial procedure - it could not be sued, its property could not be used as collateral for its participation in civil circulation. For private individuals, this state of affairs meant a de facto denial of judicial protection of their rights. Initially, the national legislation of many states allowed for claims arising from contracts and torts to be brought against states in their own

courts. In particular, in the United States, since the mid-nineteenth century, there has been a case law where the state could be sued for breach of contract, and in 1946 *The Tort Claims Act* abolished immunity from liability for torts. Over time, many states began to waive immunity themselves if the state's contracting with private parties was in the public interest.

In the late nineteenth and early twentieth centuries, the practice of a foreign state as a subject of private law and a holder of private rights became widespread among continental European countries, and later among others, including the United States, according to which a foreign state, along with other private individuals, may be subject to the jurisdiction of a local court. The *U.S. Merchant Marine Act of 1925* recognized the subordination of U.S. state-owned merchant ships to foreign jurisdiction. The subsequently adopted *Brussels Convention on the Immunity of State Vessels of 1926* equalized state merchant ships with private vessels "in respect of claims relating to the dispatch of ships and the carriage of goods" [8]. Later, the concept of limited immunity, as already mentioned, was enshrined in the European Convention on the Immunity of States of 1972 and the UN Convention on Jurisdictional Immunities of States and Their Property of 2004. As noted by scholars, "despite the fact that the first of them was concluded by a limited number of states, and the second has not entered into force, the conventions are considered as a codification of the customs of international law. They are quite actively used by states and international judicial institutions" [18].

At the end of the twentieth century, the theory of limited sovereignty was consolidated at the regulatory level and was characterized by the adoption of national laws on state immunity, the first of which was the *United States Foreign Sovereign Immunity Act of 1976* of October 21, 1976 [20] (hereinafter referred to as the 1976 Act). This Act came into force on January 21, 1977 and is still in force with amendments adopted in the 80s and 90s of the last century and at the beginning of the 21st century; it contains criteria that should be used by US courts in determining whether a foreign state has or does not have immunity. Certain provisions of the 1976 Act are included in Title 28 of the U.S. Code of Laws, entitled "Judicial System and Judicial Procedures", Part 4 "Jurisdiction and Judicial District", Chapter 85 "District Courts and Jurisdiction" and Chapter 97 "Jurisdictional Immunities of Foreign States". The titles of the 1976 Act follow the numbering of the U.S. Code. The 1976 Act defines the jurisdiction of the United States courts in actions against foreign states and the circumstances under which foreign states are immune from suit and under which their property cannot be recovered. According to the American researcher Elizabeth Defeis, this Act is the only basis for obtaining jurisdiction over a foreign state in federal courts [3]. In essence, it is "a codification of existing law governing lawsuits involving foreign states in the United States courts". The law establishes "uniform and exclusive standards to be applied in resolving sovereign immunity issues raised ... in federal and state courts" [14].

However, researchers of American law in this area note that the application of the concept of limited immunity "has not been fully effective... while this restrictive theory correctly reflected economic reality, it has been difficult to apply in practice" [13]. The main conceptual difficulties were related to the distinction between public and private actions of the sovereign, and the courts that tried to apply these distinctions reached completely contradictory results. Simmons gives the following examples. In the case of *Petrol Shipping Corp. v. Kingdom of Greece, Ministry of Commerce, Procurement Office* [14], the Second Circuit Court of Appeals held that a contract concluded by the Greek Ministry of Commerce for the purchase and shipment of grain was a non-immunized commercial act. On the other hand, in *Isbrandtsen Tankers, Inc. v. President of India* [14], the same court upheld India's defense of sovereign immunity in a claim arising out of a grain contract similar to the *Petrol Shipping* case. In the case of *Et Ve Balik Kurumu v. B.N.S. International Sales Corp.* [14], the plaintiff, a state-owned enterprise of the Republic of Turkey, whose responsibilities included the supply of meat

and fish to the Turkish army, entered into a contract for the purchase of lamb. A dispute arose, and the court ruled that the plaintiff's actions constituted commercial activity, which was not protected from the defendant's counterclaim. However, another court, in the case of *Kingdom of Romania v. Guaranty Trust Co.* [14] came to the opposite conclusion. In that case, a foreign state that entered into a contract in the United States to purchase shoes for its army was entitled to the protection of sovereign immunity because the transaction was a public act.

The 1976 Act contains declaratory purposes, which are defined as follows: "The Congress finds that the determination by the courts of the United States of claims by foreign states of immunity from the jurisdiction of such courts will serve the interests of justice and protect the rights of both foreign states and litigants in the United States courts. Under international law, states do not have immunity from the jurisdiction of foreign courts when it comes to their commercial activities, and their commercial property may be seized to enforce judgments rendered against them in connection with their commercial activities. Claims of immunity by foreign states shall henceforth be determined by the courts of the United States and the individual states in accordance with the principles set forth in this chapter" (art. 1602).

When characterizing the US Foreign Sovereign Immunities Act of 1976, one should keep in mind some peculiarities of the American legal system.

The federal structure of this country determines the existence of American law at two levels - the states and the federation. The states that are part of the United States have a fairly broad competence to create their own legislation and their own system of *common law*, which is formed by judges, not by doctrine. The jurisdiction of the courts also depends on their own legislation.

The trend in the evolution of state immunity in the US doctrine and legal practice is to distinguish between a greater number of types of immunity than in other countries, depending on its bearer (federal, state and foreign immunity) and to recognize the historically parallel development of these types of immunity, their perception in doctrine and regulation in practice as a single phenomenon with similar features - superior immunity. Specific injunctive relief varies from state to state. American courts issue orders to seize the defendant's property, as well as issue "disclosure orders", repatriation orders, and orders prohibiting the defendant from engaging in certain activities.

The 1976 law is fully consistent with the American legal doctrine of the "*long arm principle*", according to which any issue in any way (through persons and their property, territory, mere interest of the government, etc.) that affects the interests of the United States is subject to US jurisdiction.

Having common origins, the American legal system differs from English law, in particular in the status of courts in matters of foreign relations, which are dependent on the executive branch, primarily the State Department, as noted by researchers [3; 7; 9].

The U.S. Department of State in the well-known Letter of the Department's Legal Advisor J. Tate to the U.S. Attorney General of May 19, 1952 [2] supported the concept of limited immunity. This Letter, as noted by E.V. Korniychuk, played a "significant role in the development of American law approaches to the immunities of foreign states" [9, p. 21]. J. Tate noted that the United States was increasingly faced with the refusal to grant it immunity by the courts of foreign states, granting them, foreign states, full immunity. Tate offered the following conclusion at the end of the Letter: "Finally, the Department believes that the widespread and increasingly popular practice of engaging in commercial activities by governments makes it necessary to establish a practice that will allow persons doing business with them to enforce their rights in court. Accordingly, from now on, it will be the Department's policy to follow the limited theory of sovereign immunity in considering foreign government claims for sovereign immunity" [2].

Thereafter, the State Department continued to advise the courts on a case-by-case basis to determine whether to extend the immunity. If no guidance was provided in a particular case, the courts would determine whether immunity was appropriate.

In applying the concept of limited state immunity in the United States, certain difficulties arose, complicated by the unique practice that has developed in the consideration of claims for state immunity. Simmons writes: "in lawsuits against foreign states in U.S. courts, a foreign state had the option of either asserting sovereign immunity in court, making a formal diplomatic declaration of sovereign immunity in court, or making a formal diplomatic request to the State Department to "suggest" that the court dismiss the proceedings on the basis of sovereign immunity" [14]. The courts unquestioningly accepted these "suggestions" of the State Department without questioning them.

The US Foreign Sovereign Immunities Act of 1976 defines a foreign state as including "the foreign state itself, its political subdivisions, and their agencies or instrumentalities". The term "political subdivisions" includes "all governmental units subordinate to the central government, including local authorities. An agency or instrumentality of a foreign power is any organization: (1) that has a separate legal existence from the state so that it can sue or be sued in its own name; (2) that is an organ of a foreign power or is majority owned by a foreign power; and (3) that is not a citizen of the United States or organized under the laws of any third country. A foreign legal entity organized under the laws of a third country is presumed to be engaged in private commercial activity and is treated as any private enterprise (§ 1603(a)).

The law on foreign state immunity in the United States provides that states have immunity, but that there may be exceptions to this immunity in certain cases. The 1976 Act provides: a list of these exceptions and the conditions under which they are possible; the procedure for entering into a waiver of immunity and revoking a waiver already made; interpretation of a choice of law agreement concluded between parties, one of which is a foreign state; the form of a waiver of immunity agreement. It qualifies the fact of appearance of a foreign state in a domestic court, defines the procedure for "special treatment", regulates the immunity of a foreign state in connection with the filing of a counterclaim against it, as well as qualifies the activities of a foreign state.

The application of the concept of limited immunity in the United States under the 1976 Act is conditioned by *general exceptions to state immunity*, which foreign states enjoy unconditionally. These exceptions include commercial activities of a foreign state that have a connection with the United States. Under the laws of the United States, as well as the United Kingdom, Canada, Australia, etc., a foreign state is not granted immunity from enforcement actions in respect of property used for commercial (trade) purposes. The 1976 Act provides that "foreign sovereigns shall be immune from the jurisdiction of the courts of the United States except in limited specified circumstances" (§ 1604). In order to bring an action against a foreign sovereign, the case must be brought under one of the exceptions listed in the Act (§ 1605-1607). The Act provides for situations in which a foreign state engaged in commercial activities and establishing a jurisdictional nexus with the United States will not be entitled to immunity.

First, it is a waiver of immunity by a foreign state, directly or indirectly. In other words, a foreign state does not enjoy immunity from the jurisdiction of US and state courts if it has waived its immunity or has taken actions that indicate this, in particular, participates in court proceedings or files a counterclaim.

Secondly, it is a case when a foreign state conducts commercial activities in the United States or activities outside the United States that have a direct impact on the United States.

Third, the situation arises when a foreign state commits an act outside the territory of the United States in connection with a commercial activity and that act has a direct effect in the United States. Thus, when a foreign state engages in commercial activity anywhere and that activity has a "direct effect" in this country, the foreign state may be held liable under the Act. For example, a foreign state's commercial activities abroad, such as price fixing, which have the effect of affecting prices in that country, may result in the foreign state being held liable under the Act. "The concept of 'direct effect' is broadly interpreted to recognize the fact that potential claimants who have suffered harm from such activities have, in practice, no other forum in which to seek judicial review of their claims" [14]. The application of the rule set out in the third situation is perhaps the most controversial aspect of the Law. However, this rule is in line with international practice. Extraterritorial application of the United States laws is most often found in antitrust law. In the case of *United States v. Aluminum Corp. of America* [14], one of the issues before the court was whether the Canadian corporation Aluminum, Ltd. violated the US antitrust laws. Answering this question in the affirmative, the court referred to the legal order: "as a matter of settled law, any state may impose liability, even on persons not subject to its nationality, for acts committed outside its borders" [14]. Thus, a foreign state that engages in commercial activity anywhere in violation of any law of the United States may be held liable in the same way as a private individual if that activity has a "direct effect" in the United States. Under the 1976 Act, a foreign state is liable in the same form and to the same extent as a private person in similar circumstances for any claim for injunctive relief in the United States.

A foreign state also does not enjoy immunity in the following situations: a) if the property was acquired in violation of international law and is located in the United States; b) if the rights to property received as a result of inheritance or gift or rights to real property located in the United States are violated; c) if a claim is filed to enforce an agreement entered into by a foreign state in favor of a private person, which submits to arbitration all or certain disputes that have arisen or may arise between the parties with respect to certain legal relations (§ 1605(a)(1)). There are also other exceptions.

Although the Act does not provide a precise definition of commercial activity, certain activities of a foreign state, such as selling or providing services, renting property, lending money, hiring employees, or investing in U.S. corporations, will clearly constitute commercial activity. In essence, the court "must determine whether the activity is of a private nature, i.e., is carried on by private persons, or whether it is specifically governmental". According to this analysis, the fact that the goods or services that are the subject of the contract will ultimately be used for state purposes by a foreign state is irrelevant. The 1976 Law provides that commercial activity includes either an ongoing course of business or a specific transaction or action: "commercial activity means either the ordinary course of commercial behavior or a specific commercial transaction or act. The commercial character of an activity is determined by reference to the nature of the conduct or specific activity and not by reference to its purpose" (1603, para. 2, subpara. d). At the same time, the decisive criterion for determining the characteristic of a foreign state's action is its nature, not its purpose [7]. When determining the commercial nature of an act of a foreign state, the US courts must establish whether it can be performed by a private person [3]. For example, the U.S. Supreme Court in the *Republic of Argentina v. Weltover* decision concluded that the purpose for which a foreign state carries out its activities is not important for determining the commercial nature, on the contrary, regardless of the purpose pursued by the foreign state, the decisive question for establishing the commercial nature is whether a private person can carry out such activities [12].

The regime of inviolability of state property is closely linked to the international legal doctrine of the "act of the state", according to which the courts of one state should not rule on acts

of the government of another country made on its territory. If a state has acquired property on the basis of an act adopted on its territory, no foreign court has the right to discuss the legitimacy of the property's ownership. Property immunity means that if the property is in the possession of the state that has declared that it belongs to it, no foreign authorities can verify the legitimacy of this fact.

At the same time, there are types of property of a foreign state that are granted full immunity from interim measures and enforcement actions: diplomatic and consular premises and other property of the state used for diplomatic and consular activities of their missions, consulates, special missions, etc. Their immunity is enshrined in the Vienna Convention on Diplomatic Relations of 1961, the Vienna Convention on Consular Relations of 1963, the Convention on Special Missions of 1969, the European Convention on Immunities of States of 1972, and the UN Convention on Jurisdictional Immunities of States and Their Property of 2004. The case law of European states (Austria, Spain, Italy, and Germany) confirms that the seizure of funds used for diplomatic purposes is not allowed.

A sharp contrast to the decisions of European courts is the decision of the American court in *Birch Shipping corp v Embassy of Tanzania* (1980) [12], which refused to grant immunity from interim measures to the bank account of the Tanzanian embassy. This account was used to pay expenses necessary to support the embassy's diplomatic activities. In Europe, it would be considered that such expenses were incurred for diplomatic, i.e., sovereign purposes. However, the US court applied the transaction character test set forth in the 1976 US law and recognized that since the contracts paid for from the embassy's account are commercial, the funds are used for commercial purposes. However, this decision is unique in its kind, since in other cases the US courts have recognized the payment of expenses related to diplomatic activities as governmental in nature.

The Foreign Sovereign Immunities Act of 1976 provides for the ownership of central banks, which establishes immunity from liens for central bank funds if they are used to support the functions of that institution, as well as the broad concept of central bank activities accepted by the US courts. Under these conditions, immunity may be granted even if the funds were used for commercial purposes, if it is proved that at the same time such use ensured the functions of the central bank of a foreign country. A similar view is taken by the United Kingdom.

Property used or intended for use in connection with military activities, or which is military in nature, or is under the control of military authorities, is also immune from interim measures and enforcement actions under the 1976 Law.

In 1988 and in 1996, significant amendments were made to the 1976 U.S. law. The amendments concerned traditional cases of exclusion from state immunity (e.g., commercial activities of a foreign state, torts, etc.). They added such cases as a state entering into an arbitration agreement with a private person and the financing of terrorist activities by that state. The 1988 amendment is aimed at expanding the scope of the doctrine of permissible waiver of immunity by entering into an arbitration agreement to the following cases: a) the place of arbitration is the United States; b) the arbitration agreement or award is governed or may be governed by a treaty or other international agreement to which the United States is a party.

In addressing the problem of terrorism, Congress passed the Antiterrorism and Effective Death Penalty Act of 1996. This law amended § 1605 of the Foreign Sovereign Immunities Act by adding new provisions that established a new exception to foreign sovereign immunity. According to these amendments, United States citizens may sue foreign sovereigns for bodily injury resulting from "torture, extrajudicial execution, aerial sabotage, taking of hostages, or provision of material support or services for the commission of such an act, provided that the foreign state is recognized as a state sponsor of terrorism" [17]. Although this wording is very broad, it has several limitations on

its application. The amendment will apply only if a foreign state is designated by the U.S. Department of State as a state sponsor of terrorism. Even if a state is designated as such, courts will deny jurisdiction if the victim was not a U.S. citizen. The importance of this amendment to the 1976 Act is emphasized by Elizabeth Defeis: "The amendment extending jurisdiction to terrorism-related acts is a positive step... The 1996 Anti-Terrorism Amendment opened the door to limiting immunity for unlawful acts" [3].

Recently, the U.S. Supreme Court has issued a number of decisions on various issues of state immunity that have remained unresolved in the U.S. law. For example, in decision in the case of *Republic of Austria v. Altmann* in 2004, the U.S. Supreme Court recognized the retroactive effect of the Foreign Sovereign Immunities Act of 1976, although such effect of the Act had not been recognized before. The position of a defendant seeking to recover funds under a counterclaim against a foreign state was initially unenviable. The defendant in a foreign state's claim could not use any counterclaim. Pursuant to § 1607 of Title IV of the 1976 Act, in any action brought by a foreign state in a United States or state court, the foreign state shall not be immune from any counterclaim.

4 Conclusions

The US law establishes rather strict conditions for preliminary injunctive relief against a foreign state, defines the types of waivers of this type of immunity, and controversially sets forth the requirements of the 1976 Act in relation to the provisions of international treaties concluded by the United States before its adoption. The Act also establishes provisions on the need to enforce judgments against foreign states in the United States.

The US legislation, regarding the evolution of jurisdictional immunity of states, needs to be updated in line with the requirements of the times, in particular, with regard to improving the rules governing exceptions to absolute immunity of states, since the US legislation lacks a general concept for determining which categories of actions of a foreign state are commercial in nature. In order to determine the commercial nature of contracts entered into by the state, it is necessary to take into account their nature, including in some cases the purpose. Legislation also needs to be improved in terms of the uniformity of application of the doctrine of foreign state immunity in the courts of the Federation and the states.

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THE LOGOSPHERE OF OPERA AS A POLYSYSTEMIC ARTISTIC PHENOMENON

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Abstract: The article examines the content and significance of the musical-textological approach in the study of opera, and sets out the basic concepts of modern opera studies related to the analysis of opera as a musical text, that is, the logosphere of opera within the synergetic approach, which sees the opera's logosphere as a polysystemic artistic phenomenon. Synthetic opera semantics is considered in the landscape of musical metaphorization.

Keywords: operatic genre; operatic logosphere; conceptual approach; musical semiosphere; operatic image; operatic interpretation; musicality; theatricality; musical theater; conditional operatic word.

1 Introduction

The relevance of the direction of opera research chosen in this article is due, firstly, to the rather powerful growth of the popularity of opera art in modern society, and secondly, to the incomplete solution to date of the problem of opera convention, as those features of artistic metaphorization that are connected with the synthetic structure and synergistic influence of the opera work, determine the originality of the operatic musical language.

A certain secret of the influence of opera art on collective and personal consciousness lies in the fact that opera is capable of creating such a metaphorical replacement of life - its illusion - that becomes more important in terms of emotional value, more attractive and effective than the factual reality; conventional opera heroes become aesthetic benchmarks of human relations for many recipients, and this creates the main paradox of music-theatre art, at the same time determining its importance as a necessary part of the existence of culture in its two main tendencies - as a culture of humanity in a person and as a culture of interpersonal communication, human subjectness in culture.

Despite the fact that there is a significant number of works devoted to the activity regularities of opera creativity [2; 3; 5; 6; 10], the question of the operatic logos, as the semantic order that is established within the opera and transmitted in the process of its action, still remains open; probably, they will remain as such in the future, due to their extreme complexity, also due to the constant renewal of opera art and its communicative conditions [4; 11]. But the fact that in the general history of the theater the special interaction of the three main factors of artistic opera action - verbal, musical, and stage-spectacle, each of which has a systematic set of forms and methods of implementation, which only together demonstrate the power of opera artistic conventions and therefore should be considered as a single logosphere of opera creativity, always remains unquestionable will help clarify their content somewhat. This logosphere functions on its own immanent metaphorical principles, that is, it is based on a variety of metaphors (visual scenic-spectacular, verbal verbal-poetic, musical-sound vocal- and instrumental-intonational), which acquire a permanent meaning and act as meaningful foci of the operatic action, i.e., grow into conceptual metaphors.

The purpose of this article is to determine the main theoretical prerequisites for the study of the logosphere of opera creativity as a polysystemic phenomenon in the light of metaphor theory and musicological symbology.

2 Method

The theoretical and methodological basis of the study is determined by the specifics of the problem being studied. The methodological basis consists of the works of authors who consider issues of the theory and history of opera, problems of

interpretation of operatic text, operatic logosphere and metaphorization. Integrative and analytical-interpretive methods, as well as typological analysis, were used.

3 Results and Discussion

All authors who recognize the growing popularity of opera in the world over the last few decades also note the tendency of the public to return to the classical forms of opera art. It is interpreted by researchers as evidence of the restructuring of the value hierarchy of modern culture, which interacts with the strengthening of the need for cultural self-identification, for the preservation and development of spiritual life.

It turns out that from the sociocultural side, opera creativity is connected with the ethical tasks of society, with the direction in which the enlightening and educational life of society is carried out, as well as with international interactions, positions and experience of humanistic relations of this society, that is especially important for opera performing institutes.

The most revealing feature of modern opera creativity is its ability to enter the generalized value-psychological content, conceptualize its leading components and create an artistic resonance with them, relying on specific synthetic artistic and textual conceptual metaphors.

It should be noted that artistic thinking is basically a process of forming new cognitive connections, relations and similes. Therefore, the main prerequisites for studying metaphor as a linguistic phenomenon are the statements about its mental character (as an ontological aspect) and cognitive potential (as an epistemological aspect).

The transformation of the concept of metaphor into a basic theoretical category took place during the last decades thanks to the renewal of linguistics as a philological discipline and the involvement of the conceptual dimension in the field of literary studies. The phenomenon of conceptual metaphor becomes defining, despite its certain conceptual redundancy. Namely the connection between the metaphor and the concept, the process of conceptualization, becomes the leading one in the general theory of metaphor, contributing to its even greater expansion and strengthening of its psychological and epistemological components.

Conceptual metaphors represent an integral part of the cultural language space [7], are rooted in people's consciousness and are so familiar that they are often not recognized as metaphors.

Becoming autonomous and integrative, interdisciplinary, at the same time, the metaphorical method involves the notion of such diverse mental spaces that should intersect, interact, and require special mapping. According to G. Lakoff's observations, "...Conceptual metaphor is not a 'reduced comparison', not one of the ways of embellishing speech and not even a property of words and language in general. In the view of modern cognitology, metaphor is one of the main mental operations, it is a way of knowing, structuring and explaining the environment. ... Metaphor permeates everyday life, and not only in language, but also in thinking and action. Our everyday conceptual system, the language of which we think and act, is essentially metaphorical..." [7, p. 203].

Lakoff insisted on the distinction between metaphorical expression and conceptual metaphor, stressing that "the locus of metaphor is in thought, not in language". The act of metaphorical creativity is the basis of many semantic processes - the development of synonymous means, the emergence of new meanings and their nuances, the creation of polysemy, the development of systems of terminology and emotionally expressive vocabulary. Without metaphor, there would be no semantics of "invisible worlds" (the inner life of a person), the zone of secondary predicates, that is, predicates characterizing abstract concepts.

In contrast to sequential-continuous discursive thinking, the metaphorical "mastery of the world" (mythological-linguistic) has the opposite quality: it can reduce to a point, a single focus, shorten the distance by "jumping" from one concept to another. It can also be argued that while discursive thinking is extensive, the mythological-linguistic conceptualization of reality is intensive; while the first is characterized by a quantitative parameter, for the second one the qualitative is inherent, which means subjectively meaningful, valuable. It also turns out that no matter how different the content of myth and language are, they both have the same conceptual form. This form can be briefly described as metaphorical thinking: "one must proceed from the essence and content of the metaphor if we seek to understand, on the one hand, the unity and, on the other hand, the difference of the mythological and linguistic world" [7, p. 70].

Based on the existing provisions of the theory of metaphorization, it is possible to derive criteria for the study (analysis) of artistic and metaphorical content - the technique of metaphorization (semantic conceptual transgression), based on three conditional text levels in connection with three main types of metaphors: surface language - external form (structural metaphors); semantics and syntax (orientational metaphors); directions of cognition, inversion of meanings (ontological metaphors) [8; 11].

These hierarchical levels can also be considered as heuristic mechanisms of artistic and metaphorical consciousness, in particular operatic (opera-creating) consciousness. Their unity in the conditional integrity of different types of perception and communication, visual, verbal and musical-auditory, acts as a logosphere inherent in the opera genre; the latter can also be considered as a conceptsphere, taking into account the close connection of these concepts, noted by D. Likhachev (see: [8]).

While developing the notion of the conceptsphere in relation to the national language, researchers use, along with this term, the concepts of culturosphere, semiosphere, ideosphere, and finally, logosphere, but the difference between them is not sufficiently defined. Today, in linguistics, the notion of the conceptsphere (logosphere) is studied in its various directions, among which structural-event semiotic, polylingual textological, and communicative-interpretive psychological are predominant. These directions correspond to three levels of metaphorization, which organize the content of opera work as a completed artistic and aesthetic action.

The semiotics of theatrical and stage action with its mandatory actant conditions is the main part of opera poetics. On its basis, a complex dialogue of verbal and musical expressive forms takes place in the context of synthetic operatic content. The general conditions for the creation and understanding of the opera text appeal to the life world of culture, provide "entry" into the system of everyday experience of feeling and foreboding, related to the general life context and its specific historical forms, local historical situations [9]. Therefore, opera stage semantics is "embedded" in the opera action - as something that can be presented directly, known and agreed with the knowledge about the world that is necessary for a person at the current historical moment.

Just as knowledge of artistic conventions cannot be without understanding the meaning of artistic technique, so understanding always requires interpretative-cognitive explanation, clarity and discussion. Therefore, the process of opera comprehension requires special means of visual interpretation; an important sign of the striving for an effective visual interpretation of the opera text is the stylistic choice - both as a choice of the genre-stylistic direction of opera creativity, and as a stylistic definition of the character of the stage production, including the degree of its directorial individuation, often modernization. The semantic representation of the opera content is most directly revealed in the stage production composition, which represents the director's concept of the opera, with its inherent structural metaphors. It is also connected with the involvement of verbal and musical meanings in the stage chronotopia; the verbal-musical material, to which the

"secret" symbolic concept of the opera work will obey, transfers the metaphorical content to another level - the specification of personal and emotional factors and the clarification of the course of stage communication.

Changes in the visual and spectacular side of the opera performance, which lead to the transformation of the listener of the opera into its viewer, are correlated with the verbal and poetic plan of the opera action, and this plan is refracted through the musical sound. The latter can even be perceived as a channel for the transmission of verbal and poetic content.

The generic integrity of musical theater is revealed, first of all, in a historiographical way, that is, retrospectively, since in its successive formation one form replaces another, significantly differing from the previous one and striving for an original interpretation of the components of the musical and theater genre [1]. In addition, the general history of the musical theater testifies to its constant confrontation with the dramatic theater. This confrontation leads to the emergence of many intermediate (between dramatic and musical) theatrical forms, with different advantages, with a full or partial victory of the verbal or musical principle. But it also leads to the emergence of a number of synthetic musical and dramatic forms, including those that go beyond the limits of theatrical art, lead to the development of other visual and artistic, spectacular spheres of culture (cinema, television, musicals and show programs, advertising projects, mass media, etc.). The synthesis of traditional opera poetics with new media forms becomes a new factor of visualization, spectacular presentation of the opera text.

Moreover, a characteristic feature of the opera theater functioning today is festivalization - as the organization of a special space not just for a theatrical action, a performance, but for the authors and performers of an opera performance and the mass audience/listener, for whom it is a way of leisure, to spend time together. Festive communication always becomes the main component of the festival, that is, it is a special game space in which the conditional reality of the stage action becomes a special free reality of communication. In this way, the character of a mass performance, a kind of "folk festival", a joint socio-psychological event, which turns the very time of the festival into a temporal conceptual metaphor of carnival, is communicated to opera art, and theatricalization penetrates the course of ordinary life and consciousness.

At the second level of the logosphere of opera creativity, in accordance with its genre specification, the verbal element dominates - the verbal and literary material of the opera, which is a special compositional phenomenon, has its own dramatic functions and figurative and meaningful tasks. The character of the use of the word in the opera, its choice and compositional arrangement in the text of the opera work, the degree of activity of the influence of verbal intonation on the musical one depends on the genre inclination and internal genre properties of the opera.

The path to the content of the synthetic symbol in the opera is threefold. On the one hand, it is initiated by the stage action, the plot and character context; on the other hand, it requires clarification of visual images (associations) through the perception of verbal-poetic material, which, combining with musical-sounding textual formulas, acquires new metaphorical properties, that is, finds the power, effectiveness, and authority of independent artistic concepts. This is facilitated by the direct suggestion of a musical and expressive plan, the metaphoricity of which already reaches symbolic foreign language - aimed at the multiplicity and infinity of artistic meaning.

Synthetic opera semantics is determined by the fact that musical metaphorization, as a process, overcomes the objective limitations of the word and stage action, not abandoning them, but transforming their conceptual functions in the specific musical and intonation sphere of the musical work. Thus, musical symbolic structures become new artistic realities, have both figurative metaphorical and literal musical-expressive meanings that cannot be translated into other artistic languages.

They are mostly responsible for the psychological impact of the opera text and its aesthetic idea, as well as for the general interpretive style of the opera performance.

The transition of the opera action to the musical-performance interpretation, i.e., the achievement by the opera logosphere of its musical-interpretive level, the possibilities of musical-intonational explication, contributes to a certain abstraction of musical-semantic models from sound and the creation of a new stage dramatic reality based on them for the content of the opera genre. In this way, the internal cyclicity of the operatic logos arises.

In the general semantic plan, the role of the word in opera music is determined by the fact that it can indicate existential moments, name meanings related to the essence of human life, and become an additional means of psychological influence. In this capacity, the word becomes an important element of the operatic form; in addition, it has been proven that only those meanings that are "spoken" in the word, thus becoming verbalized concepts, are permanently and firmly embedded in a person's memory.

From the semantic-representational side of opera poetics, the meaning always needs verbalization - as a way of identifying and nominating the leading storyline, the actant character model, that is, everything that can be defined and expressed with the help of words. In opera semantics, the word also becomes a means of verifying musically voiced meanings, that is, proof of the importance and truth of musical meanings, their conceptual validity.

Therefore, the study of the components of the logosphere of opera creativity allows concluding that its first level is determined by the most obvious stage-spectacle side of the opera genre - as a secular music-theatrical, addressed to important historical events and facts, constant plots - universally recognized needs of human life with its psychological realism, at the same time with orientation towards the ideal higher world.

The second level presents the verbal characteristics of the opera action with the help of generalizing descriptions - narrative characteristics, definitions of the supporting verbal constructions of the dramatic action, poetic factors of musical expression; literary indicators become a genre canon for all forms and types of opera.

The third level represents the "big" semantic circle of music as a real encyclopedia of musical and expressive forms and techniques, methods of vocal and instrumental intonation and its system-conceptual organization within an opera composition. At this level, new metaphorical fusions of musical "expressions" of combined (contaminated) types of operatic intonation arise, the means of musical expression responsible for the integrity of the entire operatic text are formed, for example leitmotivic or monothematic, monotonational dramaturgy, special emblematicness of timbres and textural techniques, etc.

4 Conclusions

The phenomenon of the opera logosphere is defined by many factors determined by the genesis and history of the genre, its stylistic modifications, but most of all - by the phenomenon of synthetic artistic thinking, which significantly strengthens the ability of the human mind to cognitive play, to metaphorization and to discover with its help the symbolic meaning of life as true one. It is addressed to those value realities of collective human experience that have acquired the status of historical universals, i.e., metatemporal purpose. Therefore, the definition of the concept of the operatic logosphere suggests a comparison, both theoretically and analytically/textologically of the following items: theatricality as a value-semantic paradigm of artistic culture; verbal rhetoric as a key feature of the opera image (expression, statement) in its specific genre synthetic form; musicality as the main conceptual property of opera interpretation.

Moreover, all these qualities of opera creativity acquire additional metaphorical saturation, since they appear and are implemented precisely as a specific operatic theatricality, a special conventional operatic word, a musical language different from all other genre varieties - a musical semiosphere.

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THE CATEGORY OF THE OPERA IMAGE AS A COMPLEX PHENOMENON

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Abstract: The article examines the complex properties of the opera image as a central category of opera art. The importance of the structural and national-style aspects of the study of the opera image for compositional, performing creativity and musicological discourse in the context of the integration paradigm of modern musical art is determined. The purpose of the article is to define the main components of the complex unity of the opera image in the context of its musical and semantic integrity. It is proved that the national-style and structural factors of the integrity of the opera image are decisive for the formation of the vocal-performance interpretation, which is determined by the genre-style principles of the composer's thinking and musical-interpretive creativity.

Keywords: opera art; opera; opera image, performing interpretation, modern performing creativity, national style content, structure of opera image, musical and semantic integrity

1 Introduction

The relevance of the research topic is due to the exceptional importance of the opera image category for opera art, which, being a complex phenomenon, is connected, on the one hand, with the composer's concept of the opera opus, and on the other - with the musical-aesthetic and stylistic principles of individual performance creativity. As a specific form of artistic image, the opera image combines different levels of embodiment of musical content (due to its synthetic nature) and, accordingly, determines the breadth of its performance embodiment.

The national-style aspect of the study of the opera image as a complex phenomenon, which actualizes the urgent problems of modern opera art, performing creativity in particular, acquires special importance in the conditions of the integration processes of musical art in the 21st century. The phenomenon of the opera image in this context acquires primary importance due to its universality: being a specific form of embodying the spiritual meanings of human life, it is also capable of reflecting different aspects of the national worldview, forming a "psychosemiological context of genre and style dimensions of music" [5, p. 15]. This context is directly related to the structural properties of the opera image, which form its complex unity. Given the fact that this issue is not a research priority in modern musicology, addressing it is timely and has theoretical and practical value for modern opera art.

The question of the specific features of the musical image as a type of artistic image is most often considered in musicological studies devoted to various aspects of the phenomenon of musical content and emphasizing the systemic properties of the musical image that form the artistic integrity of a musical work. In this subject direction of musicological thought, the musical image is perceived as the main element of musical content, which in musical and intonational form embodies the individual-composer's ideas about the various meanings of life's reality [2; 4; 9; 10]. This provision indicates the principle of dialectical unity and the complex nature of the musical image as a component of musical-semantic integrity ("subjective image of the objective world" [15]).

The process of distinguishing the phenomenon of the operatic image as the central category of operatic art was gradually carried out in the space of the opera science vector of traditional musicology [11; 16], which today is represented by a number of dissertation studies [1; 5; 19; 20], that contain the development of theoretical and performance aspects of the opera image based on the material of European opera samples of the 19th and 20th centuries.

The purpose of the article is to determine the main components of the complex unity of the opera image in the context of its musical and semantic integrity.

2 Method

The complexity and multi-element nature of the opera genre determines the methodological basis of the study. The methodology of this research is based on the use of the cultural-historical method, analysis and synthesis, as well as the figurative-stylistic method and the genre-style semantic method.

3 Results and Discussion

The traditional musicological understanding of the musical image is based on the dialectical unity of the objective and subjective factors of the formation of musical content, which is determined by the essence of creative activity - compositional and performing. Musicologists consider a musical image as "a holistic representation of the subject about the idea and intonation-sound structure of a musical work" [9, p. 24]. This definition corresponds to the idea of the universal functions of the image as such, established in the art of music, because it is a "tool" for the formation of the musical-semantic integrity of a musical work, which is used with equal success by composers, performers, and teachers [2]. Moreover, the phenomenon of a musical image is relevant for the art of musical theater, in which it finds a complex embodiment (audio-visual), living in the conventional space of musical-stage action. It should be noted that modern musicological approaches to the problem of artistic integrity are based on a complex understanding of this phenomenon, since it embodies both "... the initial systemic quality of artistic creativity, which arises as a result of the interaction of artistic components both among themselves", and "... the deep reason for the unity of artistic content and an act that is revealed in the process of artistic influence, in a communicative and dialogic way" [17, p. 169].

L. Kazantseva suggests considering such "spheres of musical imagery" as the world of man, the world outside of man, and the world of music as an objective factor of musical content [7]. Each of the specified spheres has its own meaningful spectrum, which produces the artistic meaning of a musical image: thus, the human world is identified with thinking, language, individual manifestation of character, various mental states and emotional manifestations, etc.; the world outside of man is connected with the surrounding reality, nature and its various representatives and even with the energy of the universe. The world of music in this musicological concept consists of specific phenomena of musical art as an artistic system (sound, timbre, singing, playing instruments, etc.).

The phenomenon of musical image is extremely relevant for opera art and vocal performance creativity of this direction, because due to its synthetic nature, the genre of opera puts forward a rather special form of musical image determined by its complex nature - the sound and visual components in it function on a parity basis. This is precisely what determines the structural and functional side of the opera image as a key category of opera art in all the variety of its creative manifestations (composer's work, vocal performance work, director's work). The main elements of the complex unity of the opera image are the verbal, musical-intonational (vocal and instrumental) component, as well as plastic-mimic. Combining in an organic unity, these components form the artistic and semantic integrity of the composer's idea and shape the so-called "stage picture" of the image of one or another hero of the opera work. Thus, the structural level of the category of the opera image indicates the meaningful multifacetedness of this phenomenon, which, in turn, requires the performer to have a clear idea of the expressive potential of each of the structural components - vocal-intonational, verbal, plastic. This provision corresponds to the modern musicological idea of artistic integrity as a phenomenon of music-performance interpretation, which means "...the

creation of a successful personal-semantic resonance with the figurative field of the work and the auditory consciousness of the recipients" [17, p. 173].

In relation to the last two mentioned positions of the given quote – the figurative field of the musical work and the auditory consciousness of the performer – the national-stylistic parameter of the opera image, which turns out to be an essential factor of its musical-semantic integrity, is of particular importance, that is discussed in musicological studies. So, for example, Wang Te claims that "opera, as a synthetic art form that is universal and integrates various genre and stylistic intentions of music, appears as a kind of mirror of the semantic attitudes of culture, therefore, in one way or another, it always solves the problem of national choice" [16, p. 47].

Modern musicological concepts of national style are based on a systematic understanding of this phenomenon as a specific "correction of individual and historical styles in the conditions of a given national culture and in the processes of adaptation and generation of stylistic features <...> which records the transition of the phenomena of national mentality and national spiritual culture into a specific system of means of musical expressiveness" [13, p. 8].

Extrapolating the experience of modern musicology in the study of national style into the field of opera art, Wang Te proposes in his dissertation, among other levels of manifestation of national features in opera style, such one as specifically colored language means [16, p. 48] It is indicative that in both of the given definitions of national style in music there are concepts of linguistic means and means of musical expressiveness as a specific creative toolkit for the artistic embodiment of the national and cultural content of musical art.

In this semantic context, the category of the opera image can be considered as a special form of reproduction of cultural tradition and certain worldview models: "opera heroes enter the cultural memory as bearers of necessary positive qualities and attitudes, and their characters are perceived as models of human communication, historical and timeless at the same time, therefore both concretely sensuous and ideally spiritual" [5, p. 15]. Opera, first of all, strives to understand and reproduce the idea and image of a person in their special musical and scenic portrait unity, therefore it claims to create a gallery of artistic personalities who bear the imprint of an era and present their own historical time. An opera portrait of a person always has a high degree of genre-stylistic synthesis and semantic generalization.

If we are faced with the task of revealing the essence of the national-stylistic factor of the musical-semantic integrity of the opera image, then it is appropriate to turn to the meaningful content of the concept of the image as such, which is central to art and artistic-creative activity. Not without reason, A. Nikolaev believes that "... image is the heart of art, and art itself is a way of thinking with artistic images" [12, p. 34].

The literary definition of an artistic image is based on understanding it as such an aesthetic category that arises as a result of the author-artist's understanding of a particular phenomenon or process of life reality, which is objectified in the form of a work with the help of those means of expression inherent in some type of art [8]. As noted by V. Khalizev [8, p.167], the focus on the creation and reproduction of characters (in the diversity of their properties) opened the way for art (primarily literature, but we also add operatic art and synthetic musical forms) to mastering the human world as an individual and personal one. In the character, not only the strong core of human individuality is embedded, which is manifested in enlarged and bright manner, but also the entire scope of the inner soul, emotional and psychological reality, the entire immanent life experience of human individuality emerges and is explicated.

The majority of musicological reflections on the phenomenon of musical image, which is reflected in the modern theory of

musical content and semantics, unfold in the same direction: "Since the sound image corresponds to the nature of music, it is natural to call the artistic representation embodied in musical sound a musical image" – L. Kazantseva notes [7, p. 136]. The solo-performer interpretation in the opera is determined by the semantic task of the opera work, which consists in the artistic portrayal of a person, first of all, from the inner, psychological and semantic side. Opera art creates special conditions for the representation of the experience of a separate, at the same time combined with social, based on reciprocity, human existence; it comes from the total humanity of all relationships that exist in the sociocultural world, takes care of the uniqueness of the individual, reveals the importance and shakiness of boundaries, which are necessary for personal individualization and complicity with the "other".

In his time, Hegel, who in his studies on aesthetics paid a lot of attention to the creative nature of art, emphasized the complex properties of the artistic image. He stressed that a work of art "...must present the content not in its generality, taken as such, but must individualize this generality, give it a sensually singular character" [6, p. 30]. The German philosopher noted that the image represents the unity of the general and the concrete, therefore "... art arises from the absolute idea itself ... and its goal is the sensual image of the absolute" [6, p. 118]. Accordingly, the originality of artistic images is directly related to the method of reflecting reality chosen by the artist, who by definition is the bearer of one or another national and cultural tradition, possessing a certain worldview system and a specific mental complex.

It is impossible not to agree with Hegel, according to whose fair statement, in art, the general character of the depicted cannot act as an abstract judgment or a general teaching, but must become the inner content of the artistic image [6, p. 57]. Aesthetic knowledge presents new meanings, individualizing the generality, giving it a singular character. Therefore, it is necessary to recall Aristotle's opinion that in an artistic image the singular cannot be perceived only as a means of conveying the universal. A single creation is an independent aesthetic value. On the other hand, it is interesting in itself also because the appeal of different authors to the same, "eternal", worldview topics demonstrates the polysemy, multivariability of general meanings.

It is known that the image as a form of human exploration of the world is, first of all, sensual in nature. In the process of cognition, a holistic image of a phenomenon is formed as a concrete presentation based on a set of sensations, which later becomes the basis of rational thinking. But unlike concepts that strive for abstraction and generalization, images clearly reflect the unique properties of individual objects. The sensuous nature of imagery also underlies the specificity of aesthetic cognition.

Hegel notes that an essential feature of art is its initial reliance on sensory perception. Image perception within the framework of everyday cognition is aimed at practical benefits. In a work of art, the sensual does not exist by itself, but appeals to the human spirit. An artistic image appears as a result of the combination of two independent phenomena or states, one of which "is the meaning understood in the form of the image of the other" [6, p. 118]. It can be said that aesthetic cognition is between bare material sensibility and ideal thought.

Creativity, revealing "the truth in a sensual form, has its ultimate goal in itself, in this representation and disclosure" [6, p. 61]. Hegel sees the highest meaning of art in the possibility of overcoming the antagonism between the natural drives of everyday life and the general abstract laws of moral will. This irreconcilable contradiction, in which a person of modern rational culture exists, cannot be removed only by the duty that comes from the scientific and philosophical theory. But sensual images addressed to the archetypal depths of the psyche and based on the inviolability of personal experience can evoke a response in the mind.

The statement that the artistic image is the unity of the general and the individual formed a classic representation of aesthetic thought. It is usually noted that, unlike a scientist, an artist conveys the general not by way of abstractions, but in the concrete-sensory form of a single phenomenon. Based on his individual perception of life, on the understanding of its internal logic, its regularities, the artist creates vitally relevant artistic images with the help of creative imagination. As we can see, any artistic image reflects not so much the factual reality of any phenomenon or process, but to a greater extent - the individualized idea of them by the author-artist, which is largely formed under the influence of the national and cultural tradition. We can talk about the national-cultural determination of a particular image of the opera hero, which is an artistic reproduction of the national culture in its individualized form. The influence of the environment, according to V. Tyupa's fair remark, ultimately determines the fate of a person, shapes his behavior model. "The unity of social laws, according to which society lives, and the power of which affects each of its representatives, determines the general features of this unique personality" [14, p. 156].

In this context, Dong Xinyuan's opinion regarding the semantics of the opera image is extremely important: "The key characteristics of people's creative experience can be reflected and concentrated in the content of an opera work, acquiring the quality of both canon and exemplarity, becoming necessary musical-figurative psychosemantic artifacts" [5, p. 15]. Such psychosemantic artifacts include the main components of the opera image, which were discussed earlier: verbal and vocal-intonational elements (sound complex), as well as plastic-scenographic elements (visual complex). Each of the listed components can act as a carrier of national stylistic quality, an artistic equivalent of the content and various meanings of the national worldview.

The vocal intonation of the opera hero, which is the main expressive element of his image, is also indicative in terms of national style, as it is a direct reflection of the national performing tradition and thus remembers the musical and intonation profile of the national culture. Wang Te notes in this regard that "... the national specification of the opera form begins with the separation of the singing manner as determined by the national character - emotional and psychological guidelines typical for this national culture, including the relationship to the personality of the artist-musician" [16, p. 50].

The verbal component of the sound complex of an opera image represents a certain type of speech intonation, which is characteristic of a particular national language, determines the intonation profile of the vocal part, as well as the general level of expression of the "intonated meaning". Modern researchers of opera art are increasingly turning to the problem of its structural regularities, and they see ways to solve it in delineating the visual series and the sound image of the opera part-role. Thus, given the fact that the verbal text of the part is inextricably linked with the vocal and intonation expressiveness, V. Bogatyrev suggests introducing the term "vocal line of the role" to denote the semantic content of the sound component of the operatic image [3, p. 164].

The image of an opera hero consists of a number of behavioral nuances, which together form a complete plastic appearance that conveys a higher ideological content and determines the logic of performance interpretation. As for the visual complex in the structure of the opera image, here it is about the level of meaningfulness of the opera role, which is not always fixed in the opera score and becomes the prerogative of the creative thinking of the performer (as well as the director). In accordance with the composer's idea, he creates in his stage image the fullness and depth of the individuality of the opera hero with the help of plasticity and facial expressions. Thus, an opera singer has the opportunity to reflect a specific type of character and temperament, a certain type of emotional reactions to events taking place in one or another situational context in a stage gesture. The vocal interpretation of the opera image unfolds as

the unity of the theatrical and scenic representative form, the opera verbal content and the musical language as their mediator, which allows the opera concept to find theatrical expression, and the theatrical form - to find special ways, communicative channels of content transmission, that is, to provide channels of personal awareness. Opera interpretation in its institutional integrity is an extremely complex functional phenomenon, which not only arises from the synthetic genre nature of opera, but largely depends on the artistic and organizational structure of the opera text, as on the obligatory interaction of its leading constitutive features: spectacle, verbalization, priority of musical broadcasting.

4 Conclusions

Opera art has always been centered on a man, because a set of artistic means allows embracing him from all sides, but first of all - to reveal his life trajectories in historical and personal contexts, seeing the areas of their intersection and interaction. The image of a person is the main guideline of art as a whole, but for an opera work, as already noted, it acquires a fundamentally important meaning. The task of revealing the nature of personal consciousness and actualizing its positive psychological aspects is the main goal of opera creativity, which is inseparable from the stage performance, but is most dependent on the musical presumption of the opera hero. Understanding the essential aspects of the category of opera image is relevant for any historical time, any generation of opera performers, composers and directors, historians and theorists of musical art, because in each historical epoch the complex nature of this phenomenon acquires new meanings and semantic potential.

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BASIC PRINCIPLES OF MUSICAL PERFORMANCE LOGIC

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Abstract: The article examines musical performance logic as a type of artistic logic that has its own individual measure of the relationship between the rational, cognitive, and sensory. The relationship and interaction of emotional-imaginative and logical components of musical intelligence are analyzed. It is shown that the hermeneutic method is quite applicable to musical performance interpretation and logic as a method of revealing the plurality of meanings contained in the text.

Keywords: artistic logic; musical-performance logic; musical language; musical text; figurative and semantic meanings; memory; musical thinking; musical interpretation; artistic consciousness.

1 Introduction

It would be unfair and fundamentally wrong to say that little attention is paid to the logic of the musical performance process in musicology. More than that, almost every work on the theory of performance is designed to bring us closer to revealing its regularities. In this article, we will try to set and solve a task that was not formulated so concretely before - objectively investigate the logical basis of executive interpretation, comparing it with other possible "types of logic".

The foundations of logic were laid by Aristotle in a number of works, united by his adepts in a collection called "Organon" (translated from Greek - tool, method (cognition) [5, p. 7]). Such early shaping of it as a system of knowledge is connected with the formation in the same historical period of a number of other sciences - physics, mathematics, philosophy, astronomy, medicine, etc., which provoked a surge of epistemological scientific thought and attempts to study the phenomenon of human consciousness in general.

The circle of problems raised by Aristotle is extremely wide. In modern logic, three sides of his teaching are distinguished: 1) syllogical; 2) logical-semiotic; 3) logical-methodological or, accordingly, the theory of building deductive (correct) reasoning developed by a scientist, the principles of language learning as a means of cognition, as well as methods of constructing logical-cognitive procedures and organizing various systems of knowledge [5, p. 7].

It is natural that since the time of Aristotle, logic has undergone a number of changes, additions, and expansions, but conceptually it remained and remains a science which produces norms, rules for the implementation of procedures that allow a person to obtain the necessary knowledge about objects. Logic is normative, it does not try to find out the reasons for the work of our thoughts in one direction or another, but teaches us how to think correctly, that is, in such a way as to achieve the desired result [5, p. 9, 17]. Let us suppose that, according to this understanding, artistic logic, including musical logic, focuses attention on how it is necessary to act (think) in the creative process.

In connection with the last remark, it should be mentioned that just as intellectual cognitive activity is implemented by specific linguistic means, so art has its own language or, more precisely, its multilingualism. Accordingly, the issue of linguistic representation of mental processes becomes important for logic (general one).

2 Method

The methodological basis of the study is a systems approach, which involves studying an object in its integrity, in the unity of

its constituent subsystems. In addition, conceptual analysis has become an important part of the methodology, allowing in some cases to go beyond musical theoretical reasoning and capture elements of the extra-artistic sphere, right down to the worldview and worldview.

3 Results and Discussion

Identified here problematic branch of the study of language forms as a kind of "tips of the iceberg" - carriers of intellectual work carried out by consciousness - is studied with varying degrees of intensity in various sciences, primarily in linguistics, philosophy (hermeneutics), psychology. But the concentrate of modern knowledge about the problem of the relationship between language and consciousness is contained in the so-called cognitive science or cognitology as a set of sciences grouped around linguistics, engaged in the study of the principles by which mental processes operate. A cognitive approach to language means recognizing the latter as a general cognitive mechanism [7].

Linguist-cognitologist V. Demyankov, seeking to create a metalanguage theory of modern linguistics, probably claims the highest level of generalization of knowledge about language as a tool of cognition, proves the existence of two properties of verbal language that demonstrate logical mechanisms in action and at meta-levels.

The first such feature of language is the possibility of its explanation and description in terms of storage, search, processing and (re)organization of information by a person, i.e., in terms of "cognitive processes" available within the framework of "computer metaphor". The second property of language, according to Demyankov, has a "localist" character, and consists in its internal arrangement, in which even abstract statements show their similarity to statements about the objective (material) world; in particular, even direct discussion of search procedures and information processing "looks like a description of spatial processes associated with the material change of some object" [6].

However, despite the positioned global nature of this concept, the interpretation of linguistic expression of intellectual cognition by cognitivists is schematic and conventional. In this regard, the definition given by V. Demyankov based on the works of H.A. Simon, C. A. Kaplan and Z. W. Pylyshyn is indicative in this regard: "Cognitive science is the study of intelligence and intelligent systems, in which intelligent behavior is considered as something like computation ... not in a purely arithmetical sense, but as an analogue of operations carried out by computers" [7, p. 19].

One of the most authoritative experts in the field of theoretical poetics, M. Bakhtin, recognizes the effect of normative logical procedures in art, distinguishing in the creative act immanent logic or the logic of the "free core" and the "target" logic that comes into force at the analytical stages of the creative process [4, p. 152, 285]. With all the external traditionalism of this approach, in the researcher's works, one can find a number of provisions that help to get closer to revealing the "secrets" of artistic logic.

Thus, calling a creative text a "revelation of personality", which to a certain extent is always "free" and "not determined by empirical necessity" [4, p. 285], the researcher clarifies: artistic logic can be understood as a set of principles for the development of the image as an artistic whole, in particular, as the ability of the image to self-manifest regulated by the author of the text, in the words of the researcher - the ability to the pronunciation of one's (other's) word as own, i.e., the words of "the hero himself" [3]. In other words, the researcher testifies to the ability of the image to organize itself in a specific artistic way.

Also, a feature of artistic logic in Bakhtin's understanding is its "two-levelness". On the one hand, immanent logic operates at the level of the text, taking into account the postulate about the internal, specific artistic features of the "structuring" of the work of art. Another level could be conventionally designated as the level of the context (broadest, general cultural), since, according to Bakhtin, every creative text, being inscribed in the linguistic context ("generally accepted system of signs" [4, p. 152]), simultaneously overcomes the limitations of the latter by its textual "Self" organized according to an artistic law. This "external" manifestation of artistic logic indicates its special role in the processes of cultural creation, its direct participation in the permanent process of the birth of innovations, their guaranteed emergence.

Entering into a dialogue with M. Bakhtin, rightly noting that artistic thinking "has not developed its own terminology" [2, p. 50], researcher E. Basin tries to shed light on the peculiarities of the functioning of this phenomenon.

For this, the author uses a number of concepts which are quite promising from a scientific point of view. Thus, according to E. Basin, artistic thinking consists of individual artistic considerations. What is common to all artistic reasoning is precisely the logical structure of reasoning or discourse, which selects and groups logical and psychological units of artistic thinking in accordance with certain compositional requirements, that realizes the tasks posed to the artistic text by this or that type, genre of art [2, p. 48]. Basin rightly points out that the proposed here understanding of discourse as a phenomenon related to logic, etymologically ascending to its meanings in the English language, such as judgment, opinion, differs from the communicative-speech interpretation of this phenomenon, which has been confirmed for today.

In turn, Basin means artistic images as logical units of artistic thinking. Their "conceptualizing" function is analogous to concepts, considerations, and conclusions in scientific (not artistic) thinking.

Artistic methods and means, otherwise, logical laws by which an artistic image "lives" ("rules of art of a certain type, kind, genre, style, etc."), form the basis of artistic logic [2, p. 49].

The logic of artistic thinking reflects the regularities of compositional mental forms. These forms are value (axiological). Also, E. Basin continues, the logic of artistic thinking is formed by dialogic (according to M. Bakhtin - meaningful) relations. Such relations turn out to be much broader and more well-founded than ordinary logical connections [2, p. 64].

Basin emphasizes: artistic thinking should be understood as an activity, and not as a system, meaning practical activity - the exchange of ideas. In this way of thinking, according to this research interpretation, genres of artistic thinking can be found - semantic (logical) constructions in which the logic of artistic thinking or the logic of thought forms is implemented.

In the course of further considerations, E. Basin substantiates the aesthetic nature of artistic logic itself, interpreting the goal of artistic creativity as "logical (harmonious) unity" [2, p. 32]. He proposes to analyze the artistic image as a unit of artistic thinking also from a logical point of view; following M. Bakhtin, he equates it, to a certain extent, with units of non-artistic (verbal) thinking - "concepts, reasoning and judgments (conclusions), but in ordinary speech - words, sentences and phrases" [2, p. 49].

Basin also points to the historical change of artistic logics, under conditions of preservation, at the same time, from era to era, of the principles of formal logic. E. Feinberg also speaks about this, mentioning the aesthetic systems of art of past centuries subject to different "logics" [8, p. 180]).

Summarizing the observations of M. Bakhtin and his follower E. Basin, developing the theoretical positions presented by them,

we will define the following main differences between formal logic and the logic of artistic creativity:

- 1) Artistic logic is the logic of emotions, feelings, and images (intuitive logic); formal logic - the logic of rationality and prudence;
- 2) Artistic logic operates with coincidences, while formal logic - with regularities;
- 3) Artistic logic is designed to reproduce individual creative impulses and aspirations, while formal logic reflects the natural "logic of things";
- 4) Artistic logic is historically mobile, changeable, while formal logic is determined in time ("Picasso ... thinks according to the same formal and logical laws as Leonardo da Vinci") [2, p. 35]);
- 5) Artistic logic provokes the emergence of innovations; at the same time, formal logic performs a "protective" function in relation to art, underlies the process of canonical succession (primarily, in the field of genre and style).

Taking into account all of the above, let us assume the presence of signs of normativity in music both at the compositional and performance levels.

Thus, one of the principles of formal logic - determinism - turns out to be determined in a musical composition by the rules of given kind, genre, style, etc.; here we will include the expressiveness of the original idea of a musical work, the purpose of its compositional techniques and form. Signs of certainty in the performance are the development of a strategy for achieving the interpretive goal in the work on the artistic piece and further adherence to the resulting performance form (or deliberate changes to it).

Closely related to the previous formal-logical principle are the requirements of reasonableness and consistency in the choice of artistic means of expression, the search and selection of which corresponds to the goals of the creative act, and their coherent (often alternating) arrangement is determined by the internal relationship between themselves [2, p. 30]. Such sequence of actions represents itself during the creation of an artistic whole by both the composer and the performing musician.

Another logical-formal principle - the principle of non-contradictions - in musical art should be understood, let us agree with E. Basin, according to B. Asaf'ev, as the reconciliation of contradictions, contrasts of the compositional unity of a musical work [2, p. 30]. In the process of creating a performance interpretation, the consistency, let us continue, is revealed in the reduction of a possible semantic "discord" to a harmonious unity (certain goal setting).

Still, the logic of creating a performance form differs from the logic of the compositional organization of a work. That is, comparison operations are also carried out here, cause-and-effect relationships are formed, etc. But in performance logic, according to E. Nazaykinsky, the emotional and artistically intellectualized principles dictate their own rules, which happens, let us especially emphasize, with the degree of completeness that cannot happen in any other type of artistic logic.

In this regard, in the afterword to his book "*Logic of Musical Composition*", Nazaykinsky admits that in the process of choosing a name for it, even after the work was completed, he hesitated for a long time: should the word "logic" be replaced by the word "poetics"? - and, in the end, changed his mind. The author explains that the term "logic" reflects the essence of the intellectual and rational foundations of musical composition analyzed by him. Having described the compositional logic of a musical work as a ratio, Nazaykinsky understood its inability without emotional-sensual logic, however, to a certain extent, reflected, due to the difficulty of separating these two sides of musical logic, on the pages of this book [10].

E. Basin calls the artist's ability to switch - "shift" - from the logical to the sensual, the ratio of which is supposed to have a

dynamic (not standardized) character, a necessary condition of the creative process. At the same time, the author must develop the ability to think logically - to analyze his own and "other people's" creativity [2, p. 39]. (It is interesting that in relation to scientific activity, which most fully implements the principles of normative logic, scientists also investigate the problem of the ratio of rational and sensual [1]). In other words, "artistic" logic and "formal" logic lead alternately in creativity, and, let us continue, in the context of the conversation about musical and performing arts, they are necessary for each other and act together, but the field of emotionally "less controlled" opens up and strives to dominate here more so than in any other artistic field.

Using E. Basin's terminology, let us assume that performance discourse is formed, in accordance with artistic tasks, through operations and rules that are the subject of music-performance logic, that is, with the help of performance expressive means and techniques, primarily dynamics, tempo, rhythm, and phrasing.

Dynamics determines the loud side of the ratio of musical sonorities. The tempo sets the speed, the rhythm determines the form, establishes the proportionality and similarity of the process of unfolding the sound flow. Performance interpretation is largely related to the logic of developing a dynamic relief and designing a tempo rhythm that determines the architecture and scale of musical sound.

It is much more difficult to understand the relationship between phrasing and articulation - two phenomena that are so closely related.

Articulation in its broadest sense, according to the opinion of O. Samoilenko, is a "musical explanation of meaning", while the logic of musical and performance elements is organized, first of all, by the logic of phrasal drama. Phrasing itself during the sound of a musical piece is responsible for the exchange of meanings, the circulation of meanings, their interaction and the growth of new meanings.

It should also be noted that, declaratively, namely the phrasing technique, as such, should represent the non-accidentality of the musician's artistic decisions (we will only recall the words of A. Schweitzer: "*Without knowing* [our italics] the meaning of the motive, it is often impossible to play a piece in the right tempo, with correct accents and phrasing" [11, p. 356]), quite often in practice reveals its sensual, intuitive nature when building the phrasal grid of the performed work. Indeed, far from all performers at the time of passing a particular opus are thoroughly familiar with the intonation objectivity of this particular musical text, which, however, does not mean that the musician completely ignores the need for appropriate actions when studying and merging with the musical canvas - the point is that the intuitive approach (as if, the antagonist of the rational approach, *knowledge* of the subject), is sometimes included in the process precisely as a result of a wide and deep study of music, its context, and, once again turning to linguistics, is a reflection of the phrase "speech feeling" - in the sense of anticipation of its natural, professionally verified structure, because it is born as a result of the accumulation of professional erudition.

The mechanisms of intuitive thinking are known to be related to the work of the unconscious. And the unconscious originates in the realm of mnemonics. Everything that accumulates in our memory, everything that is put in its 'treasury', interacts with each other, forming new connections. Groups of ideas emerge that influence decision-making "at the level of consciousness" by migrating, passing this level as insight or not. "In solving problems", says general psychology, "intuition appears as a component of generating hypotheses and decision strategies in the form of complex search guidelines that combine semantic and logical features in non-standard combinations. These search guidelines allow a number of features to be taken into account during the decision, each of which [separately!] is not enough for a correct decision. Therefore, a holistic representation is achieved - an intuitive model..." [9, p. 84]. Indeed, namely to

intuitive thinking we owe the most fundamental thing in the creative process: the emergence of many random combinations of related ideas, which ultimately create the basis for a fundamentally new - scientific discovery. Another thing is that in the field of the work of the subconscious, there are many questions that scientists have not yet been able to answer, and the most important of them can be formulated as follows: why we are not aware of the selection of this or that combination, why the solution to the problem comes suddenly and precisely in this, and not some other moment in time, and is it possible to make the insight predictable?

Some scientists believe that the difference between intuitive and rational thinking comes down to the fact that the actions of the first (practically no different from the actions of the second) are carried out "behind the scenes" of the unconscious, while the operations and procedures in these types of thinking are identical [1, p. 73].

Other researchers advocate the position that the subconscious is fundamentally arranged differently than consciousness, and that the uniqueness of the human brain lies in the coordination of its two components, structured and systematized differently [1, p. 73].

4 Conclusions

L. Vygotsky helps us formulate the 'denominator' under these reflections. One of his main postulates in the field of psychology of art is that any thought is born in the field of sensory experience of being, and, therefore, the main reserve of human memory is the experience of sensory apperception [12]. According to Vygotsky, the history of human thinking can be described by examining the history of artistic creativity. A difficult path in this direction opens up for the researcher-musicologist, through the study of music-performance logic, because performance art helps to reveal the essence of a person, to demonstrate what he is today and what he could be in the potential, but it does this due to the rather difficult to implement analysis of the emotional-sensory (psychological) component.

In our opinion, the secret of music-performance logic, which continuously produces, thanks to the unique synthesis of the rational and the sensual, new figurative and semantic meanings, lies in the correct selection and careful consideration of the "content" that the artist adds to his own treasure chest of memory. A selective approach to the quality and thoughtfulness of the material that enters our consciousness plays an extremely important role in the implementation of the algorithm for building musical and performance logic.

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Primary Paper Section: A

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NEUROTECHNOLOGIES AND ARTIFICIAL INTELLIGENCE IN FORMING THE PROFESSIONAL CULTURE OF PEDAGOGICAL FIELD SPECIALISTS

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Abstract: The purpose of the article is to justify and implement the methodology of formation of the readiness of specialists in the pedagogical field to form a professional culture based on the use of neurotechnology and artificial intelligence in higher educational institutions of Ukraine as a guarantee of their readiness to carry out professional activities. The basis of the methodological approach of the research is the substantiation and verification of the effectiveness of the methodology for the development of the professional culture of specialists in the pedagogical field while working in a higher educational institution. The methodology also employed empirical methods (analysis, comparison, systematization, survey, questionnaire, testing, modeling and design), experiment (ascertaining and formative), methods of mathematical statistics: processing of the final indicators of the formation of the level of readiness of specialists in the pedagogical field for the formation of professional culture based on the use of neurotechnologies and artificial intelligence. The content of the concept of "artificial intelligence" is defined; its features and peculiarities are revealed, the methodology for the development of the professional culture of specialists in the pedagogical field is developed and implemented. During an experimental study on the basis of the Oleksandr Dovzhenko Hlukhiv National Pedagogical University, a methodological toolkit was developed to increase the readiness of pedagogical specialists to form a professional culture based on the use of neurotechnology and artificial intelligence, namely the implementation of components of readiness with selected methods for their formation and pedagogical conditions: ensuring the formation of the professional culture of specialists in the pedagogical field during advanced training through the introduction of neurotechnologies and artificial intelligence in professional activities; integrativeness in the content of educational programs for improving the qualifications of educators; integrity, continuity and systematic formation of professional culture; active mastering of the experience of implementing neurotechnologies and artificial intelligence in the subject-subject dimension; ensuring reflexive activity in the direction of self-improvement. After conducting an experimental study, promising directions for improving the methodology of training specialists in the pedagogical field for the formation of professional culture based on the use of neurotechnology and artificial intelligence were outlined. The practical value of the work lies in the development of a methodical system for improving the formation of the professional culture of specialists in the pedagogical field.

Keywords: professional culture; readiness components; pedagogical conditions; neurotechnologies; artificial intelligence.

1 Introduction

In recent years, general trends in the development of technologies and equipment have been formed in Ukraine and the world - the fourth industrial revolution - an era of rapid development of innovations. The active development and implementation of digital technologies definitely affect the nature of production, scientific research, education, culture, everyday life, social relations and structures [5].

Solving the issue of involving artificial intelligence in the educational process of a higher school is the key to changing the educational landscape. Together with the active implementation of distance and mixed education, the problem of diversification and better visualization of educational material arises as a prerequisite to the formation of the professional culture of specialists in the pedagogical field. Methodically balanced use of artificial intelligence tools and cloud services of open science can be a possible solution to this problem [12; 26].

Today, there is an increase in global demand for wireless communication networks due to the constantly growing number of wireless network users and the emergence of new wireless

services. Active development of fifth-generation (5G) and newer 5G (B5G) wireless networks is expected, with higher data transfer speeds, improved coverage, better economy, resource utilization, security, adaptability and scalability. Artificial intelligence (AI) technologies have the potential to effectively solve problems related to large volumes of data that must be solved during the design and optimization of 5G and B5G wireless networks [4; 21].

The Ministry of Digital Transformation of Ukraine submitted the project "Concept of the Development of Artificial Intelligence in Ukraine" to public discussion. The concept was developed based on the example of already adopted documents in the countries belonging to the European Union and a number of other developed countries. The Concept project covers various aspects of artificial intelligence, namely: science, economy, defense, public administration, etc [22].

According to leading scientists M. Khan and M. Lulwani, the implementation of artificial intelligence should be seen as a tool for preserving global leadership, developing society, and preventing numerous political, economic, environmental, military, and other risks and threats. Artificial intelligence systems have been actively implemented in various areas of life for many years, including "smart home" and "smart city", automatic translation and image recognition, unmanned aircraft and cars, systems for processing large data sets, automatic factories, the latest medical diagnostic systems, etc. [16].

The development and introduction of neurotechnologies and artificial intelligence definitely affects the development of the professional culture of specialists in the pedagogical field.

However, at this stage, one should note the low level of pedagogical professional culture of a significant part of pedagogical personnel, which combines the level of general and professional development. The study of the experience of teachers training shows that the level of professional culture is a clear indicator of their readiness for professional activity in the conditions of digitalization.

Professional culture is interconnected with the components of personal culture, namely: moral, legal, gender, mental, aesthetic, etc. Their development is influenced by the entire complex of social, economic, and pedagogical factors. Professional culture is inextricably linked with the general level of personality culture [11]. In particular, the professional culture of a teacher is a combination of competence and professionalism in a certain field of knowledge with the actual pedagogical culture of the individual, which contributes not only to the transmission of knowledge, but also to the creation of a humane developmental environment in the educational process. In the light of the ideas of humanism, the leading characteristics of the professional culture of specialists in the pedagogical field include the humanistic pedagogical position of the teacher, psychological and pedagogical competence and developed pedagogical thinking, culture of professional behavior (values, ability to reflect, self-regulation of own activity), culture of pedagogical communication, information culture, the ability to use digital technologies [2; 15].

The purpose of the article is to investigate the significance of the introduction of neurotechnologies and artificial intelligence into the system of pedagogical education.

With the development of the era of automation and informatization, the issue of the introduction of artificial intelligence by experts in the pedagogical field, in particular, into the education system, is becoming increasingly important. In connection with the extraordinary pace of artificial intelligence development, the outlined issue is gaining increasingly more relevance and feasibility of conducting research in this direction.

2 Materials and Methods

To achieve the goal, the following complex of theoretical research methods was used: comparative and systematic analysis, synthesis and evaluation of scientific sources regarding the use of neurotechnology and artificial intelligence in education in order to analyze and determine the state of the investigated problem of the use of neurotechnology and artificial intelligence at different levels of education, and study their relationships; verification and generalization to build the main theses and research provisions; analysis of existing approaches to the use of artificial intelligence in education; assessment of the level of their effectiveness and efficiency [14].

The main methods in the process of experimental research were aimed at studying the problems of shaping the readiness of pedagogical specialists to form a professional culture based on the use of neurotechnologies and artificial intelligence, searching for perspectives and priorities for the use of digital technologies during the formation of the professional culture of pedagogical specialists, which involved the development of components of readiness and criteria (namely: emotional component (emotional-volitional criterion), motivational component (motivational-value criterion), cognitive-activity component (knowledge-operational criterion), reflective component (relaxation criterion)) and psychological and pedagogical conditions, namely: provision of formation of the professional culture of specialists in the pedagogical field during advanced training through the introduction of neurotechnologies and artificial intelligence in professional activities; integrativeness in the content of educational programs for improving the qualifications of educators; integrity, continuity and systematic formation of professional culture; active mastering of the experience of implementing neurotechnologies and artificial intelligence in the subject-subject dimension; ensuring reflexive activity in the direction of self-improvement.

These methods included: analysis, comparison, systematization, surveys, questionnaires, classification and generalization of theoretical data, modeling of the diagnostic process of the formation of the professional culture of pedagogical specialists with the help of developed components of readiness and pedagogical conditions, generalization of the method of shaping the professional culture of pedagogical specialists in the process of professional training.

The experimental study was conducted at the Oleksandr Dovzhenko Hlukhiv National Pedagogical University. The sample size was 68 teachers.

36 respondents were involved in the control group, and 32 respondents - in the experimental group, including 30 women and 38 men.

In order to ensure the representativeness and reliability of the sample, the peculiarities of the formation of experimental groups, age and gender were determined. The formation of the control-research array was carried out by pairwise selection. The condition was taken into account that at the end of the selection, the number of the experimental group met the requirements of representativeness. The sample consisted of 68 master's students. 36 respondents were involved in the control group, and 32 participants in the experimental group. From the selected respondents, 30 women and 38 men were selected for the experimental study.

To obtain initial indicators, at the beginning of the experiment, an analysis of the level of development of the professional culture of specialists was carried out, problems that can be effectively and qualitatively solved with the help of the practical use of the author's methodology were identified; after determining the contingent of participants, a diagnosis of the individual levels of the formation of the components of the professional culture of specialists in the pedagogical field in institutions of higher education was carried out, their surveying was conducted, the necessary conclusions were drawn.

An analytical study of the effectiveness of the formation of the specified components of the readiness of pedagogical specialists for the formation of professional culture based on the use of neurotechnologies and artificial intelligence was conducted. Integrated trainings have been developed, which are implemented in training programs for specialists in the pedagogical field along with the use of doping methods aimed at forming the ability to maintain confidence during professional activities (lecture, open class, etc.), development of pedagogical portfolios, presentations, creative and cultural events, implementation of project activities, etc. The obtained data were processed using the methods of mathematical statistics: processing of the final characteristics of the formation of levels of readiness of specialists in the pedagogical field for shaping of professional culture based on the use of neurotechnology and artificial intelligence.

Based on the results of the implementation of the outlined methods, the obtained results were analyzed, their generalization was made, conclusions were drawn, and prospects for further research were formulated.

3 Results and Discussion

The study of the strategic development of the economy for 2020-2030 gives reasons to claim that a completely new type of industrial production will emerge in Ukraine, which will be based on Big Data and its analysis, full automation of production, augmented reality technologies and the Internet of Things.

That is why the rapid development of artificial intelligence in all areas of human life determines the use of digital technologies in the educational process of higher education institutions in the formation of the professional culture of specialists in the pedagogical field [6; 25].

The continuous development of specialists in the pedagogical field, their formation as a person of culture, an agent of change, an innovative personality involves the creation of effective conditions for professional growth, personal self-development through the use of potential opportunities of the modern information society [12]. Among the important means of forming the professional culture of specialists in the pedagogical field, there is readiness to use neurotechnologies and artificial intelligence in professional activities [1].

In determining the content of the basics of artificial intelligence, one should proceed from provisions that reflect the logical and psychological aspect of the selection of educational material. Their essence lies in the assimilation of knowledge based on the conditions of their origin, due to which they acquire their significance, and, along with this, the educational material should provide the opportunity to identify the subject sources of knowledge and to single out the genetically original, essential, universal relationship that determines the content and structure of object of given knowledge.

In the draft Concept, the notion of "artificial intelligence" is defined as "the property of systems to correctly interpret external data in accordance with the set goal, learn from such data and use the results of learning to achieve the set goals, including the collection and use of new data through interaction with the environment".

On the basis of the British Industrial Strategy (*Industrial Strategy: Building a Britain fit for the future*), other emphasis is placed on understanding the concept of artificial intelligence - these are technologies capable of performing tasks that would otherwise require human intelligence, for example, visual perception, speech recognition and translation of languages. But, regardless of which definition to choose, the development of artificial intelligence implies approximately the same requirements for education and changes in the education system itself [3; 24].

All countries that create strategic documents on the development of artificial intelligence see approximately the same main goal of education in this process - to guarantee that society will be able to take full advantage of the opportunities provided by artificial intelligence.

To date, "DigCompEdu" has been created - a science-based basic foundation whose purpose is to help guide policy in the field of digital educational technologies; it can be adapted to the implementation of regional and national tools and educational programs. "DigCompEdu" provides a common language and approach that creates a dialogue and exchange of best practices between countries in the field of pedagogy. The "DigCompEdu" framework is intended for specialists in the pedagogical field, including inclusive and non-formal education [17].

The framework of the digital competence of the teacher "DigCompEdu" defines 6 main areas reflected in 22 components (Figure 1), in which the competence of the teacher is expressed.

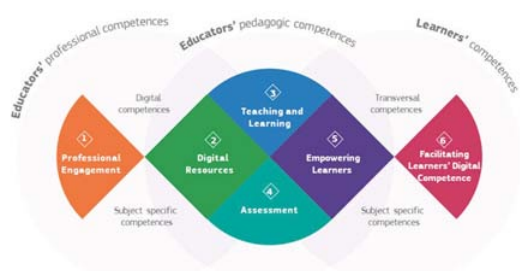


Figure 1. Areas of digital competence

Area 1 "Professional Engagement" involves the use of digital technologies for communication, collaboration, and professional development.

Area 2 "Digital resources" includes the search, creation, and distribution of digital resources.

Area 3 "Teaching and learning" brings together the management and organization of the use of digital technologies in teaching and learning.

Area 4 "Assessment" is the use of digital technologies and strategies to improve assessment.

Area 5 "Empowering students" involves the use of digital technologies to improve inclusion, personalization, and active engagement of students.

Area 6 "Facilitating learners' digital competence" includes providing opportunities for creative and responsible use of digital technologies for working with information, communication, content creation, well-being and problem solving [18].

Artificial intelligence (AI) is the ability of digital devices to perform the tasks inherent in intelligent beings.

The basis of any intelligence is a neuron. When it comes to humans, it is a biological neuron, and when it comes to computers, it is an artificial neuron.

Research in the field of artificial intelligence began in 1954. In 1956, an expert in the field of informatics J. McCarthy proposed a definition of artificial intelligence, according to which training should be carried out with great accuracy [29].

The studies highlight the following aspects of the use of artificial intelligence in education:

Adaptive learning. It consists in providing an opportunity to monitor the individual process of students and alerting the teacher about difficulties in understanding the educational material.

Personalized learning. Artificial intelligence allows choosing own learning speed.

Automatic assessment. With the help of the use of artificial intelligence, automatic evaluation of answers, provision of individual feedback, creation of an individual training plan is carried out.

Interval training. Consolidation of educational material using artificial intelligence systems can be carried out in stages.

Evaluation of the teacher by students. On the basis of student questionnaires, their relationship to teachers is revealed, which is the basis for obtaining relevant information and adjusting actions [30].

For this purpose, the following are used:

– Chat bots, which are used to collect information using a dialog interface that simulates this process. Conversations can be adapted to the character of the student and modified depending on his answers. Chatbots can filter out rude comments and personal insults that are sometimes found in feedback forms.

– Smart campuses. The smart campus answers any questions students may have related to their studies and life: how to find a lecture hall, register for a chosen course, receive an assignment, contact a teacher, etc. [27].

One of the main features of the Fourth Industrial Revolution, which is taking place today, is that the latest technologies and universal innovations are spreading much faster and on a larger scale compared to previous revolutions. The prospects of total automation and robotization of all spheres of production, the emergence of artificial intelligence open up wide opportunities for growth to the world economy, contribute to raising the level and quality of life of individuals and society in general. At the same time, the active implementation of advanced technologies and innovations entails new challenges, primarily in the social sphere.

The ability to communicate and control computers with the help of thinking and perspectives began to be used in education (teaching and learning), and now it is considered as the fourth technological revolution, which radically changes the structure of higher education around the world. The use of machine learning and neural networks has great potential for open science, namely: pattern recognition, natural language processing, robotic agents, strategic thinking, etc. [20].

Two types of artificial intelligence are distinguished: rule-based and machine learning. Rule-based AI uses decision-making rules to generate or suggest a recommendation or solution to a given query, such as an intelligent tutoring system. Artificial intelligence based on machine learning is much more powerful. In education, artificial intelligence tools based on machine learning can be used to monitor student activity and create models to predict student behavior outcomes. Today, the use of machine artificial intelligence is actively implemented in the educational process of higher education institutions. For example, Pearson uses natural language processing for assessment [30].

The study highlights the advantages of using artificial intelligence in the education system:

1. Artificial intelligence systems are able to adapt to the educational needs of students.
2. Artificial intelligence systems are capable of analyzing and monitoring the student's current learning style and available abilities.
3. Artificial intelligence systems evaluate not only closed answers in the test format, but also descriptive ones.
4. Adaptive training of students is used at the initial level, and then gradually moves to the next stage, completing the previous one.
5. Artificial intelligence can give students access to education according to need.

6. Using artificial intelligence to create educational content: AI programs that convert voice to text are widely used.

Artificial intelligence manifests itself in the implementation of adaptive learning, personalized learning, interval learning, automatic evaluation of educational achievements with the possibility of analyzing answers and providing personalized assistance, evaluation of teachers by students, etc. A rather promising and effective technology in the conditions of online education is adaptive learning, which involves adjusting the content of education within individual educational components based on the analysis of the educational achievements of the students. In the educational field, there is the use of intelligent information systems, expert learning systems, multi-agent and adaptive learning systems, ontological knowledge bases grounded on the use of the Semantic Web. For example, in the formation of the professional culture of specialists in the field of pedagogy, it is possible to use an intellectual system of information and cognitive support for the functioning of the National Qualifications Framework (NQF), which allows to automatically compare the level of qualifications with specific personal data of specialists in the pedagogical field, compare the list of competencies of the NQF with the list of competencies of another countries, providing assistance in choosing a specialty based on acquired competencies, etc. [28].

Approaches to the use of artificial intelligence in online education are highlighted on the basis of the studied literary sources are distinguished, namely:

1. Hyper-personalized educational process. It consists in the development by educational institutions of individual study profiles according to the abilities of each student. Based on such a profile, educators from all over the world are able to assess students' abilities and help improve success rates.
2. Voice assistants to improve the perception of information. The applications Amazon Alexa and Microsoft Cortana are offered for use, designed to carry out the planned course materials and satisfy one's information needs. The use of voice assistants is that they replace the traditional handouts given to students by the teacher. Thanks to this approach, the need for internal constant support from the teacher is reduced and the quality of students' education is increased. The practice of using voice assistants allows reducing the active load on both the teacher and the student.
3. Teacher assistants. In a higher education institution, there is a need to manage the teaching staff and students' performance, as well as to perform administrative tasks that ensure the continuous operation of the academic environment. Such assistants include services that improve work with personnel and management of the educational environment, output of the main document flow, duties not related to teaching: performance evaluation, student cooperation, etc. Artificial intelligence is used in the design of Google services, where since 2016 the Google Neural Machine Translation (GNMT) technology has been integrated into the translation system. GNMT significantly improves the quality of translation, in which the system learns from information found in millions of sources on the Internet. Due to the significant end-to-end structure, the system learns to produce better translations over time [23].

Attention should be paid to mobile applications that help the teacher to select educational material in relation to the audience of students, the educational program, the curriculum. Such applications are employed during the study and consolidation of educational material, analytical selection of educational material in the process of performing educational tasks. Based on the received information, artificial intelligence can provide a report to the teacher, and he, in turn, can adjust his course.

In recent decades, the use of chatbots has gained importance.

A chatbot, mentioned above, is an artificial intelligence system with which users interact through text. They are most often used in almost all spheres of activity: from e-commerce to industry and the provision of public services.

The role of chatbots in education is quite significant. They are a promising tool because they are individualized for a certain listener according to his level of knowledge acquisition and pace of learning. They do not require resource costs in addition to computer equipment and act as an analogue of "feedback" services, processing user questions and finding an answer to them, or directing a request to a service center. The lack of feedback should be attributed to the disadvantages of using chatbots.

In theory, a chatbot is a very flexible and adaptive tool that can adapt to user requests, simulating a "live dialogue". Reaching the level of dialogic communication is an important element in language learning. However, the question arises whether a chatbot is capable of generating dialogues for educational purposes [19].

Voice assistants and chatbots have become widespread. The advantage of chatbots is the ability to simplify online learning, give it personalization and productivity. Such chatbots include Duolingo, Thinkster, Querium, Aita by Knewton. Today, ChatGPT chatbot, which entered the market at the end of 2022, is gaining the most popularity in terms of power. The main advantage of the ChatGPT chatbot is the ability to generate text in several areas of knowledge, which is similar to the text produced by a person. Due to intelligent methods (Generative Pretrained Transformer language model), ChatGPT can learn and generate text using the patterns and features of the text it was trained on. The use of ChatGPT during adapted personalized training is recommended [9].

The Duolingo app was one of the first to use bots in learning a foreign language. At the end of 2016, Duolingo developed several characters for conversations in a foreign language. However, users of the program noted in discussions and thematic forums that the chatbot often could not imitate a "natural" conversation, and sometimes prevented the correct study of a foreign language. At the same time, chatbots are effective assistants during the work of a teacher or methodologist and are used as an assistant or translator of lecture and practical material for a wide audience [13].

The work of chatbot is directed according to the principle of "daily challenge" (a daily task with a limited time period for its execution), making a newsletter to users who have started a dialogue with the bot on the network. The reason for choosing this format of work is directly related to the results of acquiring knowledge. The main advantage of chatbot technology is that it does not require special IT training or financial investments.

The introduction of a dialogue with a chatbot can be carried out in two ways: passively and interactively. Passive means reliance on theoretical material (lectures, tables, etc.) prepared in advance by the teacher. After the end of the time for assimilation of the theoretical material (block-pause), the interactive phase begins. The chatbot can send a message containing a multiple-choice question (blockchain) related to the educational topic. Chatbots can make the online learning process more productive by offering personalized programs. This option saves time not only for the user, but also for the teacher, giving the former the opportunity to get the necessary information instantly and at any time of the day, and the latter to more effectively use time for developing educational materials and deepening work with students [7].

Chatbots used in education include:

1. Duolingo, designed to personalize courses by adapting them to the strengths, weaknesses, and preferences of each student. Artificial intelligence pays attention to what vocabulary pupils and students have, which examples of grammar are difficult for them and what content they like. Duolingo also uses natural language processing to create interactions with chatbots, giving students the opportunity to practice speaking in real time.
2. Thinkster. It uses artificial intelligence for personalized math tutoring. Users start with an assessment text, and then

AI can customize questions based on their level of knowledge and how well they master the learning material. Thinkster combines artificial intelligence with training from live math teachers.

3. Querium. This virtual learning program analyzes the steps students take to solve a STEM problem and provides negative feedback on what students are doing right or wrong. This prevents students from learning the wrong answer to learning and relieves teachers of a huge amount of work that needs to be corrected. A feature of the use of artificial intelligence is that in order to provide correct feedback, it must understand the student's input data, which can take different forms each time.
4. Aita by Newton. This product uses adaptive learning to identify gaps in student knowledge and then fill them with high-quality learning materials that are selected from its own database. In this example, artificial intelligence represents a learning tool that identifies and closes knowledge gaps [8].

Based on the analysis of scientific works, the need to develop the professional culture of specialists in the pedagogical field was determined, which is due to constantly growing requirements for the level of their training on the basis of the introduction of neurotechnologies and artificial intelligence, the preparation of future specialists for a professional, competent entry into the labor market with firmly established needs for permanent professional self-development, self-improvement, and self-realization.

Thus, we highlight areas of practical application of neurotechnologies and artificial intelligence in the process of forming the professional culture of specialists in the pedagogical field (see Table 1).

Table 1: Areas of practical application of artificial intelligence in modern conditions

Field of application	Characteristics
Machine learning	It is designed to automate the construction of an analytical model, provides analysis and use of statistical data. Aimed at forming ideas about certain situations and ways to solve them
Neural network	Refers to types of machine learning. It acts to correct the performance of assigned tasks or to make the right decisions in advance in relevant situations
Deep learning	It is capable of forming multi-layer neural networks, which allows taking advantage of computing power and advanced learning methods to process more complex models with larger datasets
Cognitive computing	Cognitive computing is used to simulate processes. On the example of a person who first interprets images and language, and then can speak and perform certain actions on his own
Computer vision	Machines are capable of recognizing patterns and learning what is happening in an image or video. This option allows machines to independently process and analyze video or images and offer their own solutions for processing and using the material
Proof of theorems	In the process of development of artificial intelligence, the study of methods of proving theorems played an important role. Many different problems use the same methodological approaches used in proving theorems. At the same time, proving a theorem includes not only making deductions based on hypotheses, but also making intuitive assumptions about what needs to be proved to confirm the theorem
Image recognition	The system developer creates a list of features on which the quality of recognition depends a lot. The essence of recognition consists in a priori obtaining a vector of features for a selected individual object, and then, based on a list of features, determining

	which of the figures corresponds to this vector of features
Machine translation and understanding of human language	Based on the semantic model of text representation, a language was created for the internal representation of knowledge. Therefore, today systems analyze phrases and texts in the following stages: morphological, syntactic, semantic, and pragmatic analysis
Game programs	One example is learning a chess game system. At the same time, there are several levels of complexity in chess, which reflect the quality of the system's game and identify clear criteria for evaluating the intellectual growth of the system
Machine creativity	Software systems capable of independently creating music, poems, stories, articles, diplomas and even dissertations. In addition, many musical applications have been created: sound processing systems, sound synthesis, interactive composition systems, algorithmic composition programs
Expert systems	They are used in science, business, technology, production, and other areas where there is a well-defined subject area. A condition for the effective operation of such a system is the existence of an algorithm in a defined subject area

Source: compiled according to [18; 27]

An experiment was conducted in order to check the level of formation of the professional culture of specialists in the pedagogical field.

During the ascertaining stage of the experiment, a set of methodological tools aimed at studying the levels of formation of the professional culture of pedagogical specialists at different stages of the experiment was designed. The author's methods were implemented in the experimental group by creating artificial conditions for conducting the experiment.

A comparative analysis of the scientific base on research problems, systematization, classification, and generalization of theoretical data was carried out; modeling and generalization of methods of training specialists in the pedagogical field was carried out: emotional, motivational, cognitive-active, reflective.

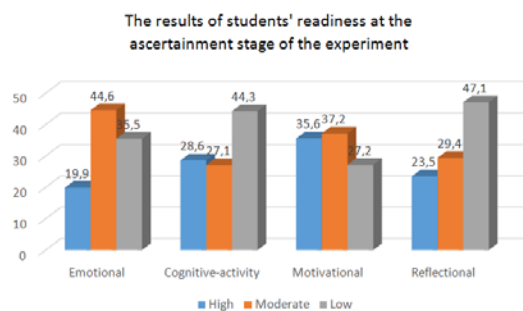
The sample consisted of 68 teachers of the Oleksandr Dovzhenko Hlukhiv National Pedagogical University.

36 respondents were involved in the control group, and 32 respondents in the experimental group, including 30 women and 38 men.

In the course of the ascertaining experiment, a contingent of respondents who are in the same conditions (training course, educational program, etc.) was determined, a survey was conducted on the basis of which a diagnosis of the levels of formation of the components of readiness for the formation of the professional culture of specialists in the pedagogical field was performed.

To determine the initial level of development of the professional culture of specialists in the pedagogical field at the ascertaining stage of the experiment in the control group, a survey of specialists in the pedagogical field was used regarding the readiness to use neurotechnologies and artificial intelligence in the educational program for training specialists in the pedagogical field. In the course of the experiment, a set of adapted methods for studying the levels of professional culture of pedagogical specialists during the experiment was selected.

The results of the data obtained in the process of surveying students allowed us to conclude that the respondents are mostly at a medium and low level of readiness for the introduction of neurotechnologies and artificial intelligence. The results obtained at the experimental stage are presented in Figure 2.



Source: compiled by the author

Figure 2. Results of diagnostics of the readiness of pedagogical specialists to form a professional culture based on the use of neurotechnology and artificial intelligence at the ascertaining stage of the experiment in the control group

At the formative stage of the experiment, a number of specialized methods were implemented in the experimental group for the formation of components of professional culture at all stages.

The following psychological and pedagogical conditions must be met for the quality formation of professional culture: ensuring the formation of the professional culture of specialists in the pedagogical field during professional development through the introduction of neurotechnologies and artificial intelligence in professional activities; integrativeness in the content of educational programs for improving the qualifications of educators; integrity, continuity and systematic formation of professional culture; active mastering of the experience of implementing neurotechnologies and artificial intelligence in the subject-subject dimension; ensuring reflexive activity in the direction of self-improvement.

The implementation of the first condition aims to ensure the formation of the professional culture of specialists in the pedagogical field during advanced training by introducing neurotechnologies and artificial intelligence in professional activities through the emotional-volitional and motivational criterion and is coordinated through the culturally oriented principle: the implementation of the formation of professional culture during retraining with the help of personal and social requests.

To implement the first pedagogical condition, methods aimed at activating the potential of using digital technologies by specialists in the pedagogical field have been defined, namely the introduction of: integration trainings (reflective, with elements of innovation); the use of doping methods aimed at forming the ability to maintain confidence when using something new in the educational process (lecture, open class, etc.); the use of methods and techniques for the development of pedagogical self-presentation skills (development of pedagogical portfolios, improvement of own pedagogical skill based on the use of neurotechnology and artificial intelligence, etc.).

Ensuring the implementation of the second pedagogical condition - integrativeness in the content of educational programs for improving the qualifications of educators - consists in ensuring the formation of professional culture among specialists in the pedagogical field based on the principle of motivation of culturally integrated learning.

Implementation of the outlined psychological and pedagogical conditions should be carried out by establishing intra-subject, inter-subject, transdisciplinary connections aimed at shaping readiness for the formation of professional culture and actualization of the motivational and value sphere of the individual.

It is proposed to implement the specified condition by introducing the following tasks into the educational process: formation of the motivational sphere for the chosen profession;

creation of situations of success during the implementation of professional activities; creation of appropriate conditions for systematic and integrated acquiring of knowledge and skills regarding the use of neurotechnologies and artificial intelligence in the educational process in synthesis with professional ones.

To implement this condition, the following methods should be used: integrative and interactive.

Implementation of the third psychological-pedagogical condition - the integrity, continuity and systematic formation of professional culture - was carried out by performing the following tasks: acquiring knowledge about humanistic-valued professional and professional-cultural orientations and basic technologies of using forms, methods, techniques and means of their implementation in the process of using neurotechnologies and artificial intelligence; creation of conditions for the activation of specialists in the pedagogical field to conscious knowledge, perception, analysis and generalization of the use of artificial intelligence through the borrowing of world, European, and domestic experience.

The indicated methodological complex is recommended for use during foreign internships and professional development by specialists in the pedagogical field.

The implementation of the fourth psychological and pedagogical condition - active mastery of the experience of implementing neurotechnologies and artificial intelligence in the subject-subject dimension, ensuring reflexive activity in the direction of self-improvement - was carried out with the help of involving specialists in the pedagogical field to work in the digital environment both individually and collectively.

Implementation of the third and fourth conditions is proposed by ensuring the formation of the cognitive-activity component of readiness.

It is proposed to use a methodological toolkit for the implementation of a certain pedagogical condition, namely: the implementation of creative methods (portfolio, implementation of interactive educational games, public presentations, holding an interactive discourse).

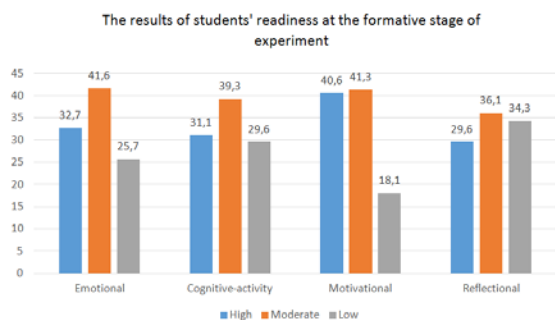
The fifth condition is the provision of reflexive activity in the direction of self-improvement, which ensures the achievement of the intended goal through the creation of appropriate circumstances for the formation of professional culture of specialists in the pedagogical field based on the principle of reflective orientation of professional culture.

The implementation of the specified condition is envisaged through the process of active development of students' ability to self-analyze, control, and evaluate the levels of their own professional culture, which ensures self-regulation of educational activities of pedagogical specialists.

It is proposed to use the method of writing self-reviews, training activity of lateral (non-standard) thinking; use of strategic self-improvement techniques; method of problem-reflective dialogue and polylogue, reflexive-business games, as well as the method of positional discussion.

In the conditions of both face-to-face and distance education, for the successful implementation of certain conditions and components of readiness, the use of neurotechnologies and artificial intelligence defined in the study is proposed.

Thus, after the implementation of a methodological toolkit aimed at the formation of the components of readiness for the formation of the professional culture of specialists in the pedagogical field and the psychological and pedagogical conditions through which they are implemented, testing of teachers was conducted and the level of formation of the professional culture was determined. The obtained data results at the formative stage of the experiment are presented in Figure 3.



Source: compiled by the author

Figure 3. Results of diagnostics of the readiness of specialists in the pedagogical field to form a professional culture based on the use of neurotechnology and artificial intelligence at the formative stage of the experiment in the experimental group

Based on the results of the analysis of experimental data, it was concluded that at the formative stage of the experiment, the level of formation of the components of the readiness of the pedagogical specialists to form a professional culture based on the use of neurotechnologies and artificial intelligence increased, which allows speaking about the effectiveness of the outlined methodology.

4 Conclusions

In the course of the study, it was concluded that the high-quality formation of the professional culture of specialists in the pedagogical field should be based on the principles of using neurotechnologies and artificial intelligence.

The concept of "artificial intelligence" was defined. Prospective directions for improving the process of increasing the readiness of pedagogical specialists for the formation of professional culture based on the use of neurotechnology and artificial intelligence have been formed.

In the process of conducting the experiment, it was established that the level of readiness of specialists in the pedagogical field to use neurotechnology and artificial intelligence in the educational process of a higher school is mainly at a low and medium position.

Such a trend requires the creation of the necessary methodological toolkit, which will serve to increase the level of training of specialists in the pedagogical field, as a result of the formation of their professional culture.

The components of the readiness of specialists in the pedagogical field to form a professional culture based on the use of neurotechnologies and artificial intelligence and the criteria for them are highlighted, namely: the emotional component (emotional-volitional criterion); motivational component (motivational and value criterion); cognitive-activity component (symbolic-operational criterion); reflexive component (relaxation criterion).

In the process of determining the stages of formation of the professional culture of specialists in the pedagogical field, the following levels of formation of readiness components were selected: high, moderate, and low. The process of formation of professional culture is built on the basis of algorithmicity, gradualism, systematicity, interdependence of the outlined components.

In the course of the research, questionnaires and surveys were applied; the content of professional development programs for specialists in the pedagogical field was updated.

Psychological and pedagogical conditions are highlighted, namely: ensuring the formation of the professional culture of pedagogical specialists during professional development through the introduction of neurotechnologies and artificial intelligence

in professional activities; integrativeness in the content of educational programs for improving the qualifications of educators; integrity, continuity and systematic formation of professional culture; active mastering of the experience of implementing neurotechnologies and artificial intelligence in the subject-subject dimension; ensuring reflexive activity in the direction of self-improvement.

The generalized data of the results of the experiment after the application of the proposed methodology allow drawing conclusions about the effectiveness of the implemented methodological tools. In this regard, the policy of educational institutions of Ukraine should be aimed at updating the methodology of retraining specialists in the pedagogical field.

Thus, the direction of further research should be aimed at considering modern programs of the international level for specialists in the pedagogical field with the possibility of professional development abroad and the results of own research. Scientific research, as well as the conclusions formulated on its basis, can be used in the future as an effective basis for improving the training of pedagogical specialists in higher educational institutions, finding ways to increase the level of professional culture, using the experience of foreign countries, introducing digital resources for the organization of scientific research processes in the context of higher education, conducting professional activities at a high level, taking into account the requirements of the labor market, deepening the study of the structure of the professional culture of educators in professional training.

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Primary Paper Section: A**Secondary Paper Section: AM**

THE SYSTEM OF FORMING THE EMOTIONAL AND ETHICAL COMPETENCE OF THE FUTURE EDUCATION MANAGER IN THE CONDITIONS OF TRANSFORMATIONAL CHANGES

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Abstract: In the article, it is shown that the transformational changes of the modern socio-cultural space aggravate the problem of professional competence of future education managers, actualizing the appeal to emotional and ethical issues. It is claimed that the indicators of the emotional-volitional criterion of the future education manager professional competence formation are steadily developed in controlled emotional sphere. Based on a systemic approach, the authors developed a structure of components of professional competence. In the study, the authors relied on the fact that the professional competence of future education managers is a latent variable, the indicators of which are the levels of formation of the components of this competence. A pedagogical experiment was carried out, in which students of the second (master's) level of higher education participated (a total of 178 respondents). The experiment was conducted in natural conditions, without disturbing the logic and course of the educational process. The results obtained during the experiment give reason to believe that the proposed system of forming the emotional and ethical competence of future education managers is optimal.

Keywords: future education manager; professional competence; emotional and ethical competence; transformational changes.

1 Introduction

The introduction of military operations and martial law on the territory of Ukraine caused inevitable changes in the lives of Ukrainian citizens. Regular bombings and rocket attacks disturbed the emotional and psychological state of residents of both large cities and small villages. There were also changes in the educational process of higher education institutions, which affected the use of distance learning or a mixed form (face-to-face and distance learning). In addition, one should think about the method of providing high-quality educational services, the use of new forms and methods of conducting educational classes [9].

Therefore, there is an urgent need to teach applicants at the second (master's) level of higher education to independently solve typical and atypical tasks, search for information, and acquire new knowledge and skills. To implement this, new approaches to the organization of the educational process, the creation of the necessary conditions for the introduction of new forms and methods of conducting classroom and non-auditory classes are needed.

Thus, the transformational changes of the modern socio-cultural space aggravate the problem of professional competence of future education managers, actualizing the appeal to emotional and ethical issues. At the same time, ethical problems are the most unexplored, which creates real difficulties for the design and implementation of management technologies in education. This requires identifying ways to solve a complex of emotional and ethical problems of modern management in the field of education. Therefore, the analysis of the emotional-ethical component in the professional competence of a modern education manager allows turning to understanding of the system of formation of emotional-ethical competence [6].

2 Materials and Method

The methodological basis of the study is a systemic, subjective, and activity approach. The theoretical basis of the study was the concept of development of individual potential, theories and concepts of management activities, theoretical research in the field of professional training of future managers.

A comprehensive research method was used, which included: theoretical analysis of philosophical, sociological, psychological and socio-pedagogical literature; comparative, conceptual and terminological analysis; comparison, generalization, modeling; ascertaining and formative experiment, as well as statistical methods

3 Results and Discussion

The system of formation of professional competence of future education managers implies the coordination of the processes of formation of professional orientation, readiness, awareness, activity, self-sufficiency, which are represented by a system of knowledge, abilities, skills with didactic, developmental and educational tasks, goals and objectives of professional training in educational, extracurricular, independent, research activity in communicative, nationally oriented (creative) spheres of activity.

The criteria for the formation of professional competence of the second (master's) level of higher education are the following: emotional-volitional, motivational-value, cognitive, activity-operational, reflective, which play an important role in the formation of the professional competence of the future education manager. Indicators of the emotional-volitional criterion of the formation of the professional competence of the future education manager are a steadily developed and managed emotional sphere, which prompts the identification of optimal professionally directed volitional actions and is manifested by a positive and stable internal orientation towards the establishment of professional communication. Indicators of the motivational-value criterion of the formation of professional competence are the possession of a system of personal and professional-value orientations, as well as positive professional-personal motivation, manifested by awareness of motives, needs, interests for success in professional activity. The indicators of the cognitive criterion imply possession of professional and specialized knowledge and cognitive tools, manifested by awareness and possession of the system of relevant knowledge. Indicators of the activity-operational criterion imply the ability to self-realize in the conditions of a professionally-oriented educational environment, which is manifested by knowledge, the ability to implement potential, and the accumulation of experience in managerial activities. And the indicators of the reflective criterion of the professional competence of the future education manager are: the ability to reflect, self-develop and evaluate own results of professionally oriented activities, characterized by the knowledge and skills of self-evaluation, self-analysis, and self-correlation.

For our research, the systematic approach to determining the professional competence of future education managers is important, presented in the works of V. Bazelyuk, S. Kubitsky, Y. Rudyk, Z. Ryabova, and O. Novak. According to the study of scientists, the formation of professional competence of future education managers can be represented as the formation of abilities, qualities, mental resources of the individual, acquisition of cognitive components, experience in the educational process of a higher education institution. A competent education manager, first of all, must possess certain individual and psychological qualities (independence, discipline, sociability, need for self-development, creativity), and secondly, he must demonstrate the formation of key, basic, and special competencies. The model of competence of the head of an educational institution presented by scientists summarizes the types of competences and the components of competence

characteristic of each type of competency. Namely, communicative, informational, social-legal, cultural-value components, as well as self-control, clarity of own goals, self-improvement correspond to the *key competency*; *basic competency* imply generally pedagogical, topically pedagogical, psychological components and innovativeness; *special competency* is correlated with education management, education economics, entrepreneurship, educational and juvenile jurisprudence [2; 13].

Therefore, taking into account the need for effective management, the authors developed a structure of components of professional competence based on the fact that professional competence is established by the State Standard of Higher Education, professional, social, and personal requirements for the future head of an educational institution. The structure of the components of the professional competence of an education manager consists of knowledge, skills, values, attitudes, qualities, professional experience [2]. Further in our research, we rely on the fact that the professional competence of future education managers is a latent variable, the indicators of which are the levels of formation of the components of this competence.

Experimental testing of the research hypothesis involved the use of a pedagogical experiment as a scientific research method. The purpose of the experiment was to check the plausibility of the proposed hypothesis, establish the legality, effectiveness, and efficiency of the developed scientific-methodical system of forming the emotional and ethical competence of future education managers in the conditions of transformational changes, the objectivity of theoretical conclusions regarding its formation.

In the experimental and research work, which was carried out during 2021–2023 on the basis of NUBiP of Ukraine, applicants of the second (master's) level of higher education, specialty 073 Management, OPP – Management of an educational institution, stakeholders (teachers - 6 people, directors of institutions of general secondary education, their deputies, practicing teachers - totally 12 people) participated. In total, there were 178 surveyed respondents. The experiment was conducted in natural conditions, without disturbing the logic and course of the educational process. The simultaneous establishment of legality, effectiveness, and efficiency of the system of formation of emotional and ethical competence of future education managers in the conditions of transformational changes in experimental groups during classes contributed to the improvement of their preparation for managerial activities.

In the experimental work, a set of methods was used, which are summarized in Table 1.

Table 1: Research methods used in the pedagogical experiment

No.	Methods of research	Tasks of research
1	2	3
1	<i>Observation</i> is a purposeful, planned and measured, systematic perception and recording of psychological and pedagogical manifestations of the behavior and activities of students	A holistic, comprehensive study of the applicant's personality in multifaceted manifestations and connections; determination of the level of formation of emotional and ethical competence, dynamics of personal and professional growth
2	<i>Conversations</i> with applicants - individual and group ones	Obtaining data on the nature of the applicants' motives, their professional and value orientations, individual and personal characteristics,

		inclinations, qualities, etc.
3	<p><i>Questionnaire</i></p> <ul style="list-style-type: none"> questionnaire “Your awareness in the field of emotional and ethical competence of the head of the educational institution”, questionnaire “Your attitude to the problems of managing an educational institution on the basis of socio-cultural interaction”, questionnaire “Your attitude towards the development of emotional and ethical competence of the future head of an educational institution”, questionnaire “Self-management technique” 	<p>Identifying the personal attitude of the applicants to the formation of emotional and ethical competence; determination of the motives of its formation; elucidation of the formation of cognitive interest in emotional and ethical competence in the conditions of transformational changes</p> <p>Determination of the applicant's ability to self-management</p>
4	<p><i>Psychological and pedagogical diagnosis and self-diagnosis</i></p> <ul style="list-style-type: none"> tests “Assessment of the depth of conflict” and “Self-assessment of conflictedness” technique of diagnostics of cultural and ethical qualities 	<p>Assessment of the nature of the conflict situation and self-assessment of conflictedness</p> <p>Clarification of the formation of cultural and emotional qualities</p>
5	<i>The method of expert evaluations</i>	<p>Definition and clarification of the main provisions of the research methodology; definition of criteria, indicators that reflect essential characteristics of emotional and ethical competence of future education managers</p>
6	<i>Testing</i> - application of didactic tests	Determination of the formation of emotional and ethical competence (its completeness)
7	Pedagogical experiment	Verification of the system of formation of emotional and ethical competence of future education managers in the conditions of transformational changes
8	Methods of mathematical statistics [11]	Verification of the reliability of the obtained results

The experiment took place in stages, including ascertaining, formative, and control stages.

At the ascertainment stage, in accordance with the determined criteria and indicators, a diagnosis of the initial level of emotional and ethical competence formation of future education managers was carried out.

Based on the fact that the emotional and ethical competence of the future education manager is determined not only by his knowledge, skills, abilities, but also by value orientations, motives of activity, we, first of all, were interested in the motives

that prompt second-level graduates to comprehend the peculiarities of managerial activity.

The range of motives of the applicants was revealed using theses-assertions, which included the motives of managerial activity, that had to be arranged in order of personal significance (that is, ranked). Based on the survey and ranking, the following data were obtained:

- Desire to be a competent education manager – 37.6%;
- Interest in the organization of the educational process based on the principles of pedagogical ethics, culture of communication, integrity and decency, the need for their observance - 24.2%;
- Desire to master the knowledge necessary for education manager in the field of emotional and ethical relations - 23%;
- Desire to master the practical methods necessary to manage own emotional states - 21.9%;
- Desire to create a positive psychological climate in the team during subject-subject interaction - 20.7%;
- Desire to realize personal sensations and feelings - 17.9%;
- Development of own capabilities and abilities in the context of emotional and ethical competence – 13.5%.

Among those surveyed, a fairly small number of applicants (less than 9.5%) chose such motives as the desire to finish their studies, pass exams successfully, the desire to be competitive, to succeed in the management of an educational institution, and the like.

The obtained data on the motives of the applicants were used by us to determine the directions of specific work with future managers of education.

Conducting a survey using a questionnaire made it possible to conclude that 61.2% of applicants did not have a clear idea of the essence of the emotional and ethical competence of the head of educational institution, and the process of management in an educational institution was mainly considered the sphere of activity of the head. Only 38.2% of the applicants associated emotional and ethical competence with the manager's managerial activity, considering him a subject of management. Almost half of the applicants had insufficiently formed skills in managing the educational process and their own activities and fragmented knowledge about professional management of an educational institution.

In order to determine ways of forming the emotional and ethical competence of future education managers, we conducted a survey of teachers (23 people) and students of the second (master's) level of higher education (69 people). The respondents attributed the following to the most significant components of increasing the efficiency of the educational process:

- Filling the educational components of the cycle of special (professional) training with sociocultural content (52.1% of teachers and 55.1% of students).
- Availability of systematicity and consistency in the professional training of future managers of education (78.2% of teachers and 42% of students);
- Taking into account the continuity of educational components at all stages of education (60.8% of teachers and 36.2% of students);
- Introduction of integrated special courses of an applied nature, for example, such as: "Performance Management" (65% of teachers and 66.6% of students) and "Own business: creation and launch of own online store".

During the formative experiment, an experimental verification of scientifically based pedagogical conditions for the formation of the emotional and ethical competence of the future education manager was carried out.

The control stage of the formative experiment provided for the analysis and evaluation of the obtained results, in the case of the

need to adjust the content of educational disciplines or formation technologies.

Two groups were involved in the formative experiment: experimental EG (68 people) and control CG (71 people).

The purpose of the formative experiment was to check the proposed hypothesis, as well as the effectiveness and efficiency of the system of forming the emotional and ethical competence of future managers of education, the objectivity of theoretical conclusions regarding the levels of its formation.

The formative experiment was conducted on the basis of the requirements for pedagogical research, which are highlighted in the works of S. Honcharenko, P. Dmytrenko, M. Sadovy, and others.

The methods of diagnosing the formation of the components of emotional and ethical competence were selected taking into account the fact that in the theory and methodology of professional education, a comprehensive methodology for its assessment has not yet been created, therefore we used generally accepted methods (Karamushka L., Bondarchuk O., Hruby T., Jung K., Snyder M. and others), which made it possible to identify systemic features of the structural components of emotional and ethical competence and their indicators in the respondents.

Thus, one of the leading tasks and results of the professional training of the future education manager should be his awareness that the effectiveness of future professional activity depends not only on the knowledge and skills acquired at the university, but also on the formation of emotional and ethical competence.

The conducted scientific analysis made it possible to reveal the emotional and ethical competence of the future education manager as an integrated personal formation, mastery of a set of moral and ethical values, professional knowledge, skills and qualities of the applicant, the acquisition of which ensures his professional and ethical choice and self-regulation of conscious moral and ethical behavior in management activities.

The emotional and ethical competence of the future education manager is a conscious moral and ethical choice, a product of the educational process, but is not directly its result - it is a consequence of personal growth, professional self-improvement of the future education manager, a synthesis of activity, personal, and management experience. Thus, the formation of emotional and ethical competence by the future education manager not only involves his personal and professional self-improvement, but also represents an effective mechanism of the educational process of a higher education institution.

The specifics of emotional and ethical competence of the future education manager is reflected by the content of its structural components.

It is advisable to present the structure of emotional and ethical competence of future education managers in the form of the following interconnected components: value-motivational, cognitive, procedural, personal-reflective. Each of the components is characterized by a certain content that corresponds to the features of the management activity of the future education manager.

The value-motivational component is characterized by the applicant's professional and pedagogical focus on the understanding of emotional and ethical values (a stably developed and controlled emotional sphere that prompts the identification of optimal professionally directed volitional actions and is manifested by a positive and stable internal focus on establishing professional communication) as one of the important selection criteria in making managerial decisions, and includes the need to master the professional experience of the head of an educational institution, cognitive interest in the problems of management in the field of education, awareness of

the importance of emotional and ethical competence and motivation to master it.

The cognitive component contains a set of psychological and pedagogical knowledge and professional competence, which form a kind of foundation for the emotional and ethical competence of the applicants (analysis, interpretation of socio-cultural phenomena, cause-and-effect relationships between them on the basis of generalization and systematization; unbiased perception of new knowledge, perception of problems through the prism of subjective views and attitudes, the manifestation of creativity, variability in the selection of ways of solving situations in the field of education management, a reasonable determination of the development of events and expected results).

The procedural component is a set of professional skills, the main groups of which are: *gnostic skills* (generating ideas; showing inner confidence in the implementation of own ideas; thinking globally; presenting own reflected ideas, which were born in the process of internalizing critical ideas of the community, aimed at transformation, changing the principles of the existing the community or its separate systems; the ability to perceive the needs of society, to take upon self the determination of the ways of its transformation; to show a high ability to sense the moods and aspirations of society in general, or certain large branches of society's existence); *organizational skills* (clearly defining goals in managing the educational activities of the educational institution and organizing the activities of the educational institution; optimal allocation of time, own strength and resources, finding relevant ways and cooperation with other people to achieve the goals, independent implementation of actions in changed or new conditions of the socio-cultural space); *communication skills* (penetration into the state of another person, "reading" non-verbal information transmitted by the interlocutor; the ability to accurately assess and express emotions; the ability to understand one's own emotions and the emotions of other people related to internal and external events in society; the ability to achieve emotional resonance, to inspire people with the help of a description of future prospects or directions of movement: the ability to connect the desires of people with the goals of society; the ability to find new opportunities, and to contrast hope with despair and helplessness); *regulatory skills* (control of own behavior, management of negative emotions, support of positive emotional expressions, manifestations of self-control, patience, endurance in intercultural interaction); *reflective skills* (analysis, introspection, assessment, self-evaluation, reflection, self-reflection and correction of the results of own actions and deeds for further self-realization in managerial activities).

The professional-reflective component involves the development of the applicant's ability to reflect on goal-setting: direct and reverse analysis of the situation, as well as goal-setting from intermediate goals using direct and reverse analysis; the ability of the education manager to predict the result of his own managerial activity and to select techniques, methods, and forms of tracking individual actions regarding self-management in achieving the goal of this activity, self-analysis of the ratio of own capabilities and external conditions in the choice of decision-making, analysis of skills, professional actions.

All this forms the basis of self-education, self-upbringing, self-development, self-improvement of the future education manager, development of his own worldview, professional position. The separation of the professional-reflective component in the structure of the emotional and ethical competence of the future education manager is also due to the need to develop a set of professional and personal qualities related to managerial activities, namely: resilience, social activity, scenario thinking, sanogenic thinking, and semantic flexibility.

The formation of the emotional and ethical competence of the applicants was carried out in stages - during the preparatory, motivational-orientational, content-procedural, and evaluation-corrective stages. Thus, the preparatory stage was aimed at the

design and development of scientific and methodological support for the formation of the studied competence.

This work related to the modification of the content of the work programs of the disciplines of the cycle of general training ("Management psychology", "Management of educational activities", "Information and educational technologies in the management of educational institutions", "Business foreign language", "Methodology and organization of scientific research with the basics of intellectual property", "Strategic management") and a cycle of special (professional) training ("Management of financial and economic activities", "Personnel management", "Head of an educational institution") cycles based on didactically substantiated schemes for the introduction of an emotional and ethical component (ensuring the optimal amount of socio-cultural knowledge taking into account interdisciplinary connections, continuity and integrity of their provision).

The content of educational blocks, supplemental elements, as well as the nature of selective educational components made during the study, emphasis made, related to the issues of understanding the role, place and meaning of the socio-cultural component, acquiring knowledge and experience assimilating the emotional and ethical competence of future education managers is of high importance. This work related to the development of author's courses ("Management of educational activities", "Management of the development of an educational institution", "Pedagogy and educational technologies", "Techniques of management activities", "Monitoring the quality of education", "Administrative management", "Organization of activities of educational institutions", "Managing the quality of the educational process", "Systemic development of the educational institution"), the designing of which was focused on providing in-depth and differentiated socio-cultural content. The logic of developing the content of the manuals involved consideration of the foundations of world and national culture, the spiritual and moral and ethical foundations of human life, the role of cultural heritage for the safety of life in the system "man - society - nature", safe interaction in a multicultural space, the mission of the head of an educational institution as a carrier and the creator of culture, the significance of his emotional and ethical competence as an important component of professional competence, a factor of professional and pedagogical skill and creativity.

In addition, the work was aimed at preparing the author's programs of the disciplines "Educational Activity Management", "Educational Institution Development Management", "Pedagogy and Educational Technologies", "Management Techniques", "Education Quality Monitoring", "Administrative Management", "Organization of educational institutions' activities", "Managing the quality of the educational process", "Systemic development of the educational institution", aimed at the integration of general and special (professional) socio-cultural knowledge, provided for the exclusion of duplication of educational information that applicants of the second (master's) level of higher education received during study of subjects of general and professional cycles. Integrated educational and methodological complexes were developed for these educational disciplines, which included typical materials (texts of lectures and multimedia support, methodological recommendations for conducting practical and seminar classes; trainings, coaching, tasks for independent work, individual tasks for applicants of the second (master's) level of higher education, educational and research tasks of a sociocultural nature for industrial management practice, methodological recommendations for their implementation; issues of scientific research work and topics of course and master's theses; complex tasks for tests for current, thematic, and final control and self-control; list of recommended literature; criteria for evaluating knowledge from educational components).

In addition, while drawing up plans for the participation of students of the second (master's) level of higher education in educational, social and public work, their discussion and agreement with curators, the staff of the department, the dean's

office, cultural institutions, public organizations, etc. was enabled.

The algorithm for the formation of the emotional and ethical competence of the future education manager consisted of three stages: motivational-orientational, content-procedural, and evaluation-corrective.

The main goal of the motivational and orientation stage was the formation of pedagogical orientation of the future education managers of the experimental group for future professional activities. To the development of cognitive interests, positive motivation, and the acquisition of experience in the assimilation of the sociocultural space, the following were aimed: the use of interesting facts from the history and present of national, European, and world cultures in the educational material, information about modern trends in the development of management culture of educational institutions, the most important phenomena and processes of scientific and cultural industries, information about the problems of the organizational culture of educational institutions (value orientations of modern youth, the role of cultural traditions in the formation of personality, corporate culture of educational institutions, etc.); creation of a favorable psycho-emotional climate for classes, encouragement of educational achievements (creating a situation of success, belief in the cognitive abilities of those obtaining a second (master's) level of higher education).

The formation of a value attitude, the development of the need of the applicants to harmonize their own emotional and ethical behavior and cultural activities with generally accepted moral norms and cultural values was facilitated by the involvement of the future education manager in specially organized work of a practical orientation: socially beneficial, volunteer work.

The press conference "Head of an educational institution in the conditions of war" was dedicated to summarizing the above-mentioned activities, at which the applicants gave speeches. The analysis of the speeches proved that the work carried out contributed to the activation of future education managers, stimulated the motivational factors necessary for them to understand globalization challenges to society - education, language, culture, ecology, national self-awareness, health preservation and extension of human age, empowered gender identity, struggle with poverty, genocide bias, etc. All these challenges caused changes in all spheres of human activity.

The content-procedural stage was aimed at the formation of all components of the emotional and ethical competence of future education managers.

Of particular importance for the understanding of culture as a form of human existence, entry into the world cultural space was the study of the subjects of cycles of general and professional training and courses chosen by the applicants of the second (master's) level of higher education.

The effective assimilation of knowledge was facilitated by the holding of non-traditional lectures (problem-development lecture, lecture-consultation, lecture with errors, binary lecture, lecture-discussion), which allowed future education managers to more actively perceive educational information, to understand socio-cultural problems from different positions, to be aware of the specifics of the future managerial activity in the context of multiculturalism and intercultural interaction.

The development of emotional and ethical skills and qualities of the future education manager was carried out in practical classes with the involvement of forms and methods aimed at partnership interaction and interactivity in the educational process.

Thus, activation of the creative potential of the applicants, encouraging them to penetrate deeper into the essence of socio-cultural phenomena was facilitated by thematic discussions ("Ideas of formation of a leadership culture in education in the heritage of classical teachers", "Development of the spirituality of the future education manager", "The role of art in the life of a

human, a personality, a manager of education", "Self-realization of the personality in pedagogical activities"), discussions ("The relevance of the teaching profession today", "The purpose of the life of an education manager - the formation of spiritual needs of the individual or a philosophy of consumption?", "Philosophy of management in education of the 21st century. Is a change in the civilizational paradigm of the development of Ukraine necessary?", "Spirituality of an education manager - is it a state of inner freedom or a philosophy of life?"), debates ("Is ethical responsibility relevant in the managerial activity of an education manager?"), "brainstorming" ("An education manager is a person of culture"), "round table" meetings ("Pedagogical culture of the future education manager, "Leadership in education as a component of the professional culture of the future education manager", "Leadership in education as a factor in the formation of emotional and cultural competence of the future education manager").

Individual and group modeling, role-playing of pedagogical situations that had a cultural content, conducting business activities ("Integrity in education", "Integrity in the educational process", "Pedagogical education of parents") and role-playing games ("Family Holidays", "One Actor Theatre", "Cultural Traditions and Values in the Life Creation of a Child"), which projected future professional activity, put the future manager of education in different social positions (consultant, teacher, student, father/mother, organizer of other people's activities, etc.), were of great importance in working with students of the second (master's) level of higher education. This required the students to have a goal orientation, a meaningful approach to interpersonal interaction in conditions similar to their future professional activity, and, therefore, contributed to the development of the ability to appropriately organize, regulate, and adjust their own activities and thus stimulated the professional development of the personality of the future education manager.

The assimilation of ethical virtues and rules, the development of the future education manager's aesthetic feelings and preferences, the deepening of his/her mental perception were stimulated by the use of artistic elements in classes ("poetic moments", reading prose passages, acquaintance with and analysis of paintings by various artists, etc.), writing essays ("Pedagogical qualities of an education manager", "Pedagogical skill of an education manager", "My judgments about the personal and value orientations of a future education manager", "An education manager is a carrier and creator of culture", "The creativity of an education manager - is it a social necessity?") "Emotional and ethical competence in life creation of the future education manager"). Socio-pedagogical trainings ("Pedagogical communication", "Overcoming pedagogical conflicts") were aimed at the formation of communicative abilities and skills of the applicants, their ability to self-knowledge, self-identification, and self-reflection ("Self-presentation", "Model of the internal culture of the personality", "Pedagogical reflection", coaching "Personalized education manager development program").

Of particular importance was the project work "Personal and professional qualities of the future manager of education", within which applicants in small educational microgroups (5-7 people) carried out research through the following main steps: setting the problem; collection, processing, analysis of information; determination of ways to solve the problem; distribution of responsibilities between project participants; work on its implementation and design; defense-presentation of results (creation of illustrative materials, game modeling). This involved the organization of subject-subject interaction, "intergroup dialogue", analysis and introspection, evaluation and self-evaluation, reflection and self-reflection of one's own activities. Such work encouraged applicants to constantly search for optimal models of behavior based on tolerance, mutual understanding, cooperation, allowed the future education manager to manifest elements of creativity ("internal reincarnation" according to K. Stanislavskii), and, therefore, contributed to the development and self-development of the

future education manager, his personal and professional qualities, etc.

For the future manager to acquire emotional and ethical competence, the organization of his self-educational work was of great value. In view of the fact that applicants of the second (master's) level of higher education were provided with recommendations and assistance in compiling a program of self-educational work (a list of literature for study; forms, terms and expected results – description of experience, preparation of a report at a scientific and practical conference, seminars, materials for participation in competitions of scientific works, etc.). Self-educational work also included the selection of pedagogical situations of an emotional-ethical nature from scientific and methodological sources and from personal experience, keeping a diary “Self-educational route of education manager”, which generally made it possible to increase the level of analysis and understanding of socio-cultural problems.

The professional and personal growth of future managers was also positively influenced by the setting of target tasks during pedagogical practices, which directed applicants to specific work to test the acquired knowledge and experience and included the following types of activities: analysis of the institution's corporate culture; getting acquainted with the state of cultural work of the educational institution, drawing up an individual work plan for the entire period of practice on this basis; familiarization with the leadership experience of well-known and outstanding scientists, teachers, with the management experience of experienced heads of educational institutions, their analysis and discussion; study of the nature of the interaction between the head of the educational institution and the teachers; identification of “points of tension and conflict”; self-observation and self-analysis of own style (democratic, authoritarian, liberal) of communication with teaching and student teams; conducting conversations with students on the topics “Safe interaction in a multicultural space”, “Future profession - a mirror of personality”, “My life orientations”, during which future education managers had the opportunity to discuss a wide range of life problems, professional choice, self-determination, etc.

The evaluation and corrective stage involved the analysis and assessment of the formation of the components of the emotional and ethical competence of future education managers according to the specified indicators and criteria in order to correct the obtained results and make the necessary changes.

The analysis of the results of conducted experiment confirmed the success of the work on the formation of emotional and ethical competence of education future managers, which is presented in Table 2 “Results of experimental verification of the system of formation of emotional and ethical competence of future education managers (increase in %)”.

The reliability of the obtained experimental data was confirmed by the methods of mathematical statistics (using the Pearson parametric test): result: $X^2_{emp}=2.762$

Critical value of X^2 at $V=2$

V	P	
	0.05	0.01
2	5.991	9.21

Differences between the two distributions are considered reliable, if X^2_{emp} reaches or exceeds $X^2_{0.005}$ and even more reliable if X^2_{emp} reaches or exceeds $X^2_{0.01}$.

Answer: X^2_{emp} is less than the critical value, the differences between the distributions are not statistically reliable (hypothesis H_0) [11].

As we can see, according to the Pearson criterion, it can be stated that at the beginning of the experimental work, the interest in management in the field of education in the experimental and control groups of students is the same. This conclusion is demonstrated by the diagram below (see Figure 1):

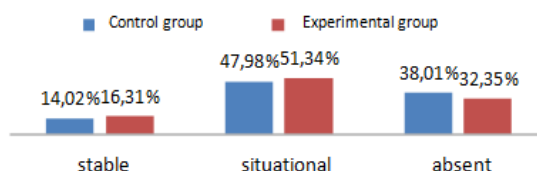


Figure 1. The state of formation of the applicants' interest in management in the field of education (at the beginning of the experiment)

Table 2: Results of experimental verification of the system of formation of emotional and ethical competence of future education managers (increase in %)

Criteria and indicators	Groups	
	EG (68 people)	CG (71 people)
1	2	3
Motivational and value criterion (according to the results of the questionnaire): • cognitive interest in management in the field of education: • <i>stable</i> (striving to penetrate the essence of management problems in the field of education, perceiving them from the position of professional competence requirements, having a desire and a creative approach to solving them, active and interested participation in professional self-improvement);	14.71	5.66
• <i>situational</i> (limited interest in the problems of management in the field of education, the need for external impetus for their deeper knowledge, detection of episodic interest in the process of improving own professionalism);	3.74	1.89
• <i>absence of interest</i> (disinterest in learning the essence of management problems in the field of education, explicit or hidden reluctance to raise own professional level);	-18.45	-7.55
motivation to develop emotional and ethical competence: • <i>positive</i> (predominance of value motivation to acquire emotional and ethical competence, detection of activity and creativity in the process of mastering it);	11.76	2.96
• <i>neutral</i> (perception of the importance of acquiring emotional and ethical competence, but in the conditions of a specific situation, usually associated with external stimuli);	4.81	3.23
• <i>negative</i> (unawareness of the meaning and role of emotional and ethical competence, lack of professional focus on its formation in the motives of activity)	-16.58	-6.20
Cognitive criterion (according to the performance of didactic tests): • <i>the completeness of psychological and pedagogical knowledge about management in the field of education - the amount of programmatic knowledge about the object under study</i>	12.57	1.35
• <i>nature of knowledge acquisition:</i>	6.12	1.08

<ul style="list-style-type: none"> creative (the presence of conscious and systematic professional knowledge, their free and creative interpretation, deep knowledge in the field of leadership in education, the ability to discover unknown sides of objects, a sense of the problem, originality of conclusions); 		
<ul style="list-style-type: none"> reconstructive (possession of basic knowledge, part of which is freely interpreted, ability to perform sequential educational actions, remember and reproduce the necessary information, possession of knowledge about the methods and means of reconstructive activity); 	6.03	-0.27
<ul style="list-style-type: none"> reproductive (assimilation of a certain part of elementary knowledge about management in the field of education without creative rethinking and transfer to the practical plane, limited professional worldview, lack of knowledge about methods of cognition and methods of activity, reproduction of ready-made knowledge) 	-12.15	0.81
<p>The activity criterion - the formation of professional skills (according to the results of solving pedagogical situations and diagnostic tests):</p> <ul style="list-style-type: none"> <i>gnostic</i> (to generate ideas; to show inner confidence in the implementation of own ideas; to think globally; to present own reflected ideas, which were born in the process of internalizing critical ideas of the community, aimed at transformation, changing the principles of the existing community or its individual systems; the ability to perceive the needs of society, to undertake the determination of the ways of its transformation; to manifest a high ability to sense the moods and aspirations of society in general, or certain large branches of society's existence); 	18.72	6.74
<ul style="list-style-type: none"> <i>organizational</i> (to clearly define the goals in the management of the educational activities of the educational institution and the organization of the activities of the educational institution; optimal allocation of time, own forces and resources, finding relevant ways and cooperation with other people to achieve the set goals, independent implementation of actions in changed or new conditions of the socio-cultural space); 	26.20	23.99
<ul style="list-style-type: none"> <i>communicative</i> (penetration into the state of another person, "reading" non-verbal information transmitted by the interlocutor; the ability to accurately assess and express emotions; the ability to understand own emotions and the emotions of other people related to internal and external events in society; the ability to achieve emotional resonance, to inspire people with the help of a description of future prospects or directions of movement; the ability to connect the desires of people with the goals of society; the ability to find new opportunities, and to contrast hope with despair and 	19.25	12.40

helplessness);		
<ul style="list-style-type: none"> <i>regulatory</i> (control of own behavior, management of negative emotions, support of positive emotional expressions, manifestations of self-control, patience, endurance in intercultural interaction); 	21.66	12.94
<ul style="list-style-type: none"> <i>reflective</i> (analysis, introspection, evaluation, self-assessment, reflection, self-reflection and correction of the results of own actions and deeds for further self-realization in managerial activities) 	25.40	12.94
<p>Personal and professional criterion – the high level of development of personal and professional qualities (on the basis of self-assessment and evaluation of applicants by each other and the creation of pedagogical situations)</p> <ul style="list-style-type: none"> <i>resilience</i> (a dynamic property that underlies a person's ability to overcome stress and difficult periods in a constructive way. It is manifested in the ability to restore oneself, 'master' oneself, in cases of moral and psychological overstrain); 	24.33	12.40
<ul style="list-style-type: none"> <i>social activity</i> (deep, versatile connections of the individual with society, the level of realization as a subject of social relations (an active individual is a subject of his own life activity that interacts with the external (social) environment in many ways, taking on specific social roles); 	21.39	8.36
<ul style="list-style-type: none"> <i>scenario thinking</i> (the ability to intuitively determine the program of own life creation) 	17.65	8.63
<ul style="list-style-type: none"> <i>sanogenic thinking</i> (direction of thinking to overcome negative emotional states or mental recovery); 	29.68	23.18
<ul style="list-style-type: none"> <i>semantic flexibility</i> (an attempt to apply a different point of view to the object; to consider the object from all sides, taking into account all its meanings and principles; to reveal its hidden potential; the ability to produce a variety of ideas in conditions of uncertainty and lack of reference points for these ideas) 	29.95	6.47

The obtained results give reason to believe that the proposed system of formation of emotional and ethical competence of future education managers was optimal, the set goal was achieved, the tasks were completed. The implementation of the system had a positive effect on the formation of the value-motivational, cognitive, procedural, professional-reflexive structural components of the phenomenon under study.

The reliability of the obtained experimental data was confirmed by the methods of mathematical statistics (using the Pearson parametric test).

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Primary Paper Section: A

Secondary Paper Section: AM

THE FORMATION OF PROFESSIONAL COMPETENCIES OF A HIGHER EDUCATION INSTITUTION GRADUATE IN THE CONDITIONS OF THE UNIVERSITY 3.0 PARADIGM FORMATION

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Abstract: The quality of education in the aspect of developing the professional competencies of university graduates today is an extremely complex concept associated with many aspects of social life, and moreover, it does not have a generally accepted assessment system. However, the main parameter of quality is the correspondence of the paradigm and strategies of teaching to the entrepreneurial type of university - University 3.0. The article shows that the widespread rapid development of this type of university in the world has marked a transition to a proactive model of generating technologies, talents, markets and market services, within which universities are turning into city-forming centers of economic clusters. Accordingly, both the approach to the formation of professional competence of graduates and the very concept of this competence are changing. In accordance with model 3.0, the training of innovator specialists is directly related to the development of entrepreneurial competencies, metacognitive skills, self-education skills, and the ability to produce own knowledge and scientific product.

Keywords: university models; University 3.0; entrepreneurial university; metacognitive skills; smart education.

1 Introduction

The current stage of world development is characterized by active entry into the era of the fourth industrial revolution, which leads to dynamic, large-scale, and multifaceted changes in the field of higher education. Representing one of the fairly stable system-forming social institutions of society, global higher education is forced to quickly and adequately respond to new challenges and acquire new forms in a timely manner. The field of higher education is currently undergoing fundamental changes in terms of its role in the economy and society, principles and methods of work, organization and management. The world's leading universities are in search of new models, actively rethinking their missions, trying to go beyond traditional functions and institutional forms, developing and introducing new technologies. Due to the fact that these changes concern the entire complex of basic functions of modern universities in different countries, one can talk about a global transformation of university models, the model of higher education, and the content of the graduate's "profile".

Modern vocational education, which has now moved to a qualitatively new level due to the introduction of a competency-based approach, is aimed at giving students the tools of both understanding and action, allowing them to perceive new socio-economic realities, as well as navigate changing learning conditions and work. In pedagogical theory and practice, experience has been accumulated in the integration of knowledge, which was sufficient in the implementation of the "knowledge paradigm". Integration of knowledge was a condition for the effectiveness of this paradigm. With the orientation of education towards the formation of competencies, the idea of their integration seems objective, promoting the growth of systematicity and seeming to be a condition for the effectiveness of the competency-based approach to specialist training.

In addition, at the end of the 20th century, a time of instability began for universities in their classical sense. Higher education institutions were forced to carry out transformations under the influence of external factors in order to maintain the quality of education. In a classical university, the educational process was aimed at obtaining knowledge focused on the beauty and logic of scientific theory, while the basis of the new educational model began to be information that made it possible to navigate the rapidly changing flow of knowledge, adapt and find opportunities for self-realization in a state of constant change.

At the beginning of the 21st century, classical universities practically cease to exist. In this regard, there is a need to develop multi-profile universities to successfully adapt to rapidly changing realities and the market for educational services, as well as the emergence of a need for mass training of highly qualified specialists in various fields of activity [2].

The university of the 21st century can be classified as a third generation university. The emergence of higher education 3.0 is one of the main social changes of the modern era. Along with University 1.0, which has the function of teaching, and University 2.0, which combines teaching and research, University 3.0 additionally takes on the mission of social and economic development. The success of its implementation predetermines the development of a knowledge society, that is, a society where the following phenomena come to the fore: awareness of the role of knowledge as success in any field of activity; the presence in society of a constant need for new knowledge necessary to solve new problems, create innovative products and services; efficient functioning of knowledge production and transfer systems; effective interaction between society, educational organizations, and enterprises. One of the most important components of this academic mission is the commercialization of knowledge. It includes innovative and entrepreneurial activities, including the transformation of scientific results into a commercial product, bringing it to the market, creating new businesses, commercial management of intellectual property, and the use of university intellectual resources in the regional economy [10]. Being a complex self-organized system, a modern university combines fundamental education and the research process, and also strengthens the practice-oriented orientation of the university and transforms traditional structures into entrepreneurial ones.

Of the top fifty universities in the Times Higher Education ranking, 46 declared the mission of entrepreneurship as a "top priority." And of the 20 best universities included in the ranking of BRICS countries, all 20 declared entrepreneurial ecosystems as key parameters of their development [7]. Such popularity of the university model is explained by the fact that it allows them to effectively respond, integrate and, most importantly, manage the processes of accelerated technological development, which are radically changing all global economic and social landscapes. And although there are no clear established criteria and parameters for this model (it is quite flexible, since "University 3.0" is gradually transformed into the next version "University 4.0"), one fact has become generally accepted: entrepreneurial universities that actively create startups are developing much faster than those universities where innovative projects are lacking [23].

The concept of "University 3.0" involves the creation of an integrated entrepreneurial ecosystem based on universities, in which they become key providers of innovation. This means a transition to a proactive model of generating technologies, talent, markets and market services, within which universities are turning into city-forming centers of economic clusters. In fact, they begin to act as economic agents, large companies that know how to manage the results of intellectual activity and well understand the principles of the functioning of new markets.

Accordingly, both the approach to the formation of professional competence of graduates and the very concept of this competence are changing. In particular, Universities 3.0 are a place where teachers are not just carriers of knowledge, but also real entrepreneurs who commercialize university developments through the created ecosystem of support for university-based startups. On the one hand, this creates an additional source of income for the university; on the other hand, it increases the number of competencies that can be transferred to students. In accordance with model 3.0, the training of innovator specialists is directly related to the development of entrepreneurial competencies [11]. Forming the ability to sell and effectively implement the product of own intellectual activity is one of the most important areas at a new generation university. However, the difference between a “bad” and a “good” University of Model 3.0 lies in the extent to which the “corporate ethos” and “entrepreneurial culture” are ingrained in the curriculum, rather than in “external” technology parks and incubators [11].

It is obvious that the commercialization of the results of intellectual activity is most successful not when introducing the developments of university researchers, but when presenting high-tech products to the market: technologies, materials, and developments made through the integration interaction of research, educational, and production components based on joint project activities [6].

The problem of competency-based training of university graduates has always been acute, because technical, technological, and social development of society has always been ahead of academic science. That is, university textbooks are always published with a certain time lag from advanced scientific achievements and new technologies. The problem has become so acute in the 21st century that very serious attention has been paid to the issues of competency-based advanced education at the level of UNESCO, the World Bank, and other world organizations. Similar steps to improve the higher education system are being taken by the Ministries of Education in almost all countries.

A number of scientists focus on the rapid aging of professional knowledge [11]. They note that in conditions when up to 20% of professional knowledge is updated annually, the emergence of new scientific and technological information reduces the competence of a specialist by 50% [1]. The intensity of this process is constantly increasing. While 50% aging of knowledge of a graduate in the 1940s occurred in 12 years, for a graduate of the 1960s it took 8 years, and for a graduate of the 1970s – 5 years. Today, this threshold for changing knowledge is less than 5 years, i.e., knowledge are aging even before the end of university studies [3].

The introduction of the University 3.0 paradigm allows solving this long-standing problem, enabling students to participate in the latest developments and gain new knowledge, similar to what happens in corporate education, since the competitiveness of University 3.0 is possible only with a high level of knowledge management.

Businesses, according to studies, are currently emphasizing on graduates' general competencies [14]. Employers seek university graduates who can generate knowledge and innovations tailored to specific creative enterprise needs, who can build a professional social network, and who can adapt to a constantly changing professional performance environment by leveraging the overall potential of information and communication technologies (ICT). Enterprises and government agencies are dissatisfied with graduates' critical thinking, problem-solving, and creativity abilities, as well as adequate information processing and management abilities, among other things; however, there is less dissatisfaction with graduates' professional knowledge and skills [1].

A student's ability to critically interpret information obtained from a wide variety of sources is one of the most important skills today. But the paradox of today smart education is that the student can acquire these skills only in the process of direct

personal communication with the teacher. Without such communication aimed at developing the student's critical thinking skills, the “millennial”, an active user of digital technologies, risks drowning in a ‘sea’ of “false” knowledge.

The value of transferable skills has increased in recent years. Because of global competitiveness challenges, graduates must provide more to an employer than the academic talents normally reflected by the subject and degree class. Various reports from government, industry, higher education authorities, and scholars have urged the higher education sector since the 1990s to incorporate transferrable skills into students' learning experiences [10]. Universities and colleges, according to the reports, should prepare to assist graduates in developing employability skills, which signal graduates' work preparedness.

Some contend that traditional education no longer adequately prepares individuals for work. The traditional emphasis on knowing what and why is too disconnected from practical knowledge [3]. Formal education and training must be supplemented by hands-on learning and experience in order to obtain know-how information, which can only be learned through hands-on learning and experience. In addition, there is an increasing emphasis on interpersonal aspects of skill: the “know who” side of knowledge. It is based on the notion that the dynamic interplay of codified (mainly know what and why) and tacit (primarily know how and who) knowledge is a primary vector of innovation and advancement.

Thus, a highly relevant task today is to develop models and methods that promote the formation of competencies in their interrelation with each other in the process of professional training of students at University 3.0 - the professional competence of a graduate capable of successfully functioning in a “smart society”.

2 Materials and Method

The research methodology included the study and analysis of literature on the research problem, generalization of pedagogical experience on the problem of integration in pedagogy, practice of training specialists, analysis of regulatory and educational documents on the issues of higher professional education, investigation of the experience of Universities 3.0 in different countries, generalization, systematization.

3 Results and Discussion

As noted above, according to a number of authors, in the 20th century, new models of universities are developing, in which modern pragmatic ideas and universal values are mixed, and under the influence of the scientific and technological revolution, a model of a post-classical university is being formed, which finds its development in the 21st century [4]. From this point of view, universities are turning into complex self-organized systems that combine fundamental education and the research process as the main characteristics of classical university education and a pragmatic approach that strengthens the practice-oriented orientation of the university and transforms its traditional structures into entrepreneurial structures.

The mission of the entrepreneurial university and its scientific activities is thus the following: creation of a system of innovative science, education and elite training of innovator specialists; development of fundamental and applied research as the basis for innovation; formation and implementation of a full innovative cycle of scientific and educational activities at the university; support of existing and formation of innovative scientific and pedagogical schools; formation of a sustainable system of strategic partnership between the university, state, industry, scientific organizations, and business; creating a system of incentives for students, teachers, and university staff to integrate academic values and entrepreneurial culture; ensuring the university's leadership in domestic and foreign core markets [5].

One of the reports of the UNESCO International Institute for Higher Education in Latin America and the Caribbean (IESALC) presents such models of universities of the future as a network learning center, a laboratory university for sustainable development, and an environmental (“green”) university [18, p. 29-31]. The Deloitte report (cited in Selingo et al. (2018)) describes five models of universities of the future: entrepreneurial university, sharing university, practice-oriented university, subscription university, partnership university [19, p. 2-3].

Table 1 presents features of the strategic priorities of the universities aimed at global or regional influence.

Table 1: Features of the strategic priorities of the universities aimed at global or regional influence

Main activities of universities	Strategic guidelines of universities aiming for global impact	Strategic guidelines of universities aimed at regional influence
Higher education	Implementation of unique educational programs, preparing students to achieve success at the global level	Improving the quality and competitiveness of educational programs
Science	Implementation of breakthrough scientific research at a global level	Increased research and publication activity
Innovation activities	Development of innovative startups in the innovative areas that can change the world	Promoting the spirit of entrepreneurship, commercialization and technology transfer
Continuing Education	Implementation of competitive continuing education programs in the global educational market	Implementation of continuing education programs in demand in the regional market
Integration	Creating mutually beneficial partnerships and networks at the global level	Strengthening regional partnerships, developing international relations
Staff development	Attracting the highest level of personnel, developing their competitiveness and succession planning	Improving the quality of human resource management, improving the motivation system, optimizing the structure
Implementation of sustainable development goals	Contribution to solving global problems, to the development of the world community	Contribution to solving problems of sustainable development at the regional and local level

An analysis of development strategies of leading universities included in the top 100 according to QS indicates that they are focused on creating a model of a university of global influence, which involves maximizing efforts towards solving global problems through implementation (Table 2).

Table 2: Universities aimed at global and regional influence

University	Place in the QS ranking	Key provisions of the strategic goal
Massachusetts Institute of Technology (USA)	1	Global leadership in education and research to serve the world and society
Oxford University (UK)	2	Delivering world-class research and education to benefit communities locally, regionally, nationally, and globally
Stanford University (USA)	3	Contribution to the development of society by solving pressing global problems
National	11	A leading global university shaping the

University of Singapore (Singapore)		future
Yale University (USA)	14	World leadership in education and research on issues of global importance
University of Hong Kong (Hong Kong)	22	A world-class university with cutting-edge research and education in cutting-edge fields

Entrepreneurial universities actively drive new venture creation (see Figure 1 below), and this process is integrated in methodology and approaches of teaching and assessing students, in shaping their professional competence.

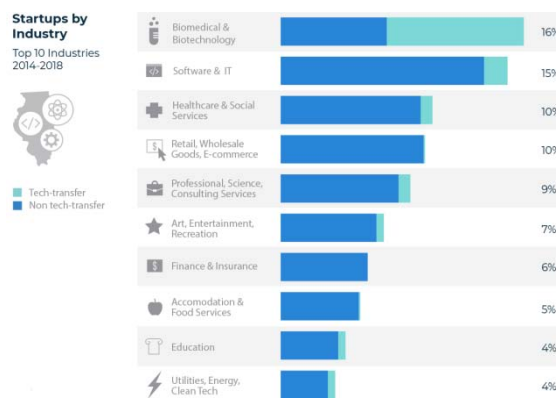


Figure 1. 2019 University Entrepreneurship Index (Illinois, USA) [13]

In the 21st century, there is a fundamental transformation of ideas about the future, and at the same time a change in ideas about the role of “applied” and “theoretical” knowledge, about the role of its owners. As Pitirim Sorokin showed, the type of culture and sociocultural process is determined by the dominant attitude towards the world in society. Today, the world is changing and, accordingly, the dominant attitude towards the world is changing in society. The response to the challenge of the crisis state of the nature of sociocultural development is formed in the public consciousness, formulated by modern sociologists, teachers, philosophers, psychologists, and economists. Society develops the principles of sustainable development, its indicators, the content of culture in a state of liberation from the “yoke of progress”, the culture of fundamental reconstruction of social practices and social ideas, assessment criteria, definition of the role, position, status of an individual, his success.

Experts today are forced to admit: the world of the university is faced with something that it has never encountered before; “it is practically “washed away” by the information flow, in which not a single university can afford stability, because otherwise the world will rush by” [16]. In such conditions, however, it is very important to build management models for an innovative university that would allow preserving the academic community, its core - the bearers of the academic epic. For with all the transformations brought to life by modern digitalization processes, the enduring value of live intellectual communication still remains. It is important not to get hung up on new technologies, which, despite their importance and inevitability, still represent not an end, but a means [6].

In modern educational theory, one can find two different interpretations of the phenomenon of smart education. Some researchers regard smart education as a new round in the development of the educational system, as a global technological revolution, the result of which will be profound changes in the style and methods of teaching at school and university. In this context, one can discern a paradigm of large-scale formational changes in the spirit of Marxist methodology, the main message of which is the assessment of previous teaching formats as outdated and not corresponding to modern times, and emphasizing the advantages of the new model of education as

more progressive and, therefore, having a historical priority. Conventionally, one can call this understanding of smart education “modernist”, the peculiarity of which is a hierarchical worldview and the search for a mono-strategy for the development of the education system. Other researchers offer a more flexible interpretation of the new educational paradigm, regarding it not as the highest point in the development of modern education, but as one of many other learning formats that has both advantages and disadvantages, and can become an addition (but not a substitute) to the already existing educational methods and technologies. This interpretation of smart education is designed in a “postmodern” style, the principles of which are “forced pluralism” of teaching formats and methods, deconstruction of educational paradigms that claim the highest hierarchical positions, and the shaking of established teaching structures.

A descriptive definition of smart education, which presents its main advantages and varieties, may be considered more meaningful [14]. It is about, first of all, several of the most popular learning formats in our time: firstly, these are modular digital educational environments organized on various Internet platforms (for example, PIES, NGDLE), allowing for the management of student learning online, monitoring its quality and systematicity. Experts see the advantage of this training format in the ease of access to relevant Internet platforms at any time and anywhere in the world, in the possibility of relatively continuous interaction with teachers and students, in the availability of various educational materials (lecture notes, presentations, assignments) that are posted online. Secondly, MOOCs (massive open online courses) are recognized as one of the most popular formats of smart education, which allow users to take certain training courses in order to deepen knowledge, obtain new information, or continue learning after graduation (thus, MOOCs can be considered as form of virtual localization of Life-long learning). The advantage of MOOC is its relevance to all educational contexts (formal, non-formal, and informal); providing users with the opportunity to get acquainted with the world's best educational content, presented by leading employees of the most prestigious universities, as well as flexible training schedule according to an individual plan. Thirdly, smart education can be presented in a formal educational context as a complement to traditional teaching formats (this is about the use of electronic gadgets and interactive Smart Boards during classroom lessons), which provides additional opportunities for searching for relevant information on the Internet, for creating intellectual product online (“here and now”) [17].

In modern theory, smart education is studied in the context of the formation of not only cognitive, but also metacognitive abilities of students, which is understood as the process of “thinking about own thinking”, the ability to track the qualitative and quantitative characteristics of own thinking abilities (speed, content, effectiveness, style, accuracy, range, independence of thinking) [6]. As the results of psychological experiments show, developed metacognitive abilities correlate with higher educational achievements and better academic performance of students [22]. It is difficult to talk about the existence of an unambiguous connection between smart education and the problem of developing students’ metacognitive abilities. On the one hand, modern researchers talk about the necessity and even inevitability of developing metacognitive skills among online students. Since smart learning is carried out in a relatively free format that does not imply strict control on the part of teachers, therefore, in this context, it is required that students have the ability to independently monitor the learning process, search for relevant literature, plan their actions, complete the necessary educational tasks on time, and check the quality of work performed. On the other hand, there is evidence that indirectly indicates that online students have underdeveloped metacognitive skills, such as self-control and monitoring the effectiveness of the learning process. It is about the problematic situation that only 2-19% of students complete online courses, who, apparently, lack the metacognitive skills of self-control and monitoring of their learning activities [22]. An important role in the learning process (including smart learning) is played by the

combination of developed metacognitive abilities with the formed educational motivation and achievement of the individual, which forms a single pattern of cognitive skills [8]. If such a pattern is present, the student will be able to achieve high educational results in the context of both traditional and smart education, which can be combined in the blended learning format.

At the same time, SMART education poses new challenges for teachers. They must not only be well prepared theoretically and practically, have excellent command of modern technologies, be ready to develop professionally and meet the level of training and expectations of students. Technical resources open up new educational and creative opportunities for the teacher to create both individual lectures, seminars, practical training sessions, and entire courses, which, in turn, affects the increase in motivation among students, the formation of a sustainable interest in study and future profession, as well as the achievement of subject-subject relationships in educational activities.

Universities are involved in such a business process as the preparation of human capital. The task is to shape a creative environment in which students will learn to produce their own knowledge and scientific product. This suggests the advisability of “leaving the classroom” and gamification of the educational process, which is based on the understanding that “a lesson is not just four walls: it is necessary to put information into students’ heads in all available ways” [14]. In particular, students’ adaptation to high-quality information can be achieved by familiarizing them with printed publications, existing electronic libraries, educational and scientific sites, and legal reference systems. To do this, modern teachers must formulate tasks in such a way that the student is forced to use a representative source of electronic information or a printed resource. Turning to the primary source, books, magazines, newspaper articles forms the necessary competencies in the student and allows, in the future, distinguishing between reliable and unreliable information.

Readiness for self-educational activity is not only a characteristic of personal qualities, but also an educational system that develops under pedagogical influence, reflecting the degree of formation of certain personality characteristics that contribute to further professional growth.

It should be emphasized that the system of modern university education has a need for the interdependence of the formation and practical implementation of educational and upbringing programs. Moreover, this correlation should have namely a value orientation, since the value-semantic component acts as the foundation for the formation of a professional’s competence [21]. In addition, in general, it serves as a factor in overcoming the so-called “existential vacuum,” that is, the loss or lack of formation of meaning-forming values characteristic of modern youth [1]. Moreover, the value-semantic component of the educational process directly determines the quality of professional self-determination of future specialists, is a source of individual activity, the driving force of his personal and professional growth.

The value-based and competency-based approach in modern higher education consists of the need to train professional personnel, based on their ability to quickly adapt to the needs and demands of employers in the professional field, as well as to the business culture and moral and ethical values formed in the organization or enterprise. In our opinion, one of the main ways of applying the value-competence approach in the educational process is to bring different academic subjects closer to each other, overcome their content isolation, focus on the holistic application of skills acquired by students in the professional field, since the set of disciplines offered for mastering within any specialty reflects an integral complex of reality phenomena. The value-competence system of the educational process of higher education determines the integrative characteristics of specialists training as a harmoniously developed professionally-developed individual. Here it is important to note not only individual

manifestations of the student's professional potential, but also other personal components, including those that may appear in the future. In this segment, the value-competence approach manifests itself both as a quality standard and as a method for modeling the educational process at a university.

The next significant aspect of the implementation of the value-competence approach at a university is the orientation of the educational process towards combining efforts related to the graduate's achievements in the professional field. The final indicator here should be the demand and competitiveness of a young specialist in the labor market. Monitoring the results of educational activities can be carried out taking into account different models of graduates' competencies and their comparison with the tasks set by the market.

The "competency model" serves as the axiological foundation for the implementation of University model 3.0, particularly in the early phases, as an attempt to reorganize the educational process. The trans-discipline develops as a complex tool of knowledge and the search for instructional opportunities with implicit knowledge and awareness of the principles, including through a matrix of competencies (knowledge, abilities, skills). The educational process is increasingly produced through group (network) interaction - forms such as "inverted class" appear [9]. Grecu and Denes (2017) [10] present the overall model of entrepreneurial university (see Figure 2).

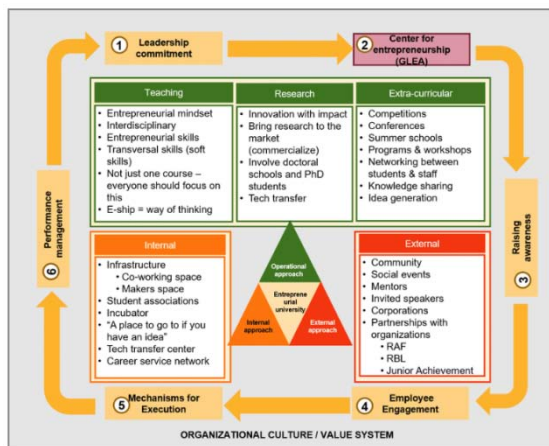


Figure 2. Model of entrepreneurial university [10]

In 2017, the international organization "The Flipped Learning Global Initiative" announced the beginning of a new era in the development of "inverted learning" ("mirror reflection of the audience"), as one of the most popular and effective models of blended learning not only in university education, but also in schools and colleges. With this kind of training, the teacher provides students with remote access to educational material for independent study, and during a face-to-face lesson, performing practical tasks on the topic, the acquired knowledge is consolidated. At the same time, the most common approach is in which students watch a series of short videos on a topic at home, and reinforce their knowledge in the classroom by solving practical problems.

New generation universities often train highly qualified personnel for industry development within the framework of interdisciplinary and project-based learning 2.0 in close integration with industrial partners and the possibility of introducing flexible educational trajectories. The architecture of the educational program in the USA is based on the modular principle "2 + 2 + 2" and represents a constructor consisting of individual educational disciplines, with each module aimed at "unfolding" certain competencies [6]. Within the framework of this model, students, choosing disciplines in the university space, with the support of experienced personal coaches and tutors, independently build their educational trajectory. OECD, in its report named "Transformative Competencies for 2030" emphasizes the necessity of "building "transformative competencies through experiential learning" [15].

Universities, according to the European framework, must be able to develop life competences - a multifunctional package of knowledge, abilities, and attitudes required for personal fulfillment and development, social inclusion, active citizenship, and long-term employability in a knowledge-based society. This necessitates a focus on transversal competencies (soft skills) like as communication in general (especially online communication), teamwork, cooperation, social responsibility, and ethics. Students must be prepared to react and innovate in a rapidly changing world. New skills are required, such as the capacity to foresee, respond quickly, and communicate in inter- and multicultural settings [12, p. 197].

When training professionals, sound emphasis is placed on the so-called "future competencies". For example, in the first two years of study (Core module) at some leading universities in Germany, the university carries out targeted work to develop students' transprofessional, or universal, competencies, such as flexibility, adaptability, empathy, and emotional intelligence, the ability to think critically and systematically, work in a team, conduct dialogue, solve non-standard interdisciplinary cases, and learn and relearn throughout life. The second and third modules define the main area of professional knowledge and provide for a bachelor's/master's degree. At the same time, in the second and third modules, students have the opportunity not only to deepen their knowledge within the chosen professional profile, but also to master disciplines from related or even independent professional fields by expanding the number of courses in the Electives and Minor modules. The flexibility of the educational trajectory and personification of the educational process are achieved, among other things, due to the fact that the educational process at the university is implemented using an integrated virtual educational environment and open educational resources (EdX, Coursera, etc.) [16].

Interestingly, an integral part of online learning in the U.S. universities of entrepreneurial type is the use of Big Data technologies based on tracking the "student's digital footprint", which begins to form from the moment he enters the university. The student's digital footprint contains personal data, information about admission, field of study, educational program, academic performance throughout the entire period of study, as well as educational analytics data collected automatically when the student works in distance learning systems and on open education platforms when taking online courses. Based on the analysis of the digital footprint of students, the university plans educational programs taking into account monitoring the demand for personnel, data on personnel and their competencies on specialized platforms [6].

When preparing students, special attention is paid to project-based learning. To achieve this, from the first year the university immerses 100% of students in working on real projects supervised by leading scientists and practitioners. The development of project activities, in which students work to solve real problems of their employer partners, is possible thanks to the implementation of a pedagogical innovation - a "inverted curriculum", which allows students to redistribute their workload in favor of practice-oriented disciplines, starting from the first year.

Another unique feature of project-based learning at today's university (in particular, in Japan universities) is the work of technical, IT, and humanity specialties students in a single team to create a "startup as a diploma" for a specific employer. As a result, 100% of undergraduates have experience in technological developments and their commercialization [24].

The approach to the modern development of education suggests a transition to the optimal choice of trajectory of expected competencies, qualities, skills, that is, educational results that can ensure graduates success in the future. In relation namely to these results, it is necessary to build the content of education and control the degree of mastery and quality of educational programs.

Mastering basic information, norms and rules for solving a problem is certainly necessary. However, much more valuable in the modern world is not so much their mastery, but rather the ability to act in an uncertain situation, creative thinking, initiative, responsibility, the ability to search for information, and not just remember traditional rules, to look for new solutions, and not copy known ones [3]. It is about, among other things, generating non-standard solutions, combining various disciplines in teaching, such as physics and biology, science and humanities, and the ability to competently assess risks and uncertainties to develop approaches to resolving problem situations. Creating conditions for the formation of creative specialists is based on the rejection of archaic educational forms, but at the same time it should include both the development of basic knowledge, norms and rules, and non-standard methods of finding creative solutions that are adequate to new goals, resolving problematic and risky situations, and transferring skills to act in conditions of uncertainty.

At the same time, questions remain open about possible scenarios for the development of universities within different national systems, about accelerated paths of transition from one model to another, and about the possibilities of trans-model transitions. However, already now, knowing the characteristics of the university of the future, it is necessary to think and act proactively, since competent implementation of strategic planning and forecasting makes it possible to manage the future.

Universities cannot abandon changing, since digitalization and the subsequent digital transformation are not only powerful professional tools, but at the same time new social technologies, thanks to which the range of student participation in the life of the university and in the social processes of society is expanding.

The statement that the “genome” of a modern university is an inseparable unity of scientific and educational activity is clearly insufficient, since it is about an extremely important phenomenon: in the humanities, it is realized that we are dealing with a large-scale transition from the polyphony of epistemological characteristics of modernity to the polyphony of life forms, in particular, the theory of training and education does not manage to accumulate and comprehend empirical experience timely [2].

In this regard, we cannot but recognize that the active components of the university’s “genome” are the ‘generalized student’ (the aggregate cross-section of his characteristics) and society with its business- and social environment, which naturally compensates for the lack of social knowledge and empirical basis for the formation of a full-fledged specialist and citizen.

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PROFESSIONAL COMMUNICATION AS A MANIFESTATION OF THE PUNCTUATION CULTURE OF MEDIA WORKERS

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Abstract: The article examines the written professional communication of media workers regarding punctuation literacy. It is noted that a successful portrait of a modern specialist forms linguistic literacy as a manifestation of professional competence, and compliance with the norms of modern literary language is a prerequisite for quality and full-fledged activity of Ukrainian mass media. The insufficient level of linguistic culture of the employees of the printed or electronic publication has a negative effect on the language literacy of the readers. It has been observed that the mega-fast pace of information broadcasting has a harmful effect on the language presentation of media texts at the orthographic, grammatical, and stylistic levels. Punctuation errors are a productive, representative, error-prone place in journalistic materials. It has been revealed that exemplary written communication involves strict observance of punctuation norms, that is, the correct use of punctuation marks in the text, which, in order to achieve the goal of communication, make it possible to logically and syntactically divide the statement into separate content elements. In the structure of the professional profile of a media worker, punctuation competence is defined as a sub-competency of professional linguistic and communicative competence. Based on the analyzed journalistic texts of all-Ukrainian and regional online mass media for the years 2019–2023, it was found that the authors use punctograms mechanically, without observing the basic rules of separation. The punctuation skills that modern media specialists must possess are outlined: 1) the ability to find content segments that need to be punctuated; 2) the ability to place punctuation marks in accordance with basic language rules; 3) skills of justifying the choice of a punctuation mark; 4) editorial work on correcting errors. Improving the editing process and increasing the communicative effectiveness of the media text should be facilitated by the use of the anti-error device by media workers, which contains data on error-prone places at the punctuation level.

Keywords: professional communication; language culture; punctuation; media worker; mass media; professional competence.

1 Introduction

The professional profile of a modern media worker, in addition to professional skills, requires the presence of language and communication skills in terms of observing spelling culture and oral communication in daily activities. A successful professional portrait of a specialist is formed by linguistic literacy as a manifestation of education and erudition, patriotism and respect for the native language. In this regard, L. Doroshenko's opinion is valid that "perfect knowledge of the state language, constant concern for raising its prestige and functioning in all spheres of public life is one of the components of the complex of personal qualities and character traits of a conscious citizen" [4]. Among the necessary requirements that determine the level of professional speech culture as the ability to possess a language, researchers point to the following: purity of speech, free operation of various verbal and expressive means, terms, expressiveness, originality. They are closely related to a person's worldview, culture of thinking and communicative competence of the speaker [10].

In order to perform professional duties at the proper level and to avoid anormatives in texts and oral communication, a journalist / editor needs linguistic knowledge of phonetics, spelling, vocabulary, stylistics, terminology, syntax, etc. Compliance with the norms of the modern literary language is a mandatory condition for the full-fledged, high-quality activity of mass

media workers, since, in addition to informing, the norms also perform educational role; their violation reflects the low level of language competence of a certain edition, which lowers the literacy level of each individual reader and the reading audience (society) as a whole [16].

In connection with the fact that today information is broadcast in mega-fast pace through traditional and non-traditional media, the need to study the culture of written broadcasting of journalistic materials is growing. A cursory review of Internet publications on news sites indicates a low level of language representation of media texts at the spelling, grammar, and stylistic levels. Punctuation mistakes are a productive place for mistakes at the level of spelling. We observe that journalists, during the creation of materials, as well as literary editors during the work on the design of texts and their delivery to the audience, often neglect punctuation marks, not putting them in complex subjunctive and complex ordinal constructions, complicated sentences with separate, homogeneous, clarifying members, using references or parenthesis. Sporadically, extra punctuation is used, sometimes authors interchange one sign with another, resorting to unfounded anormatives.

Media workers must not only present information content in a high-quality and qualified manner, but also take care of the high linguistic culture of the text content of the materials. Exemplary written communication "presupposes strict observance of punctuation norms, that is, the correct use of punctuation marks in the text, which, in order to achieve the goal of communication, make it possible to logically and syntactically divide the statement into separate content elements" [17, p. 3]. Taking this into account, the fixation and analysis of linguistic anormatives among punctuation in journalistic texts today requires special attention, which determines the relevance of the presented investigation.

Ukrainian editologists differentiate language and speech errors. language violations of the norm are qualified according to the criterion of correct/incorrect. Speech anormatives are evaluated from the point of view of communicative expediency and are defined as a linguistic oversight, rather than a proper expression. Researcher T. Bondarenko expands the classification system of errors by adding a third group, distinguishes linguistic (orthopic, accentuation, orthographic, lexical, phraseological, word-forming, syntactic, punctuation, stylistic), speech, and non-speech (logical, factual, aesthetic) violations. She notes that "an error is an anormative, i.e., such a non-normative linguistic formation that arises as a result of an unmotivated violation of a literary norm and is a consequence of incorrect thinking operations" [1].

In the modern scientific paradigm, we find works devoted to the analysis of error-prone zones at different language levels in printed and electronic Ukrainian mass media. T. Bondarenko developed a systematic typology of linguistic norms based on newspaper material [1; 2; 3], proposing such a phenomenon as the "phenomenon of error". The researcher defines punctuation errors of journalists as "a type of communicative noise" [1]. A. Kapelyushnyi comprehensively studied the typological features of journalistic error-dangerous phenomena in stylistic and editorial aspects [7; 8]. Linguistic literacy of print media workers in the context of vocabulary and syntax was investigated by A. Yavorskyi, outlining the degree of linguistic errors of each type during the editing of journalistic messages [21; 22]. Speech culture as a professional standard of a journalist's work is defined by O. Jolos [6], while L. Suprun writes about the normativity of speech as a component of a journalist's linguistic communication [16]. Researches by R. Zinchuk, S. Ostapchuk, I. Kevlyuk (punctuation culture of modern online mass media) are devoted to the study of the peculiarities of professional communication in the punctuation system [23]. One should also note I. Marynenko (violation of norms in magazine broadcasting) [12], O. Tsapok (studies about

punctuation errors in online publications) [18], N. Shulska and R. Zinchuk (observance by the editor of punctuation norms in the language of the media) [14], N. Shulska and T. Shvyrid (editor's work on punctuation errors in print media) [15]. M. Yatsmyrska in the training manual "*Journalist's language culture*" draws attention to the practical aspect of teaching punctuation [20]. The main principles of formation of punctuation literacy were investigated by S. Pomyrcha, establishing that punctuation literacy directly depends on the level of strength of syntax knowledge, because in order to use punctuation marks correctly, one needs to be familiar with the structure of sentences [13]. The components of punctuation competence became the object of analysis in the research of N. Kovalchuk [9].

The purpose of the article is to investigate the professional written communication of media workers regarding punctuation literacy, in particular to find out the role of language competence in the professional profile of a modern specialist. On the negative material extracted from journalistic texts, it is attempted to single out and characterize the main error-dangerous zones at the level of punctuation; point out the basic punctuation skills that should be possessed in mass media editorial offices, to propose recommendations for improving the language culture of media workers.

2 Materials and Methods

Journalistic constructions containing erroneous punctuation phenomena were chosen as the research material. Abnormalities were taken from news texts of domestic Ukrainian internet media of both regional and national significance. In order to solve the tasks set in the scientific work, actual journalistic material was selected by the method of reviewing publications for the years 2019–2023. The use of these sources in the research is due to the need to carry out an editorial analysis of journalistic inaccuracies at the level of punctuation. In order to fully cover the chosen topic and analyze the punctuation culture of media texts, the following research methods are used in the article: linguistic description of erroneous speech elements, the method of structural-semantic and transformational analysis, the comparative method, the method of component analysis, as well as the statistical method as a final indicator of the real tendencies of the mass media towards incorrect linguistic operations (in numerical equivalent).

3 Results and Discussion

The modern media space is not only an indicator of public opinion, a factor of influence on the reading and viewing audience, but also an important vector of the formation of the linguistic culture of society. Often, readers with little competence in the field of linguistics take what journalists have written as an example of correctness, because they enter into direct textual contact with them. It is not by chance that the researcher M. Lysyniuk considers the language of mass media as an indicator of the linguistic culture of modern society [11]. With this in mind, media workers should be aware of the degree of considerable responsibility, as they often shape the language literacy of their recipients. Appropriately, L. Suprun writes on this occasion: "A professional journalist must know language norms and adhere to them in the creative process, because namely the quality of speech testifies to his professional training, personal orientation, and the presence of creative search, self-improvement" [16].

An inseparable component of professional broadcasting is its correct organization. In live communication, this is reflected by emphasis or pause, while in writing - by punctuation, which reproduces the relationship between linguistic elements. Punctuation marks serve not only as a means of division, but also of combination, expression of oral speech in writing, its features and meaning [10]. In linguistics, there are traditionally two punctuation norms: positive (when a punctuation mark is used) and negative (when a punctuation mark is not used). The written communication of media workers testifies to another position, which we can clearly attribute to the negative one:

when instead of one sign, another is used. When working with a text, a journalist usually performs the following sequence of punctuation actions: 1) finds a meaningful section and finds out its nature; 2) determines the place of the content segment in the syntactic structure; 3) makes the correct choice of the required punctuation; 4) puts the necessary punctuation mark.

We also observe that the authors use punctograms mechanically, without observing the basic rules of separation. Among the punctuation skills that modern media specialists must possess, the following are necessary: 1) the ability to find content segments that need to be punctuated; 2) the ability to place punctuation marks in accordance with basic language rules; 3) skills of justifying the choice of a punctuation mark; 4) editorial work on correcting errors. L. Hryhoryan believes that in order to correctly use punctuation marks, one must first of all know the signs of syntactic constructions, the punctuation of which is indicated by the rule. It is also necessary to master the techniques with which we recognize sentences, understand and remember the conditions of the punctuation norm [5, p. 46]. Structuring the punctuation competence of a modern specialist, N. Kovalchuk differentiates it into three varieties: 1) knowledge of the system of punctuation marks and the rules of their use; 2) basic punctuation skills; 3) the ability to construct and correctly punctuate statements in oral and written form [9]. Punctuation competence as a sub-competency of professional linguistic and communicative competence in the structure of the professional profile of a media worker is one of the characteristics of a specialist.

Negative linguistic material extracted from news texts of Ukrainian online media allows differentiation of the three most common error-prone zones at the level of punctuation.

Errors related to the omission of the necessary punctogram (65 %)

A characteristic negative phenomenon in the professional communication of media workers is the omission of punctuation marks, mainly in compound sentences (32 % of all punctuation errors of this type). We observe a clear tendency to highlight the subjunctive part with a comma only at the beginning, while the following punctuation mark is missing: *Лише дві школи району, які не ремонтувалися десятиліттями _ отримали більше 1,5 мільйона гривень (Only two schools of the district, which have not been repaired for decades _ received more than 1.5 million hryvnias)* ("Vysoky Zamok", November 26, 2020); *Навпаки, тим, хто працює прозоро _ ми висловлюємо довіру (On the contrary, we express our trust to those who work transparently)* ("Vikna", November 12, 2023); *«З приводу фронтового побуту все, про що я мріяв _ це хоча б холодний душ та сухий одяг (Regarding life at the front, all I dreamed about _ it was at least a cold shower and dry clothes)* ("Bukvy", October 25, 2023); *Тож забезпечення, яке надавала частина _ неможливо назвати належним (Therefore, the support provided by division _ cannot be called adequate)* ("Bukvy", October 26, 2023).

Anormatives related to the absence of a punctuation mark before a subordinating conjunction or a connecting word in sentences with a subordinating part in the middle of the main clause occur sporadically: *Тепер у волинян _ які страждають від гострої патології насамперед судин серця та головного мозку, з'явилися більше шансів на одужання (Now the Volhynians _ who suffer from acute pathology, primarily of the vessels of the heart and brain, have more chances of recovery)* ("Volyn information portal", February 20, 2023); *Більш того, з тих 72 % _ які знають про УПА, 70 % заявили, що саме Українська повстанська армія заклала традиції спротиву агресору (Moreover, of those 72 % _ who know about the UPA, 70% said that it was the Ukrainian Insurgent Army that established the tradition of resistance to the aggressor)* ("Bukvy", October 28, 2023).

Relatively infrequently, but nevertheless, we observe a tendency not to highlight subjunctive constructions in the texts at all: *Це дає можливість брати участь у житті району і поступово*

реалізувати програми з якими партія йшла на вибори (This gives an opportunity to participate in the life of the district and gradually implement the programs _ with which the party went to the elections) ("Tribune", March 03, 2021); Дійсно відчутно турботу і милосердя до людей _ які там перебувають (One can really feel the care and mercy towards the people who are there) ("Konkurent", October 8, 2019). There are much fewer recorded cases of a part being allocated only at the end of the subjunctive: Я знав _ на що йду, але на практиці все виявилось, так би мовити, набагато цікавіше (I knew _ what I was going for, but in practice everything turned out to be, so to speak, much more interesting) ("Den", April 7, 2020); Колектив педагогів повинен об'єктивно дбати про малечу, її виховання, а ті хто мають можливість, подбають, аби дітям було комфортно перебувати у дитсадку (The team of teachers must take care of children and their upbringing, and those who have the opportunity will make sure that the children are comfortable in kindergarten) ("Bug", January 21, 2021). Насамкінець зустрічі Валерій Павлович подякував всім _ хто брав участь у Благодійному аукціоні побачень (At the end of the meeting, Valery Pavlovich thanked everyone _ who participated in the charity auction of dates) ("Tvoje misto", October 21, 2022).

Another group in terms of the number of revealed punctuation anomalies is the types of sentences in which punctuation marks are omitted when selecting interjection words and interjection structures (21%). The most frequent error-prone phenomenon is related to the functioning of an interjection *мабуть* (apparently): *Мабуть _ питання риторичне, і можна впевнено стверджувати, що назви вулиць у переліку очікувань перше місце не посідали* (Apparently _ the question is rhetorical, and it can be confidently asserted that street names did not occupy the first place in the list of expectations) ("UNIAN", September 3, 2022); *Щоправда, доповідач _ мабуть, сам був шокований тим, що його пропозицію сприйняли всерйоз* (True, the speaker _ probably himself was shocked that his proposal was taken seriously) ("Ukrinform", September 3, 2023); *Ось мабуть це найважче розуміти, коли ти приходиш зі сфери, де є завдання, є мета і швидкість та оперативність _ це твій козир* (This _ probably _ is the most difficult thing to understand when you come from a field where there is a task, there is a goal, and speed and efficiency are your trump cards) ("TSN", February 11, 2022).

The editors of the Ukrainian mass media also do not always highlight other interjections: *Для того, аби реалізувати заплановане _ звичайно _ потрібен ресурс і _ передусім _ людський* (In order to implement the planned _ of course _ resource is needed and _ above all _ a human resource) ("Ukrainian Pravda", January 28, 2023); *Знаєте, я звик все життя працювати, працювати фізично, інтелектуально та _ зрештою _ працювати і на політичній ниві* (You know, I've been used to working all my life, working physically, intellectually and _ eventually _ working in the political field as well) ("Vysoky Zamok", November 26, 2020); *Є потреба в дитсадках, а отже _ кількість українців зростає!* (There is a need for kindergartens, and therefore _ the number of Ukrainians is growing!) ("Vikna", February 11, 2019); *Отже _ ви підпадаєте під норму ст. 34 ЖК України* (So _ you fall under the norm of Art. 34 of the Housing Code of Ukraine) ("Bukvy", March 31, 2021, etc. Sporadically, such components are singled out only from one side: *Але, зважаючи на те, що особиста культура _ це надбання соціальне і приватне _ на жаль, доводиться чистити вулиці, парки та узбіччя від сміття, яке залишають не надто свідомі співгромадяни* (But, taking into account the fact that personal culture _ is a social and private property _ unfortunately, we have to clean the streets, parks and roadsides from garbage left by not too conscious fellow citizens) ("Hromadske", March 31, 2022) (not only a violation of the punctuation of the inserted word was detected, but also the omission of a dash); *У молодих людей _ скажімо, зі знанням мови менше проблем: рівня шкільної і вузівської програми їм вистачить, це не встигли забути* (Young people _ let's say, have fewer problems with knowledge

of the language: the level of the school and university curriculum is enough for them, they have not yet had time to forget) ("Volyn-nova", January 14, 2021); *Тож, _ перейняти сьогодні у напружений ритм роботи від обласного депутата та головного лікаря такі здорові звички, звичайно ж _ варто* (Therefore, _ to adopt such healthy habits from the regional deputy and the chief doctor today in the busy rhythm of work, of course _ is worth) ("TSN", January 14, 2020) (in addition to the punctuation error with the interjection, an extra punctuation mark was also used at the beginning).

Media workers admit the same types of punctuation anomalies at the level of interjections with an indication of the source of the message. For example, if the norm provides for the separation of the component indicating the source of the message on both sides, then in journalistic texts it is usually not separated by punctuation at all: *На думку організаторів _ кроки назустріч таким дітям допоможуть їм швидше адаптуватися у дорослому житті* (According to the organizers, _ steps towards such children will help them adapt faster in adult life) ("Vikna", March 31, 2019); *За словами Тамири Ковальчук _ це впливові люди* (According to Tamara Kovalchuk _ these are influential people) ("Tribune", October 29, 2021); *За даними синоптиків _ у п'ятницю, 27 жовтня, частину України накриють дощі, місцями _ значні* (According to forecasters _ on Friday, October 27, part of Ukraine will be covered by rains, in some places - heavy rains) ("Bukvy", October 27, 2023).

Sometimes, the author of the publication singles out an insert of this type with a comma only on one side: *Вона _ за результатами розслідування, не зуралася службової фальсифікації і навіть банальних ухиленням від слати прибуткового характеру в розмірі 681 тисячу гривень* (According to the results of the investigation, she did not shy away from official falsification and even banal evasion of payments of a profitable nature in the amount of 681 thousand hryvnias) ("Glavkom", February 4, 2019). We also detect violations in the separation of insert structures of other types: *Молодь висловила бажання, щоб такі змагання проводились якомога частіше, а депутати у свою чергу зобов'язалися підтримувати її* (Youth expressed a desire that such competitions be held as often as possible, and deputies _ in turn _ pledged to support it) ("Konkurent", September 1, 2021); *30 років маю справу з алкоголем, працювала на Тернопільському спиртогорілчаному заводі і на Волині, але _ як бачите _ нормально себе почуваю* (I have been dealing with alcohol for 30 years, I worked at the Ternopil distillery and in Volyn, but _ as you can see _ I feel fine) ("Volyn-nova", November 12, 2021); *До слова _ серед вболівальників були депутати обласної ради* (By the way _ among the fans, there were deputies of the regional council) ("Vysoky Zamok", May 3, 2021), and others.

A violation of the punctuation norm is characterized by inserted constructions used to introduce a certain additional message into the main sentence: *А також ті, хто живе у власному світі, і часто наша планета є для них доволі далекою і незрозумілою так називають дітей з раннім дитячим аутизмом* (And also those who live in their own world, and often our planet is quite distant and incomprehensible for them _ this is what children with early childhood autism are called) ("Bug", November 3, 2022) (it is advisable to highlight the inserted structure with brackets).

In the written communication of media workers, errors regarding the punctuation of isolated circumstances are attested (16% of the total number of abnormal punctuation). Most often, during the output of the text, they make a mistake in separating the circumstances expressed by adverbial inflections. If the norm obliges to separate it from both sides, then in the texts of the Internet media they may not be separated at all: *Проаналізувавши роботу влади _ бачимо, що зроблено багато для розвитку та поліпшення добробуту в районі* (After analyzing the work of the authorities _ we see that a lot has been done to develop and improve welfare in the area) ("Konkurent", January 21, 2021); *Оглянувши результати*

проведених робіт він сказав, що зміни просто вражаючі (After reviewing the results of the work carried out _ he said that the changes are simply impressive) (“Visti”, February 18, 2019); Наші депутати наполегливо працюють в шести постійних комісіях _ відстоюючи права своїх виборців (Our deputies work hard in six permanent commissions _ defending the rights of their constituents) (“Bukvy”, October 12, 2019); Спілкуючись з людьми _ я зрозумів, що є багато громадян _ які, будучи позапартійними підтримують наш курс (Talking to people _ I realized that there are many citizens _ who, being non-partisan, support our course) (“Volyn24”, October 3, 2019) (in addition, a punctuation error in a complex sentence was noted), etc.

Sometimes, in such constructions we can trace the use of a comma only once – before an adverbial inflection: Але він, показавши справжній хист господаря _ за два роки зробив новосілля у новій поліклініці, згодом, у хірургічному і терапевтичному корпусах (But he, showing the real flair of the owner _ in two years made a housewarming in the new polyclinic, later in the surgical and therapeutic buildings) (“Bug”, January 14, 2020), or after it: Сьогодні _ відзначаючи День людей похилого віку, ми повинні пам'ятати про їхні турботи не тільки в дні _ визначені офіційним указом (Today _ celebrating the Day of the Elderly, we must remember their concerns not only on the days _ defined by official decree) (“Vysoky Zamok”, October 8, 2022) (in addition, an error in the adverbial inflection is indicated); Далі _ підсумовавши результати торгів, учасник аукціону вирушили до Волинського обласного центру соціально-психологічної реабілітації дітей сиріт (Then _ after summarizing the results of the auction, the auction participant went to the Volyn Regional Center for Social and Psychological Rehabilitation of Orphaned Children) (“Volyn News”, September 1, 2019), etc. However, it should be noted that if the complete lack of selection of the adverbial inflection is a danger-prone place for the professional speech of media professionals, then the selection of such a structure on the one side is fragmentary in nature.

In a separate group, we allocate punctuation anomalies associated with the absence of appropriate punctuation marks for other separated members of the sentence (11 % of all fixed cases of the type):

a) Agreed-upon definitions expressed by an adjective inflection: Про це Д. В. Войтяк розповів в своєму інтерв'ю районній газеті «Горохівський вісник» _ опублікованому на початку року (D.V. Voytyak told about this in his interview with the district newspaper “Horokhivsky Visnyk” _ published at the beginning of the year) (“Volyn-nova”, November 10, 2019); Це програма _ створена за кращим європейським зразком (This program _ was created according to the best European model) (“Konkurent”, September 24, 2023); Натомість кожному було вручено подарунок від членів комісії «Сонце любові» виготовлений власноруч (Instead, everyone was given a gift from the members of the “Sun of Love” commission _ made with their own hands) (“Tribune”, November 3, 2020); Командна робота має особливу цінність _ однаково прийнятну та всіх (Team work has a special value _ equally acceptable and everyone) (“Vysoky Zamok”, May 26, 2021).

b) Circumstances (except those expressed by adverbial inflections): Діятимемо швидко _ з огляду на обставини (We will act quickly _ given the circumstances) (“Konkurent”, September 22, 2022); Тоді Маруся _ всупереч волі батька _ самостійно вступила до університету (Then Marusya _ contrary to her father's will _ independently entered the university) (“Bukvy”, February 11, 2021); Ще один дуже цікавий пілотний проект готуємо до реалізації у Нововолинську, що _ залежно від попиту _ матиме власні масштаби виробництва (We are preparing another very interesting pilot project for implementation in Novovolynsk, which _ depending on demand _ will have its own scale of production) (“Bug”, March 17, 2021), etc. In this subgroup, circumstantial constructions with a prepositional compound незважаючи на (in spite of) are dominant among anormativity:

Незважаючи на труднощі ці люди вистояли, проявили силу волі, терпіння, йшли до людей і знаходили в них велику підтримку і розуміння (Despite the difficulties _ these people persevered, showed willpower, patience, went to people and found great support and understanding in them) (“Tabloid Volyn”, December 18, 2019); Незважаючи на складну життєву ситуацію _ ця жінка зберегла в собі мудрість і доброту (Despite the difficult life situation _ this woman retained her wisdom and kindness) (“Tvoje misto”, October 19, 2023).

c) Appendices beginning with the words крім (окрім), опріч, замість, за винятком, включно з (besides (apart from), contrary to, instead of, with the exception of, including), etc.: Федерація профспілок України окрім інших вимог завжди наполягала на тому, щоб у новому законодавстві зберегти високий рівень соціального захисту, прописаного в КЗпП (The Federation of Trade Unions of Ukraine _ in addition to other demands _ has always insisted that the new legislation preserve the high level of social protection prescribed in the Labor Code) (“Visti”, May 19, 2021); Окрім «Букв» було зареєстровано ще 18 онлайн-видань (In addition to “Bukvy” 18 more online editions were registered) (“Bukvy”, October 27, 2023); Крім того _ велике задоволення отримую від роботи по дому, в саду, городі (In addition, _ I get great satisfaction from working around the house, in the garden, in the garden) (“Tvoje misto” November 26, 2021), etc.;

d) Clarifying members of the sentence: Адже родом Володимир Юрійович з Івано-Франківщини _ села Рожнів (After all, Volodymyr Yuriyovych is from the village of Rozhniv in the Ivano-Frankivsk region) (“TSN”, January 14, 2021); Наталія Остапюк _ заступник голови шкільної ради реалізує свої сили в організації (Nataliia Ostapuk _ deputy head of the school board realizes her strengths in the organization) (“UNIAN”, March 24, 2019); Діагноз Володі Вязовцева _ учня 11-го класу НВК № 13 _ звучав як вирок – кератококус IV ступеня правого ока (The diagnosis of Volodya Vyazovtsev _ a student of the 11th grade of the NVK No. 13 _ sounded like a sentence - keratoconus of the IV degree of the right eye) (“Vikna”, February 4, 2019) (it should be noted that there is a dash before the explanatory, supplementary part of кератококус IV ступеня правого ока (keratoconus of the IV degree of the right eye), while the norm provides for a colon here). Sometimes, the clarifying article is separated from only one side: Сьогодні, 26 жовтня _ Національна рада з питань телебачення та радіомовлення зареєструвала «Букви» як онлайн-медіа згідно з приписами Закону України «Про медіа» (Today, October 26 _ the National Council for Television and Radio Broadcasting registered “Bukvy” as an online media in accordance with the provisions of the Law of Ukraine “On Media”) (“Bukvy”, October 27, 2023).

e) Applications, mostly common: Цю зустріч проводив Святослав Кравчук _ активіст луцького молодіжного осередку (This meeting was conducted by Svyatoslav Kravchuk _ an activist of the Lutsk youth center) (“Volyn24”, August 18, 2021); Чимало Андріїв – членів партії _ плідно працюють на благо міської громади (Many Andriys – members of the party _ are fruitfully working for the benefit of the city community) (“Volyn-nova”, February 18, 2020).

Individually, in the analyzed editions, media workers do not separate appeals. Among the recorded cases, we fix only 0.4% of such falsely dangerous places: I тим не менше, друзі мої _ не спокушайтесь – курці не здатні кинути курити на першу вимогу, а отже, повністю не можуть бути вільні (And nevertheless, my friends _ do not be tempted - smokers are not able to quit smoking at the first request, and therefore cannot be completely free) (“Tvoje misto”, September 3, 2021).

The main members of a simple two-syllabic sentence often become a point of error in the punctuation system. Close to the trend is the violation of the norm of punctuation agreement between the subject and the predicate expressed by the noun (9%). In constructions where there should normally be a dash, editors often omit it due to carelessness or ignorance: Наталія

Вальчук мама 4-х дітей, де Богдан – наймолодший (Natalya Valchuk – mother of 4 children, where Bohdan is the youngest) (“Ukrinform”, September 24, 2023); Збирати березовий сік навесні – досить клопітке заняття, що вимагає спеціальних навичок (Collecting birch sap in the spring – a rather troublesome activity that requires special skills) (“Bug”, April 7, 2020); Дитячий будинок у Ківерцях – спеціальний дошкільний заклад, де виховують діток від двох до восьми років у яких є психоневрологічні патології (Children's house in Kivertsy – a special pre-school institution where children from two to eight years old who have psychoneurological pathologies are raised) (Volyn-nova, May 19, 2022) (an error was additionally noted in the construction of the subjunctive part); Тамара Мілентіївна Ковальчук добре знає і шанована людина (Tamara Milentiivna Kovalchuk – a well-known and respected person) (“Visti”, November 3, 2019). A single dash is not used in constructions with an indicative participle before a predicate-noun: Мітинги і площі – це не те місце, де можна домовитись і порозумітись (Meetings and squares – not the place where it is possible to come to an agreement and understanding) (“Tribune”, November 12, 2019); Є люди з різними світоглядними уподобаннями, але раціональність та конструктивізм – це те, що їх об'єднує (There are people with different worldview preferences, but rationality and constructivism – are what unite them) (“UNIAN”, November 12, 2020); Забезпечення незайнятого населення робочими місцями – це не єдиний позитивний аспект діяльності заводу у селі (Providing jobs to the unemployed population – not the only positive aspect of the plant's activity in the village) (“Bug”, November 3, 2019). Punctuation (hyphen) is not observed in those journalistic texts in which there is no punctuation mark between the subject and the predicate expressed by infinitives: Сьогодні завдання нашої організації – це раз підтвердити свою першість та продовжити втілювати започатковані ініціативи (Today, the task of our organization – to once again confirm its primacy and continue to implement the initiated initiatives) (“Volyn-nova”, September 1, 2020); Нам виборці повірили, а наше завдання – виправдати їхню довіру (The voters believed in us, and our task – to justify their trust) (“Bukvy”, November 12, 2019), etc.

Unreasonably, journalists and editors use a dash before a predicate expressed by a verb: Діяльність волинської молодіжної організації – вражає (The activity of the Volyn youth organization –impressive) (“Volyn information portal”, June 18, 2022). Sporadically optional dashes are used in simple constructions between the subject and the predicate: Історія міста Луцька – древня та велична (The history of the city of Lutsk –ancient and majestic) (“Volyn News”, August 20, 2020); Волинський краєвид – унікальний та неповторний (The Volyn landscape – unique and inimitable) (“Konkurent”, August 20, 2020); Каналізація – не смітник: у стічних водах багатопроверхівки Луцька виявили критичний рівень шкідливих речовин (Sewerage – not a garbage dump: a critical level of harmful substances was found in the wastewater of high-rise buildings in Lutsk) (“Under the gun”, March 25, 2021).

Punctuation presented in complex constructions (complex sentences, sentences without conjunctions, as well as sentences with different types of syntactic connection (7%)) show a relatively lower frequency. There are cases when a comma is missing between equal parts of complex sentences (both two-syllable and one-syllable), connected by the conjunctions *and* or *та* (and): Можливості у вихователів значно ширші – і ті засоби, які ми маємо, дозволяють забезпечувати якісний рівень виховання та освіти (The opportunities for educators are much wider – and the means we have allow ensuring a high-quality level of upbringing and education) (“Vikna”, October 3, 2022); Ми переконано організаторів заходу – і всі їхні задуми будуть втілені (We will convince the organizers of the event – and all their ideas will be implemented) (“Bukvy”, October 18, 2022); Це важливий крок у роботі нашої організації – і потрібно до змін потрібно надзвичайно відповідально (This is an important step in the work of our

institution_ and it is necessary to approach changes extremely responsibly) (“TSN”, March 3, 2020).

We rarely observe incorrect punctuation in a sentence without a conjunction. Its appearance is most often associated with the omission of a dash between the predicative parts of a non-conjunctive sentence, when the first part of the sentence expresses the condition of the action, which is referred to in the second: Не можеш чогось знайти – створи сам (If you can't find something – create it yourself) (“Hromadske”, May 26, 2022); Ми постукали – нам відкрили (We knocked – they opened to us) (“Ukrainian Pravda”, September 24, 2020), etc. The probable is appearance of a punctuation anormative associated with the absence of a comma in an infinitive sentence: Після завершення наради посадовець відповів на запитання учнів – вони стосувалися якості питної води та потреби залучення державних коштів (After the meeting, the official answered the students' questions – they related to the quality of drinking water and the need to attract state funds) (“Ukrinform”, January 21, 2021); Це справді сильні діти – у них є чому повчитися і нам, дорослим (These are really strong children – they have a lot to learn from us adults too) (“TSN”, November 3, 2021).

We also come across isolated cases in journalistic texts, when a dash is used between the first and second predicative parts of non-conjunctive constructions instead of a colon justified by the norm: Ми не повинні забувати – кожен мусить спрямовувати свої зусилля на боротьбу з ворогом і спільну перемогу (We must not forget – everyone must direct their efforts to fight the enemy and win together) (“Konkurent”, August 20, 2023).

We note the punctuation of complex syntactic constructions as an error-prone place. For example, in the sentence *Скільки радощів було, коли Миколая дочекалася – і свято нарешті розпочалося* (How many joys were there when Mykolai finally came – and the holiday finally began) (“Vysoky Zamok”, December 20, 2021), three predicative parts can be distinguished, which are combined by the subordinating conjunction (*Скільки радощів було, коли ...* (How many joys were there when ...)) and the relative clause (*Миколая дочекалася – і свято нарешті почалося* (Mykolai finally came – and the holiday finally began)). If the subordinate part is designed correctly, then the boundaries between the second and third blocks are not highlighted.

Analyzing the professional speech of media workers, we witness a significant number of errors in the design of direct speech (4.6%). Almost all of them are connected with the absence of a comma after the direct speech and before the author's words: *«Хоч я представляю зараз іншу політичну силу, але в нас багато спільного і подібна також мета, а відтак ми орієнтовані на співпрацю» – звернувся до присутніх доповідач* (“Although I represent a different political force now, we have a lot in common and a similar goal, so we are oriented towards cooperation” – the speakers addressed those present) (“Vikna”, October 29, 2019); *«Але я не нарікаю, вона ж хотіла як краще, життя мені і дитині намагалася зберегти, а вийшло так, як вийшло, що зробили» – каже лані Наталія* (“But I don't complain, she wanted the best, she tried to save my life and the child's, but it turned out the way it turned out, what was done” – says Mrs. Natalya) (“TSN”, September 24, 2021). We also come across the systematic use of a hyphen after direct speech instead of a normative dash as a manifestation of violations of the technical rules of typing texts.

The identified punctuation anormatives make it possible to single out the missing punctuation marks in the case of homogeneous clauses in a separate group (3%): *... але коли і надалі один працюючий утримуватиме одного непрацездатного, то це матиме доволі жалюгідний вигляд і для одного – і для іншого (... but when in the future one working person keeps one disabled person, it will look quite miserable for both one – and the other)* (“Tribune”, November 12, 2020); *Ми повинні ефективно – результативно його використовувати* (We must use it efficiently – resultively)

(“Vysoky Zamok”, February 11, 2021); *Попри те, що багато і свідків _ і учасників _ і жертв Другої світової війни уже не поруч з нами, вони залишаються живими доти, доки живе пам'ять про них* (Despite the fact that many witnesses _ and participants _ and victims of the Second World War are no longer with us, they remain alive as long as their memory lives on) (“Bug”, May 12, 2019).

As a result of a punctuation study related to the lack of proper punctuation, the most productive error-prone places in the written speech of journalists were determined. These are primarily the most frequent anormatives in a complex sentence, with adverbial inflection, interjections and constructions, separated clauses. Ignoring punctuation norms also causes cases of the absence of a punctuation mark in direct speech, homogeneous clauses, in non-conjunctive and complex sentences, complex syntactic constructions.

Abnormalities reflecting the presence of an extra punctuation mark (24 %)

The online media used to investigate punctuation culture indicate the dominance of several main types of redundant punctuation. A tendency in written communication is the selection of the complex conjunction *адже* (after all), mistakenly used by the authors as an interjection. It should be noted that this is an error-prone place for many journalistic materials: *Адже, щоранку у будь-яку пору він занурюється в холодну купіль водою* (After all, every morning at any time he plunges into a cold pool of water) (“UNIAN”, January 14, 2022); *До речі, настанню морозних днів раді і хірурги, адже, в мороз менше розвивається всіляких шкірних мікроорганізмів* (By the way, surgeons are also happy about the onset of frosty days, because in the cold, all kinds of skin microorganisms develop less) (“Tvoje misto”, February 4, 2019); *Адже, станом на сьогодні, за кілька сотень гривень солдати повноцінно забезпечують життєдіяльність своїх військових частин, працюючи “різноробочими”* (After all, as of today, for a few hundred hryvnias, soldiers fully provide for the livelihood of their military units, working as “handymen”) (“Bukvy”, October 26, 2023).

When working with texts of various genres, journalists resort to frequency separation of those tokens that are never inserted. For example: *нещодавно* (recently): *Нещодавно, виповнився рік перебування голови районної ради на своїй посаді* (The chairman of the district council recently completed one year in office) (“Konkurent”, November 10, 2019); *Нещодавно, в урочистій атмосфері вручили подарунки талановитим школярам* (Recently, in a solemn atmosphere, gifts were presented to talented schoolchildren) (“Vikna”, November 10, 2019); *Ми, нещодавно, наполегливо працювали, аби перемогти в змаганнях* (Recently, we worked hard to win competitions) (“TSN”, September 24, 2022); *також* (also): *Учасники заходу, також, виступили з ініціативами зобов'язати громадян укладати договори на оплачуване вивезення побутових відходів* (The participants of the event also took initiatives to oblige citizens to sign contracts for the paid removal of household waste) (“Glavkom”, October 6, 2022); *Також, вони вручили великі букети червоних троянд своїм вчителям-ветеранам та запросили їх на шкільний вальс* (Also, they handed large bouquets of red roses to their veteran teachers and invited them to the school waltz) (“Vysoky Zamok”, October 6, 2022); *Ми вважаємо за доцільне, також, скасування ряду пунктів у правилах торгів* (We also consider it expedient to cancel a number of items in the bidding rules) (“Visti”, November 28, 2020); *поступово* (gradually): *Поступово, розбудова нашого навчального осередку перейшла в нове русло* (Gradually, the development of our educational center moved in a new direction) (“Under the gun”, September 3, 2020); *невдовзі* (soon): *Невдовзі, роботи із завершенням будівництва дороги до села Мильці будуть припинені* (Soon, work on the completion of the construction of the road to the village of Miltsi will be stopped) (“Visti”, September 3, 2019); *Невдовзі, кожен отримає обіцяну допомогу* (Soon, everyone will receive the promised help)

(“Vysoky Zamok”, June 25, 2021); *хоча* (although): *Хоча, створення Рожищенської районної організації супроводжувалося невдоволенням тодішньої владою верхівки* (Although, the creation of the Rozhyshchen district organization was accompanied by dissatisfaction of the then ruling elite) (“Bukvy”, September 3, 2019); *варто* (worth): *Варто, коротко згадати про механізм розвитку залежності до тієї чи іншої хімічної сполуки* (It is worth briefly mentioning the mechanism of the development of addiction to one or another chemical compound) (“Tribune”, September 3, 2019); *всього* (total): *Всього, з початку року субсидію на оплату житлово-комунальних послуг отримали більше 21 тисячі сімей* (In total, since the beginning of the year, more than 21,000 families have received subsidies for housing and communal services) (“Under the gun”, December 21, 2020).

More than once in journalistic texts, we found contrived clarifying constructions, erroneously separated by commas: *Основним здобутком, за цей період, можна вважати розбудову нашої організації* (The development of our organization can be considered the main achievement, during this period) (“Vikna”, October 3, 2019); *А після штурмового удару, записав на свій бойовий рахунок ще й один танк на зенітну установку* (And after the assault, he added one more tank and an anti-aircraft gun to his combat account) (“Konkurent”, September 3, 2019); *Іноді, в повсякденній метушні, люди забувають про справжні цінності* (Sometimes, in the hustle and bustle of everyday life, people forget about real values) (“Vysoky Zamok”, November 3, 2020); *В умовах сьогоднішнього дня, оплата строковикам, які не беруть участі у бойових діях, зводиться до посадового окладу, що складає від 350 до 700 грн – залежно від тарифного розряду* (In today's conditions, the payment of conscripts who do not take part in hostilities is reduced to the official salary, which is from 350 to 700 hryvnias - depending on the tariff class) (“Bukvy”, October 26, 2023); *Тож, зараз, головне звернення строковиків полягає в тому, аби їм надали належне фінансове забезпечення та відповідні права стосовно звільненя* (Therefore, now, the main appeal of conscripts is to provide them with adequate financial support and the corresponding rights regarding dismissals) (“Bukvy”, October 26, 2023); *Насамперед, розкажіть про свій шлях до війська* (First of all, tell about your path to the army) (“Bukvy”, October 26, 2023).

We also fix the non-normative between the subject and the predicate: *Олександр Курилюк, звернувся до учасників урочистих зборів із щирим вітанням* (Oleksandr Kyrylyuk, addressed the participants of the solemn meeting with sincere congratulations) (“Bug”, November 12, 2020); *А це, є порушенням законодавства* (And this, is a violation of legislation) (“Ukrinform”, April 7, 2022); *Ці люди, будь-якою ціною намагалися втриматися при владі* (These people tried to stay in power at any cost) (“TSN”, September 3, 2021); *Попередні спроби вивести вугільну промисловість із кризи, не мали системності і не доводились до логічного завершення* (Previous attempts to bring the coal industry out of the crisis were not systematic and did not come to a logical conclusion) (“Tvoje misto”, September 3, 2021).

There are imprecise punctuation marks for homogeneous clauses and generalized words, when authors resort to an extra colon or dash. In the construction *Для участі в роботі пленуму були запрошені: члени президії, члени Ради організації, голови первинних організацій міста і району...* (To participate in the work of the plenum, the following were invited: members of the presidium, members of the Council of the organization, heads of primary organizations of the city and district...) (“Hromadske”, March 31, 2021) two extra punctuation marks were used – a dash and a colon, because the token *запрошені* (invited) is not generalizing when listing guests.

However, an extra comma is more often recorded with two homogeneous members of the sentence, which are connected by a single conjunction *і* (and): *... які організували розгалужений*

бізнес із мільйонними оборотами, і нічого не сплачували до бюджетів (...who organized a branched business with a million turnover, and did not pay anything to the budgets) ("Bukvy", November 12, 2019); *Сталевий прес, широкі плечі, і спину – саме так можна описати хлопців (Steel abs, broad shoulders, and backs – that's how one can describe guys)* ("Visti", May 19, 2021).

Another punctuation anormative is the unmotivated selection of the application with the component *як* (*as*), when it does not have a shade of reason: *Як керівник обласної організації, я відповідально заявляю, що ми все зробимо для того, щоб вибори відбулися чесно і прозоро (As the head of the regional organization, I responsibly declare, that we will do everything, to ensure that the elections are held honestly and transparently)* ("Under the gun", October 6, 2019); *Як провідна політична сила країни, ця партія йде на вибори з чіткою передвиборчою програмою (As the country's leading political force, this party is going to the elections with a clear pre-election program)* ("Under the gun", September 1, 2019); The hyphen is superfluous in the sentence *Директор районної ДЮСШ – Світлана Михалук розповіла про заходи (The director of the district children and youth sports school – Svitlana Mykhalyk told about the measures)* ("Volyn-nova", November 3, 2020).

Sporadically, media professionals admit the use of an extra comma between the parts of a complex sentence, connected by a single connecting conjunction, in the presence of an article common to both predicative parts of the sentence: *Протягом останніх днів зима взяла реванш, і позначка термометра впевнено опустилась до -20 (During the last days, winter took revenge, and the thermometer mark confidently dropped to -20)* ("Konkurent", February 4, 2021); *В інтерв'ю Едуард ділиться власним досвідом строкової служби, тим, про що мріяв на лінії фронту, та за що першочергово бореться зараз (In the interview, Eduard shares his own experience of military service, what he dreamed of on the front line, and what he is primarily fighting for now)* ("Bukvy", October 26, 2023). A comma is also unmotivated in an interrogative complex sentence: *Хто опікувався безпосередньо Вашим забезпеченням, і чи належним воно було? (Who took care of your provision directly, and was it proper?)* ("Bukvy", October 26, 2023).

Occasionally, punctuation inaccuracies were found when using direct language: *«Дружба і жага спортивного відпочинку!», – сказав керівник поїздки (Friendship and a thirst for sports recreation!» said the trip leader)* ("Tvoje misto", March 17, 2023). Extra punctuation marks, which are not regulated by the punctuation standard and were obviously added by the authors due to oversight, are also found: *І коштувала вона, недешево (And it was, not cheap)* ("Bukvy", February 4, 2022); *Це безоплатна передача громадянам житла, так працює Державна іпотечна установа (This is a free transfer of housing to citizens, this is how the State Mortgage Institution works)* ("Vysoky Zamok", November 12, 2019).

Thus, in the text communication of modern mass media workers, cases of using an extra punctuation mark are less frequent than the absence of necessary punctuation marks. Among the punctuation abnormalities associated with the use of an extra comma, errors in the allocation of imaginary interjections and clarifying constructions dominate. Extra punctuation marks between the subject and the predicate have a lower frequency, with homogeneous clauses. Single examples represent non-normative punctuation formations when separating the adjuncts, between parts of a complex sentence. Sometimes, such errors are not regulated by the rules.

Abnormalities reflecting the replacement of some signs by others (11 %)

This group of punctuation violations is small compared to the two previous groups. Among the errors characterizing the replacement of one punctuation mark by another, several groups can be distinguished, regulated by a certain punctuation norm. Forming a direct language, the media admit the abnormal use of

punctuation marks: *Але коли мені доводиться на різних рівнях презентувати нашу область, описуючи потенціал краю, я кажу – «На Волині є все. Навіть шахти!» (But when I have to present our region at different levels, describing the potential of the region, I say – "Volyn has everything. Even the mines!")* ("Volyn-nova", September 3, 2021) (the norm is colon instead of a dash).

We also fix the erroneous replacement of punctuation marks in the unconjugated construction, when the second disseminates the information of the first: *Відповідно до змін законів України «Про охорону культурної спадщини» та «Про охорону археологічної спадщини» проведено роботу щодо впорядкування об'єктів культурної спадщини Володимир-Волинського району – зараз на обліку їх перебуває 234 (In accordance with the amendments to the Laws of Ukraine "On the Protection of Cultural Heritage" and "On the Protection of Archaeological Heritage", work was carried out on the arrangement of cultural heritage objects of the Volodymyr-Volyn district - now on, 234 of them are registered)* ("Bug", October 15, 2022) (the norm is colon instead of a dash); *Вчені ще раз нагадують – якщо ви об'єсте про свою зовнішність – кидайте курити (Scientists remind once again – if you care about your appearance – quit smoking)* ("Vysoky Zamok", October 29, 2020) (the norm is colon instead of a dash). Norms have not been observed in the use of commas in the interjection construction, which indicates the source of the message: *Втім, як уже казав засновник волинської молодіжки – життєві процеси є природними та невідворотними (However, as the founder of the Volyn youth group already said – life processes are natural and inevitable)* ("Volyn News", November 24, 2022); *За словами організаторів – поряд із прибиранням території вона ... (According to the organizers, – along with cleaning the territory, she ...)* ("Bug", March 31, 2022).

Most of the unmotivated violations of this group are recorded in complex constructions. Journalists mistakenly put another punctuation mark instead of a normative comma – a dash or a colon: *У другій категорії переміг Горшкалов Денис – який підняв 90 кг (In the second category, Denys Horshkalov won – who lifted 90 kg)* ("Tvoje misto", September 22, 2023) (the norm is a comma instead of a dash).

We detect punctuation errors regarding the use of dashes between the subject and the predicate: *А позаяк пан Кравчук, частий гість у місті шахтарів, тож під час розмови запитали про цей населений пункт (And since Mr. Kravchuk, is a frequent visitor to the city of miners, during the conversation they asked about this settlement)* ("Bug", September 24, 2020) (the norm is a dash instead of a comma). There are confusions of punctuation marks in separate parts of the sentence: *Окрім скандального ремонту Київського райсуду за 106 млн грн та Театру юного глядача за понад 30 млн – є багато інших витрат, які є недоречними під час воєнного стану (In addition to the scandalous renovation of the Kyiv District Court for UAH 106 million and the Young Spectator Theater for more than UAH 30 million, there are many other expenses that are inappropriate during martial law)* ("Bukvy", October 25, 2023) (norm is a comma instead of a dash).

As we can see, the phenomenon of replacing one punctuation mark by another in the written communication of journalists is fragmentary and is indicated by single examples of punctuation errors in a complex sentence (of different types), in direct speech, between the subject and the predicate in a simple sentence, separate articles, etc. However, the defined punctuation groups of anormatives (according to the classification of researchers) do not exhaust all fixed errors of media speech. In several cases, the punctuation mark was placed in an unusual position. The most productive and error-prone place is the use of a dash after the particle *це* (*it*), and not before it, as required by the norm of punctuation of the connection between the subject and the predicate: *Ядро базових організацій це – нашу перевірені кадри: люди з принципами і переконаннями (The core of basic organizations is – our proven personnel: people with principles and convictions)* ("Glavkom",

October 8, 2021). A non-normative position is occupied by a comma in other journalistic constructions: *Я дуже вдячний, усім хто вболівав за спільну справу (I am very grateful to everyone, who cheered for the common cause)* ("Vikna", October 8, 2021) (rightfully: *Я дуже вдячний усім, хто вболівав за спільну справу (I am very grateful to everyone who cheered for the common cause)*); *Нутроці починають страшно бунтувати, що виражається то, в прискореному серцебитті то, в розладах стільця, а то раптом шлунок відмовляється приймати улюблену їжу (The insides begin to rebel terribly, which is expressed either in an accelerated heartbeat, in stool disorders, or suddenly the stomach refuses to accept favorite food)* ("Tvoje misto", September 3, 2020).

Figure 1 shows general distribution of varieties of punctuation anormatives in the professional communication of media workers.

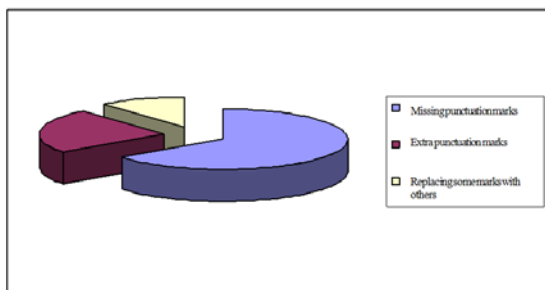


Figure 1. Distribution of varieties of punctuation anormatives in the professional communication of media workers

4 Conclusions

Thus, having studied the written professional communication of media workers based on the news texts of Ukrainian online media, we single out three negative error zones at the punctuation level: 1) errors associated with the omission of the necessary punctuation (65 %); 2) anormatives reflecting the presence of an extra punctuation mark (24 %); 3) violations indicating the replacement of some signs by others (11 %). Quantitative analysis of erroneous punctuation phenomena revealed that most often media workers miss the necessary punctuation mark. Relatively less often they resort to unnecessary punctuation or non-normative replacement of some punctuation marks by others. Improving the editing process and increasing the communicative effectiveness of the media text should be facilitated by the use of the anti-error device by media workers, which contains data on error-prone places at the punctuation level. Undoubtedly, every employee of the editorial board is obliged to perfectly master the norms of the modern Ukrainian language, to be aware of all changes and additions, in order to continue to ensure a decent level for their media. When the slightest doubts arise, the editor should turn to authoritative linguistic sources to make sure of the correctness/incorrectness of his reasoning. So, the main characteristics of a highly qualified media worker are education, a high level of language culture, as well as deep knowledge in the field of editing, in order to eliminate any inaccuracies that arise during the creation of journalistic materials at all stages of text editing.

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PRESERVATION AND DEVELOPMENT OF UKRAINIAN CHOREOGRAPHIC AND MUSIC FOLKLORE: CONNECTION BETWEEN TRADITION AND MODERNITY

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Abstract: The purpose of the article is to analyze and research various traditional Ukrainian folk dances, including their historical and cultural context. The scientific novelty of the publication lies in outlining of practical strategies for the preservation and development of Ukrainian folklore through dance, which can have practical significance for communities and organizations working in the field of cultural heritage. Various regional features in traditional dances are analyzed, as well as their transformations and influence on modern performance. The study takes into account the use of traditional elements in modern choreographic productions and interaction with modern art and is aimed at justifying the importance of folk dances as a key element of Ukrainian culture, which revealed various aspects of interaction with tradition, expanding the understanding of their influence on modern art and national identity. Regional differences in the performance of folk dances and their role in preserving cultural diversity are emphasized. The work is aimed at realizing the importance of preserving and developing Ukrainian folklore through dance and emphasizing its role as an integral part of cultural heritage. The study attempts to contribute to a deeper understanding of this aspect of Ukrainian culture and its relationship with modern art and society.

Keywords: ethnography; preservation; identity; development; dances; tradition and modernity; folk dances; choreography.

1 Introduction

The topic of folk dances in the context of the preservation and development of Ukrainian culture remains relevant. Folk dances represent an important part of the cultural heritage of Ukraine. Preservation and research of these traditions are important for the transmission of cultural values to future generations. Traditional dances play an important role in the formation of national identity and self-awareness. Studying these dances contributes to understanding how cultural expressions influence the formation of a national image. Folk dances have great potential in choreographic art. They can be a source of inspiration for modern creative solutions and innovations in the field of dance. Ukrainian folk dances have the potential to become an element of cultural tourism and marketing, which can contribute to the economic development of regions. The relevance of this topic is emphasized by the need to preserve cultural diversity, understand the influence of traditionalism on modernity, and develop strategies for the preservation and reproduction of folk dances in the modern context.

The analysis of the latest studies proved that many domestic Ukrainian scientists were engaged in the study of the preservation and development of Ukrainian folklore. In particular, O. Voropai [19], the author of many works on Ukrainian ethnography, as well as L. Kozinko [5, 6] studied the elements of folklore dance and its semantics, V. Vasyak [17] analyzed the use of folklore and ethnographic sources in Ukrainian stage choreography, O. Buduzova [3] described the synthesis of arts as a factor in the formation of the aesthetic attitude of the future teacher-choreographer, I. Kushchavets' [7] works are devoted to the art of folk choreography, V. Kotov [4] studied the traditions of Ukrainian folk dance, A. Nahachewsky studied Ukrainian dance as a whole [10-13].

These studies made it possible to reveal the dependence between folk dance and modern choreography, determining the original source and their essence.

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The purpose of the article is to analyze and research various traditional Ukrainian folk dances, including their historical and cultural context.

2 Method

The following research methods were applied: analysis of materials, records, illustrations that may date back to historical periods related to traditional dances; typology; general historical method; historical and chronological, comparative-historical, ethnographic methods for detailed description and analysis of traditions and customs related to folk dances. The concept of cultural anthropology was applied to understand the impact of folk dances on socio-cultural aspects of Ukrainian society.

3 Results and Discussion

Ukrainian folk dances are part of the cultural heritage and embody a rich historical and cultural basis. The study of this topic is extremely important from the point of view of understanding and maintaining national identity and revealing the unique cultural heritage of Ukraine. Folk dances of Ukraine intertwine tradition and symbolism. Every movement, every song has its roots in the depths of history, telling about the events, rituals, and horizons of the life of the Ukrainian people. They are an expression of emotions, a reflection of the diversity of regional traditions and interaction with rural life.

The study of folk dances becomes a key aspect of cultural heritage conservation. Through this analysis and understanding of these dances, one can capture the spirit of past generations and recreate the traditions that grow from the very depths of national experience.

Traditional Ukrainian folk dances have deep roots dating back to ancient times. Their beginnings can be traced back to the history of the Cossack era, which contributed to the development of Ukrainian culture and art. Initially, dances were performed during ceremonies, holidays, and religious events. In the 20th century, under the influence of national revival, traditional dances became a symbol of national identity and the struggle for independence.

Modern Ukrainian folk dances combine traditional elements with innovative approaches. They are performed at various festivals, concerts and international events, celebrating the richness of Ukrainian culture and impressing the audience with their energy and expressiveness.

Different regions of Ukraine have their own unique variations of folk dances. For example, the dances of the Poltava region may differ from the dances of Prykarpattia both in terms of musical design and the nature of the movements. This diversity reflects the cultural diversity and heritage of Ukraine.

Contemporary dancers and choreographers are actively innovating folk dances, combining traditional elements with modern choreography and music. This allows creating unique positions that attract the attention of viewers and allow tradition to live in the modern world.

Analyzing the history and styles of folk dances of Ukrainian culture not only allows understanding the development of this unique art form, but also deepens our perception of the national cultural heritage. Folk dances not only influence the research of past, but also shape modern trends in art. Today's choreographers use elements of traditional dances to create spectacular performances that combine heritage and innovation. The study of folk dances is an integral part of the formation of national identity. Dances become a language that unites Ukrainians, giving a sense of community and uniqueness of the nation.

Revealing the history, symbolism, and influence of folk dances on Ukrainian culture requires in-depth research. It not only reflects the past, but also becomes an important component of the present and the future. Studying folk dances is a step towards preserving, unfolding, and reproducing what marks the Ukrainian identity.

Folk dances represent one of the most vivid manifestations of the folk culture of Ukraine - it is a real treasury of folk music and dance. They have a rich history that, as it was mentioned above, dates back to ancient times. Ukrainian dances are of great importance for the Ukrainian people; they were not only a means of expressing emotions, but also performed religious and ritual functions.

The first mentions of Ukrainian dances, dating back to ancient times, had their regional differences depending on the area where they were performed. In some regions of Ukraine, they were called "hutsulki", in others - "polka", "kolomyiki", or "hopachki".

In the 20s of the 20th century, a period of active development of Ukrainian culture and the national movement in Ukraine began, which was also reflected in the development of folk dance. Amateur collectives were created, which played an important role in the preservation and development of Ukrainian folklore, including folk dance.

In the 1960s, a new stage in the development of folk dance began in Ukraine, associated with the creation of new choreographic techniques, the use of new rhythms and elements. This became possible thanks to the cooperation of dance groups with musicians, composers, and other artists.

There is a large number of scientific works dedicated to the study of folk dance in Ukraine. Especially many scientific works were published in the second half of the 20th century.

Among the well-known scientific works, the book "Ukrainian folk dance" by Pavel Virskii, which contains descriptions of more than 200 dances, their history and performance features [18], can be highlighted.

Different types of folk dance in Ukraine can be distinguished. Ukrainian folk dances are solo and mass. Solo dances include so-called pereplyas and couple dances, while mass imply round dances and dance-games. "Horovod (*round dance*) is one of the oldest genres of folk dance art, the main idea of which is to walk in a circle under the accompaniment of the national melody. According to the theme, dances can be divided into three groups: reflecting labor processes; reflect family and domestic relations; showing the patriotic feelings of the people, glorifying native nature. Now round dances have lost their ceremonial significance. They entered the repertoire of professional and amateur performing groups, especially children's ones" [9, p. 79-84].

Speaking about Ukrainian folk dances (except for the dances of Western Ukraine), the leader of artistic team I. Fetysov divides them into three main groups: single dances, couple dances, and three-person dances. The oldest are solo dances in which the dancers do not hold hands. The number of performers can be arbitrary, and they both interact and dance separately. The most vivid example of such dances is "Hopak", because in its folk version, unlike the stage embodiment, it involves the single performance of a wide variety of movements, which should emphasize the improvisation and ingenuity of the dancer [5].

I. Fetysov defines three-person dances as the next oldest in origin, especially those where it does not matter from which foot the dancers start. This is also inherent in solo dances.

Couple dances can be performed in pairs of two or four people. They are divided into dances with turns and without them. In non-turning dances, which are older, there is virtually no difference between the male and female parts, as the dancers start on the same foot and move in the same direction. In

contrast to them, in dances with paired rotations, two dance parts are clearly expressed, which, in fact, are mirror images of each other and are performed from different legs [5].

Varieties of folk dances began to be distinguished gradually, thereby ensuring the formation of Ukrainian dance traditions and made a certain contribution to modern choreographic productions. Ukrainian choreographic traditions became a complex system that includes genres and types of Ukrainian choreographic art that were formed in ancient times, the so-called "primary forms of folk dance", described and classified as round dances, household and story dances in monographs of Ukrainian domestic art researchers [9] and renewed (productive) forms of folk dance, which have gained new life in today's professional choreography.

L. L. Kozinko, speaking about Ukrainian folk dances, notes their general rather simple structure. The author indicates that the preferred pattern is a circle of participants, in which they can be located alone, in pairs, or in threes. Single or paired rotations can be performed in the circle, which looks like a small circle in a large one. Also, possible variants of patterns are a square, a cross, a circle in a circle moving in opposite directions. We would like to emphasize that all dances performed by two teams are performed counter-clockwise. The movements in the dances that we have listed above are quite simple and come from the physiological capabilities of the performers. Dances consist of bends - small combinations of movements, which can be in amount from two to four [6].

V. A. Vasyak points out the multifaceted nature of folk dance used in choreographic productions. The author lists all types of dances which include folk dances: "in addition to round dances, there are ritual dances, household dances, story dances, accompanied by a choir and to the accompaniment of original folk orchestras or only percussion instruments" [17].

"Folk dance is the result of collective creativity. Passing from performer to performer, from generation to generation, from one area to another, it gets richer, reaching in a number of cases a high artistic level, virtuoso technique. Each nation has developed its own dance traditions, plastic language, special coordination of movements, methods of relating movement to music. The melody of each dance, its plastic patterns and colors embody all the wisdom, all the richness of fantasy, beauty and originality of folk art. This is a wonderful, inexhaustible treasure trove, from where modern dance creators drew and will draw material. Only by loving, understanding and knowing folk art, one can use it and benefit from it" [19, p. 230].

Boykiv authentic dance has undergone changes throughout history, however, it is worth noting that today folk dances live only on the stage and are not widely distributed among the population, which poses a threat of their "forgetting". That is why it is extremely necessary to study and popularize them.

R. Herasymchuk played an important role in the study of Boykiv music and dance based on folklore. As N. Kukuruza et al. note, the activity of R. Herasymchuk (1900-1976) characterizes him as a multidisciplinary researcher-enthusiast of folk art - ethnographer, ethnologist, musicologist, ethnochoreographer, museum worker [8].

Already being a university student, Roman Herasymchuk began researching Boykiv region and specifically Boykiv authentic dances. As the researcher himself noted, he conducted his first field expedition to this region from April 19 to June 15, 1931, and the second - from February 12 to June 7, 1933. In carrying out these field studies, he was inspired by Lviv University professor Adam Fisher, who at the same time contributed to the allocation of funds for the expedition.

R. Herasymchuk mainly paid attention to Boykiv and Hutsul dances. His monograph documents and describes more than 60 dances from different regions of Boykivshchyna and Hutsulshchyna, as well as 287 melodies edited by F. Kolessa. The book also has rich reference material (geography of

distribution of individual dances, diagrams, graphic tables depicting dance movements and steps). The scientist used the dance recording system of the German ethnographer-choreographer R. Zoder, who marked dance figures and movements with upper and lower case Latin letters.

Taking into account the uniqueness of the choreographic art of Boykivshchyna, Roman Herasymchuk proposed his classification of folk dances, dividing them into the following dance groups [9]:

- 1) Kolomyik (oldest, newest, illustrative);
- 2) Cossacks (including the latest and illustrative);
- 3) Kolomyikovo-Cossacks and their latest variants in the Galician and Bukovyna Hutsul Regions;
- 4) Ceremonial;
- 5) Marching;
- 6) Borrowed (with elements of the Romanian vocabulary);
- 7) The latest (for example shimi, foxtrot).

He paid special attention to propositions of the essay "The Robber's Dance in Pidgallya and its place among the warlike dances of the Slavs in general and among the Basques in the Pyrenees" by Professor Františko Pospíšil, announced at the II Congress of Slavic Geographers and Ethnographers in Poland in 1927, where he emphasized the importance of the film for studying folk dances, emphasizing that this is the only method of research in Slavic ethnography [9].

Herasymchuk made an interesting commentary on almost all dances, which is based on a detailed study of local choreographic folklore, cited a large bibliography of ethnographic and folkloristic studies by domestic and foreign scientists and collectors of choreographic folklore. According to A. Nagachevskyi, his work incorporated the results of intensive field research. He continued his work in expeditions to the villages of Boykivshchyna in 1930–1932 also in 1950–1952, when this territory already belonged to the Soviet Union.

Roman Herasymchuk reworked and expanded his early research into a PhD thesis, which he called "Development of folk choreographic art of Soviet Carpathian region". After considering various contextual interpretations of the dance, he carefully describes each specific dance and its local variations. Next, he gives a general description of the structural and lexical evolution, and the musical features of the dances, the dance repertoire of this region [9].

In his monograph, Herasymchuk divided the material collected during field research into two types. The first included records of own observations, films, photographs. The second is dances recorded from specific local residents. The same dances were recorded not only in one specific area, but also throughout the studied Boykiv region. This allowed the author to find out the differences in their construction, performance, and dance steps. Dance music was recorded in the same way. In addition, the monograph contains: "a chronological list of Boyki dances with an indication of the specific area where they were recorded and the time (year) when they appeared in this area; 78 tables on which the steps of Boyki dances are reproduced; 26 maps showing villages and the names of choreographic works that existed there; 64 illustrations (photos and graphic sketches) depicting the performance of dance figures and individual steps; 9 tables with conditional notation of dance movements and integral compositions with indication of localities in which a specific composition existed; 63 lyrics of songs for dances with a reference to where and by whom they were recorded; a table showing the number of dances recorded in each specific Boyki settlement; a list of dances that exist in this area, with its indication; a table with an explanation of the dance tunes, indicating the surnames and first names of the persons from whom they were recorded, and what instrument or instruments this person owns (249 items in total); 287 tunes for Boyki dances; explanation of conventional symbols and abbreviations (103 positions); bibliography (184 items)" [9, p. 165].

The presence of a powerful statistical and empirical base and its multi-faceted structuring brings the understanding of ethno-choreographic folklore to a scientific level.

Therefore, R. Herasymchuk's monograph gained recognition among the progressive public and, as the author himself noted in his biographical reference, he was awarded the academic degree of Doctor of Philosophy (in ethnography and ethnology) "also for his scientific works, and most importantly for the work "Hutsul Dances", which appeared printed in Polish in 1939".

Based on the materials of the candidate's thesis "Development of the folk choreographic art of the Soviet Carpathians", the researcher prepared the monograph "Ukrainian folk choreographic art, part I. Hutsulski and Boykivski dances" (1962). However, as O. Kvetsko pointed out, "it was not possible to print it, as well as the large monograph (60 author's sheets), completed in 1969, "Western Ukrainian choreographic art: Hutsul, Boykiv, Lemkiv dances. Podilsk and Bukovyna, Volyn and central Lviv regions", which was being prepared for publication and for the defense of a doctoral dissertation" [9].

Thus, the main works of R. Herasymchuk are the studies of authentic dance, conducted on the basis of the analysis of the works of ethnographers, ethnologists, historians, musicologists, literary scholars who were engaged in the study of settlements, everyday life, the Polonyna economy, practical, song and choreographic culture of the Hutsuls, which is extremely important contribution to the development of authentic choreographic art. Today, Ukrainian folk dance continues to develop and occupies an important place in Ukrainian culture. Many choreographic groups continue to perform traditional Ukrainian dances, as well as create new, modern compositions that combine Ukrainian folklore with modern dance techniques.

Ukrainian folk dances represent one of the most prominent elements of Ukrainian culture and are integral part of Ukrainian identity. This dance occupies an important place in the life of Ukrainians and is performed on various holidays and events that are a symbol of national unity.

The development of folk dance in Ukraine is an integral part of Ukrainian cultural heritage. Today, this dance continues to be performed in Ukrainian villages and cities, preserving its traditions and the spirit of Ukrainian culture. This dance not only preserves traditions, but also helps people feel their roots and sense of national pride.

Today, there are various collectives that perform folk dances throughout Ukraine. Among them, we can single out the ensemble of Ukrainian authentic singing "Bozhychi", one of the main activities of which is the scientific research of Ukrainian villages aimed at recording authentic examples of folklore. Since 1999, the leader of the group, Ilya Fetisov, has been organizing folklore kayaking expeditions along the rivers of Ukraine with the participation of other participants. Later, "Bozhychi" founded the School of Traditional Folk Dance, and since 2016 it has been called the "Bozhychi Ensemble Dance School", the first full-fledged folklore ensemble in Ukraine [1].

The family dance ensemble of the Vanjurak family of Vipche village, Verkhovyna community, Ivano-Frankivsk region deserves special attention. Vasyl Vanjurak is the organizer of this family dance ensemble, who remembers the old Hutsul dances from the stories of their older relatives, which are passed down from generation to generation to this day. Their most interesting dance is "Arkan". As it is already known from history, men perform this dance, but this ensemble can show "Arkan" performed by both men and women. Vasyl Vanjurak says: "Once upon a time, everyone danced, both men and women. A woman is a Hutsul girl with a strong spirit, and therefore even men can compete with her". The repertoire of the dance team of the Vanjurak family includes many folk dances, including "Dove", "Hutsulka", "Verkhovynskyi", and many other interesting compositions.

Thanks to the performance of Ukrainian folk dances, Ukrainian culture has become more accessible to foreign tourists and guests of the country. Many of them come to Ukraine to see with their own eyes national dances and feel the spirit of Ukrainian culture.

In conclusion, one can say that the formation and development of folk dance in Ukraine is an important part of the cultural heritage of the country. This dance not only preserves traditions, but also promotes the popularization of Ukrainian culture in the world and the strengthening of the national consciousness of Ukrainians. Performing folk dances is a great source of joy and satisfaction for people who love Ukrainian culture and traditions.

Thus, customs and traditions deeply permeate Ukrainian folk dance. They are the main component of its history and cultural heritage. Reproducing and preserving the traditions of performing folk dances is an important task for the preservation of Ukrainian cultural heritage.

In the modern world, Ukrainian folk dance is of great importance, as it helps to preserve and pass on to the next generations the multifaceted cultural heritage of Ukraine. In addition, folk dance is an important element of national self-awareness and identity.

Folk dance can be staged for performance at modern performances, festivals or competitions. Staging involves the addition of various artistic elements that help convey the meaning of the dance and make its performance more effective and emotional.

First of all, staging may involve creating an appropriate costume that reflects the ethnic style and traditions of the region from which the dance originates. Costumes can be decorated with embroidery, colorful fabrics, jewelry and accessories that reflect the nature of the dance and help convey its mood and emotions.

In addition, various choreographic elements can be added to enrich the dance. These can be movements that further express the mood, emotions, and ideas that are conveyed through dance. Various light and sound techniques can also be used to create an impressive atmosphere and emphasize the mood of the dance.

It is important to preserve the main characteristics of the dance and take into account its historical and cultural context. Staging of folk dance can be performed both in traditional style and in modern interpretations that combine elements of traditional dance with modern dance techniques and styles. This allows performers and choreographers to freely express their creativity and individuality while maintaining the spirit of tradition.

Evidently, an important element of preserving and spreading the country's culture and history is the restoration and performance of authentic dances. This will preserve the memory of Ukraine's past, promote raising of national consciousness and the development of tourism and cultural heritage.

Unfortunately, with the development of modern technologies and changing stereotypes of life, many Ukrainians have lost interest in folk dances. Therefore, it is very important not only to preserve traditions, but also to popularize this art form among young people. For this, it is necessary to organize exhibitions, festivals, and competitions, to attract the attention of the media to this topic.

Ukrainian folk dance is one of the most important elements of national culture. It reflects the history, traditions, and beauty of the Ukrainian people. To this day, folk dance remains popular in all regions of Ukraine and is not only a means of expressing cultural heritage, but also an important element of national identity.

Therefore, folk dance is one of the main assets of Ukrainian culture, which not only preserves traditions, but also helps to develop health, promotes the popularization of Ukrainian culture in the world and strengthens the national consciousness of Ukrainians. This art needs attention and support in order to

preserve it for future generations and pass it on as a legacy from ancestors.

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Primary Paper Section: A

Secondary Paper Section: AL

THEORETICAL BACKGROUND OF THE SYSTEM FOR ADVANCED QUALIFICATIONS OF CIVIL SAFETY SPECIALISTS IN HUMAN CAPITAL MANAGEMENT (UKRAINIAN CONTEXT)

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and delimitation, include those that determine the structure of the system (namely: element, component, subsystem, supersystem) and those that reflect the essential and functional features of the structural parts of the system (feature, property, attribute, etc.). Consideration of a pedagogical object as a system involves the definition of a set of regularly arranged and interdependent parts that determine the integrity and unity of its development.

The purpose of the study is the theoretical justification of the system of advanced training of civil safety specialists in the management of human capital.

2 Method

The research methods include theoretical (analysis of pedagogical and educational literature on the research problem, comparison, systematization and generalization of existing methods and methods of improving the qualifications of civil safety specialists) and empirical - systematization and generalization of the experience of organizing the professional development of specialists at the Institute of Public Administration and Scientific Research on Civil Protection.

3 Results and Discussion

Features of the system of advanced training of civil security specialists in human capital management

At the current stage of the development of systemology, system properties are distinguished, grouped by certain characteristics and differentiated by scale (integrity, unity of elements, complexity (combination of elements)). But the main goal of thinking on the basis of systems is, first of all, a holistic perception of the subject of knowledge. Integrity as a property of the system, scientists note, is the cornerstone concept of the system approach, which determines the direction of human thinking within its limits [12]. Scientists identify a number of leading features, with the help of which the education system can be described as a holistic entity: the presence of systemic qualities that are inherent in none of the separately taken elements that make up this system; elements, components, parts from which the given system is formed; structure, i.e., certain connections and relationships between parts and elements; functional characteristics of this system as a whole and its individual components; its communicative properties that are manifested in the form of interaction of this system with systems of a lower or higher order, in relation to which it manifests itself as a part (subsystem) or as a whole, etc. [17, p. 81]. The concept of integrity characterizes phenomena, processes, systems from the point of view of the presence of basic components in them, which ensure that in each integral system there is an endless movement, overcoming of contradictions, regrouping of interacting forces, creation of a new quality, emergence of higher-order systems. The professional development system, as a whole, organized by a set of goals, content, conditions, forms, methods that direct and transform the professional life of specialists, is not an exception, it is built taking into account the full impact on the personality and interaction with it [5].

An important feature of the system is its structure, which consists of the internal organization of the system, characterized by the way its components interact and its inherent properties. The structure determines the connections that arise between the system components; it determines the place of each of them in interaction with others. Namely thanks to the structure, integral indicators of the system are formed and manifested. The scientists note that this complex, internally contradictory, multi-quality system contains a real participant in the educational process, who does not simply interact with this system, absorbing external influences - in fact, he becomes its leading component with his own activity and ability to reflect [10, p. 394]. The system of advanced training, which includes the goals and content of education, didactic processes and their forms, the

Abstract: The work theoretically substantiates the system of advanced training of civil security specialists in human capital management as a set of interdependent structural blocks. To solve the specified task, an analysis of pedagogical and educational literature on the research problem, comparison, systematization and generalization of existing approaches and methods of improving the qualifications of civil security specialists was carried out; systematization and generalization of the experience of organizing advanced training of specialists at the Institute of Public Administration and Scientific Research on Civil Protection was conducted. A comprehensive study was performed on the justification of the system of advanced training of civil security specialists in human capital management as a relation of structural and functional components subordinated to the goals of their development for readiness to effectively perform professional tasks. The properties of the defined qualification improvement system were studied. A theoretical model of the system of professional development of civil security specialists in human capital management was built and substantiated. It has been proven that the system of professional development of civil security specialists in human capital management is a process divided into various elements, levels, and parts, which, interacting, combine into a single whole and are aimed at the effective development of the professional competence of the specified personnel potential in order to ensure sustainability and sustainable development of the state and society.

Keywords: professional training system; civil security specialist; personnel potential; human capital management.

1 Introduction

In the conditions of active development of the processes of globalization and international integration, security measures aimed at prevention of dangers associated with threats to human life, health, and well-being are gaining increasingly more importance. The above actualizes the need to create safe and favorable conditions for human life and leads to an increase in requirements for civil safety specialists, the level of their professional knowledge, abilities, and skills in solving issues related to emergency situations and eliminating their consequences [3; 15]. The state educational policy is aimed at solving these problems, the key issues of which are reflected in legislative and regulatory documents. They emphasize the need to improve the quality of training of civil safety specialists, their continuous professional and personal development in human capital management.

The level of education of the population is the most important element of the set of qualities and attributes of a person that help him create economic value. In today's conditions, due to Russian aggression, this designation is more relevant than ever for Ukrainian society. Therefore, the stability and sustainable development of the country depend on the improvement of the education system and educational policy strategies.

The composition of concepts that make it possible to carry out a meaningful description and further analysis of a certain system, the most complete formation of the principles of their existence

learner, and the teacher is a complex organized object that represents the structure of elements and parts and performs certain functions. A change in one element of such a system leads to a change in others, which is especially important to consider in the case of innovations [17, p. 81]. The structure of the professional training system consists of an interdependent set of invariant elements and their hierarchical subordination (specialists - those who need to be taught; the purpose of training - for what, with what purpose to improve qualifications; the content of professional training - what to teach; didactic processes; pedagogical workers (or technical means of professional development); organizational forms of professional development, established interrelationships between them, external relations (as a system of factors that directly affect the system and determine the way it functions, adapts, and transforms over time), laws, principles and regularities its development, etc. [2].

The results of the analysis of the activity of a modern civil safety specialist make it possible to highlight, in particular, the multi-functionality of the system of improving their qualifications, which includes extreme, psychological, social, value, pedagogical, and other aspects. One of the promising ways to improve the qualifications of civil safety specialists is the complete implementation of the idea of multi-functionality as a combination of various functions, duties, and roles performed by a specialist during professional activity. Taking into account the specifics of the profession, the main requirements for the personality of a specialist are clearly defined, which prevents random people from entering this socially important work. Professional activity requires exceptional qualities from a civil safety specialist, which is why his qualification must be improved in conditions of continuous practice, which is impossible without close cooperation with civil protection services of administrative territories. Scientists consider practice as a process of mastering various types of professional activity, in which conditions are created for the specialist to test himself in various professional roles. The value of the practice lies in the organization of pedagogically expedient assistance in the process of personal self-improvement, which is achieved thanks to the formation of self-creative activity, readiness for self-education, the development of subjective personality traits [18, p. 35].

The hierarchical structure of the system is important, and its development is one of the tasks of the general theory of systems [8; 9]. By the hierarchy of the system, the authors understand the complexity and multilevel nature of its structure, which is characterized by certain indicators: the number of levels of the hierarchy of building and managing the system; variety of components and connections; complexity of behavior and non-additivity of properties; complexity of system description and management; the number of parameters and the required amount of information for system management. Hierarchy of the system also consists in the fact that the system can be considered as an element of a higher-order system (supersystem), and its elements - as a lower-order system [13, p. 8, 9].

From the point of view of systematicity, a significant aspect on the way to ensuring the intensity of professional development is purposeful work with the participants of the educational process, first of all, their involvement in independent cognitive activity is a leading factor in the intensification of learning and intellectual development of the individual. Scientists emphasize that such systems are characterized by functioning aimed at the development of a specialist, they have relative independence from the external environment [13, p. 9]. The system of advanced training of civil safety specialists should be based on targeted pedagogical science in the field of civil protection, which ensures high-quality development of the specialist's personality, the use of pedagogical and innovative learning technologies, and the development of professional competence [16].

The effectiveness of the pedagogical process can be ensured by acquiring the adaptive quality of the advanced training system. According to scientists, the term 'adaptation' (with which the

concept of adaptability is connected) in pedagogy means an attitude towards something depending on the change in living conditions; it is the process of transition of those who study from one state to another, from one sphere of activity to another. The specified approach characterizes adaptability, from the point of view of taking into account the factors of influence, as well as the peculiarities of the situation (informational aspect), and from the standpoint of ability to change (structural aspect). The system of advanced training of civil safety specialists in the process of functioning is in changing and partly uncertain conditions, in particular under the influence of factors related to the emergence of new risks that lead to the occurrence of emergency situations. The adaptability of the advanced training system is determined by its ability to prevent contradictions between its components and the correlation of its requirements with societal needs (in our study - to ensure the safety of people) and individual needs for the development of the professional competence of those who study.

Given that the system of advanced training is characterized by an inseparable unity with the external environment (factors affecting the management of the process of the individual's social development), in the relationship with which it reveals its integrity, we focus attention on the ability of the system to perceive, react, and adapt to external influences. We agree with the following opinion of scientists: if the reaction of the system of advanced training to external influences becomes uncontrolled and chaotic, then the system itself sooner or later enters a state of disorder, which means that its coordinated behavior aimed at achieving mutually beneficial goals becomes impossible [7].

The advanced training system is dynamic (functioning in conditions of variability of various factors of the external environment, as well as changes in the internal states of the system caused by the action of these factors); it is characterized with active behavior, which involves transforming the environment in accordance with existing needs and goals; it is a developing system (the changes occurring in it have an orderly character thanks to management, which is represented by own bodies and management mechanisms), as it is closely related to social and scientific progress [1, p. 9]. The process of interaction between the components of the system of professional development of civil safety specialists as one of the types of complex social system has dynamic characteristics of the subject (team of teaching staff) and the object (specialists in civil safety) of pedagogical training. At the same time, scientists [4] claim that the degree of freedom of each component is determined by its limitations imposed on its interaction with all other components and the external environment.

System of advanced training of civil safety specialists in a combination of structural and functional components

Considering the system of advanced training as a relationship of structural and functional components subordinated to the goals of the development of specialists for readiness to perform tasks productively, let us trace the ways of building its theoretical model. Analyzing the main stages of pedagogical modeling, we define the system of advanced training of civil safety specialists as an ideal structure, which is a description (verbal-logical and graphic) of purposeful pedagogical interaction of the subjects of the educational process, with the help of which we can study, reproduce, and also manage the functioning of this systems.

The system of advanced training of civil safety specialists in human capital management presented in Figure below reflects the components and connections of the educational process.

The target block is formed in such a way as to ensure the goal-setting function of advanced training of civil safety specialists. The inclusion of the target block in the model is determined by the system-forming value of the goal of advanced training, and its absence will lead to unpredictable functioning of the professional development system. The target block reflects the task of developing the professional competence of civil safety

specialists in connection with the need to update the requirements for their professional activity.

The theoretical and methodological block constitutes the conceptual basis of the system of advanced training of civil

safety specialists and is based on the integration of the approaches chosen for our study, which determine the scientific guidelines for the implementation of the theoretical and practical aspects of the specified system (see Figure 1 below).

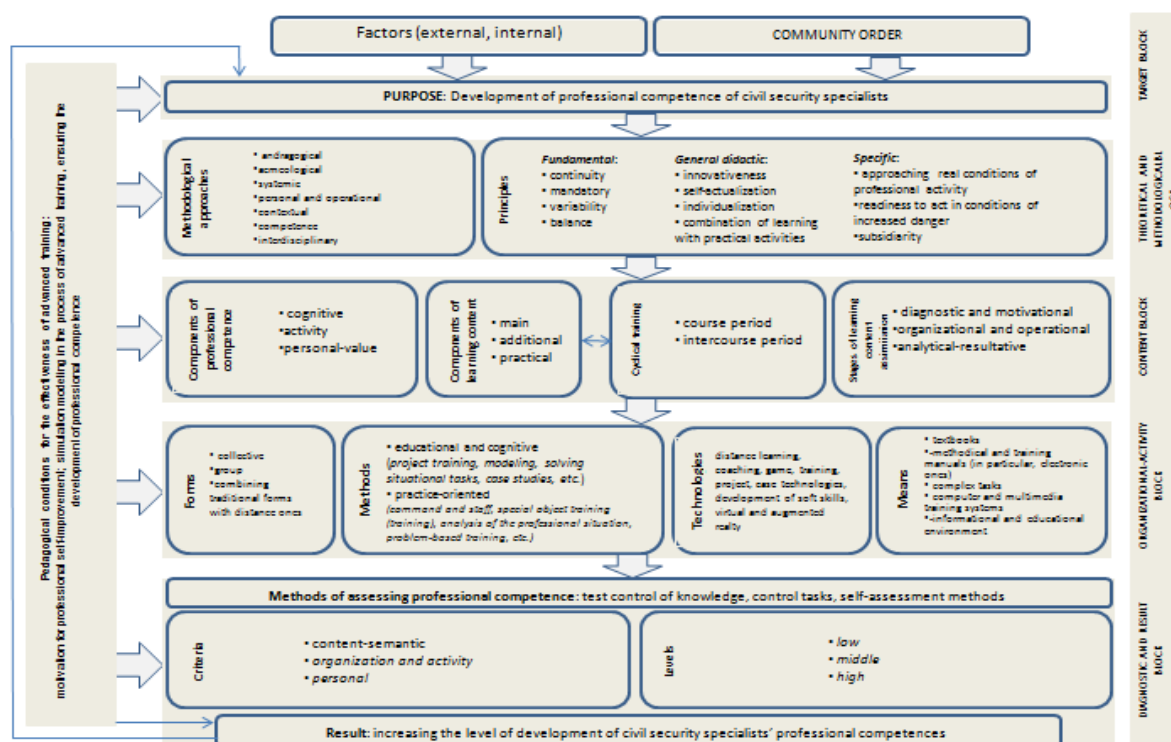


Figure 1. System of advanced training of civil safety specialists in postgraduate education in human capital management (Source: author's development)

When substantiating the system of professional development of civil safety specialists, it is advisable to take into account the features of adult education, which are reflected in the methodological approaches: andragogical, which encourages those who study to critically evaluate the level of their knowledge, skills, personal and professional qualities, identify gaps in education and direct own efforts to eliminate them; acmeological, directing civil safety specialists to achieve qualitative changes in professional development, to the acmeological quality of their development in order to actualize the potential for performing tasks in the field of civil security; systemic - it is considered as a set of individual elements, forming a complex multi-level system structure, which includes various components, with the help of which the compliance of the training of specialists with the actual requirements of professional activity is determined; personal-activity, that enables to create a purposeful organization of a specialist's activity, which involves understanding the essence and need for advanced training, aimed at developing personal professional competence in civil security; contextual, which stimulates the selection of quality indicators of professional development, ensuring verification of the level of knowledge, abilities, and skills, oriented to the requirements of the external environment; competence approach, involving the training of a new type of specialist in the field of civil protection, who is aware of his social responsibility, is able to determine the leading tasks of professional activity and find ways to solve them, is a subject of personal and professional development; interdisciplinary approach as a way of interaction of sciences and the main factor in the growth of interdisciplinary relations in the process of improving the qualifications of civil safety specialists – all this allows concluding that teaching different aspects in the pedagogical process is a single whole. The specified methodological approaches are not mutually exclusive, but are

enriched, developed, and improved thanks to close interaction; they provide objective and reliable information, which makes it possible to create a complete picture of the studied phenomenon [11; 14].

The process of developing the professional competence of civil safety specialists in the system of advanced training is possible if it is organized on the basis of principles divided into three main groups: fundamental (continuity, obligation, variability, balance); general didactic (innovation, self-actualization, individualization, combination of learning with practical activities); specific (approaching the real conditions of professional activity, readiness to act in conditions of increased danger and subsidiarity).

The content block is one of the key blocks of the professional training system. It provides for the definition of the content of advanced training of civil safety specialists, which ensures a consistent and purposeful nature of the process of developing the readiness of civil safety specialists for professional activity, focused on the development of the components of professional competence (cognitive, operational, personal and valuable), necessary for the successful performance of tasks in the position. The structure of the content of advanced training of civil safety specialists provides for a professional training course that has normative and variable parts. According to the mentioned principles, the content of professional competence development of civil safety specialists is developed taking into account their individual needs, personal and professional potentials. The set of components of the content of advanced training of civil safety specialists includes: basic training, which involves studying the mandatory program of advanced training of specialists at specialized short-term training courses; additional training, the content of which is determined by short-term training; practical training, which involves conducting command and staff, special

object exercises (training), demonstrative, experimental exercises (training). The selection and structuring of the content takes into account the current and prospective needs of the field of civil security; it reflects the relevance of the professional context of the professional activity of civil safety specialists. Social 'customers' of professional development of civil security specialists are authorities, enterprises, institutions, organizations interested in their high-quality professional activity. Each of the customers is interested in a set of training programs that correspond to his ideas and requests, the state of natural and man-made safety [6].

The development of professional competence of civil security specialists includes three consecutive stages. We have established that each of the stages of assimilation of content components by a specialist is associated with certain problems and differs in the composition of necessary knowledge, skills, and personal and professional qualities. The diagnostic and motivational stage is aimed at determining the initial level of development of professional competence of civil safety specialists. The organizational and activity stage involves certain actions to create favorable conditions for the development of professional knowledge, skills, personal and professional qualities as a result of combining the theory of learning with practical activities. The analytical-resultative stage is aimed both at the successful implementation of the process of improving the qualifications of specialists, and at determining the final level of its implementation - self-improvement of professional activity.

The technology of the organization of advanced training of civil safety specialists, based on a cyclical basis in course and inter-course periods, containing a technological cycle of interaction between the subjects of the educational process, in accordance with the requirements of the law, ensures continuous professional development of specialists.

The isolation of the organizational and activity block is caused by the need to use all available organizational forms of the system of professional development (collective: webinar lectures (problematic, personally oriented), research seminars, exchange of experience, conferences, analysis of crisis incidents; group: practical classes, round table, exploratory dialogue, presentation; individual: independent work, course projects, research, colloquium, webinars, distance learning, "cloud" learning, etc.), combining traditional forms with distance learning, which is carried out under the influence of all components of the educational process as a whole and includes teaching methods and tools. For the effective development of the professional competence of civil safety specialists, it is necessary to use the following training methods: educational and cognitive - project training, modeling, performance of situational tasks, cases of various types, etc.; practical-oriented - command and staff, object training, analysis of the professional situation, problem-based training, etc.). Among the available tools, we single out the following: textbooks, methodical and training manuals (in particular, electronic ones), complex tasks, computers and multimedia training systems, innovative environment, etc.

Improving the qualifications of civil safety specialists requires the creation of the following pedagogical conditions: formation of motivation for professional self-improvement of civil safety specialists as a purposeful and systematic process of developing knowledge, skills, personal and professional qualities; simulation modeling in the process of improving the qualifications of civil security specialists on a competency basis. It implies ensuring the acquisition of practical experience by civil safety specialists in the complex implementation of educational tasks in the process of conducting command and staff, special object exercises (training) of civil protection management bodies organized by authorities, enterprises, institutions, organizations; creation of an informational and educational environment is necessary for the development of professional competence of civil safety specialists in the institutions of higher education and organizations of the field of civil security.

The diagnostic-resultative block is the final part of the system of professional development and enables the creation of a

diagnostic control apparatus for evaluating the results of civil safety professional development to determine their compliance with the planned level. It includes the following components: assessment methods (test control of knowledge, control tasks, self-assessment methods); criteria for the development of the investigated quality (content-semantic, organizational-functional, personal) and levels of professional competence development of civil safety specialists (low, medium, and high).

In the process of achieving the goals, the carriers of the structural components of the professional development system are people, in whose activities the structural components interact, thus forming functional components. The functional aspect makes it possible to predict the behavior of the system of advanced training of civil safety specialists in the real conditions of the educational process of the institution of higher education and the institution of the field of civil security. It is worth noting that the functions of a scientific-pedagogical (pedagogical) worker and a civil safety specialist, as well as the content of the components of their activities in the course of professional development, differ. Each of the functional components, while remaining closely connected with all participants of the educational process, has its own specifics for ensuring the continuous improvement of the system of professional development. Functional components show stability with the main structural components that arise in the process of activities of pedagogical workers and participants in the educational process, that determine the movement, development, and improvement of the system, and, therefore, its stability and viability. Researchers, whose authoritative opinion we agree with, traditionally distinguish: gnostic, projective, constructive, communicative, organizational functional components of education.

Thus, the gnostic component involves the ability of the participants of the educational process to learn, analyze, study, and evaluate in different ways, that is, it includes their individual actions related to the study of the educational situation, the process of acquiring new knowledge. Projective one includes the ability to create an object in the imagination in different ways as a certain integrity, to determine the perspectives of planning activities, ways of solving future activities. Communicative one involves the establishment of pedagogically appropriate, but unequal approaches to relationships and the ability to contact; participants of the educational process usually are in direct contact, which ensures their productive motivation to perform future tasks and achieve the desired results. The constructive component includes the ability of scientific and pedagogical workers and civil safety specialists to construct a real model of the planned activity in a different way; it contains actions related to the construction of the content of the activity at various stages of the development of professional potential and the achievement of the main result. In turn, the organizational one involves various actions for the implementation of pedagogical ideas, direct organization of interaction, organizational skills for the implementation of the professional development plan.

4 Conclusions

The system of advanced training of civil safety specialists in human capital management is a set of interdependent structural blocks that make up a complete structure, have multifunctional properties and are subject to the goal of developing the professional competence of civil safety specialists. As a holistic formation and an important tool for the development of personnel potential in the field of civil safety, the professional development system aims at purposeful, scientifically based, optimal professional development to increase the efficiency of their professional activities aimed at ensuring people's safety, and is a social, open, complex system, a component of higher order systems. The visualization of the system of advanced training of civil security specialists was carried out by us with the help of a corresponding model, which combines structural and functional aspects, demonstrating the architecture of target, theoretical-methodological, substantive, organizational-activity, diagnostic-resultative interdependent blocks. All components of

this model are interconnected and only in the system provide the necessary development of professional competence of civil safety specialists.

Conducting an experimental verification of the effectiveness of the researched system of improving the qualifications of civil safety specialists in human capital management should demonstrate the dynamics of changes in the levels of development of their professional competence.

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MODERN CONCEPTS OF BAROQUE MUSIC ANALYSIS IN FOREIGN MUSICOLOGY (ON THE EXAMPLE OF ANTONIO VIVALDI'S RV 396 CONCERTO)

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Abstract: The element of experience and experimentation covered the most different levels of the process of creating Baroque music: it is clearly represented not only in the field of updating musical instruments, ensembles and orchestral compositions, but also in the field of searching for new means of expression, methods of musical development, musical genres and musical forms, technology of musical performance. Significant changes have occurred in the field of musical language: the calm, measured step-by-step melodic movement was replaced by a free metro-rhythmic organization and wide leaps in the melodic line, which made it possible to fill the musical fabric with intonations of speech and create sound imitations of emotional human gestures. The goal of this research is to establish a strong relationship between the modal narrative and structural development of Antonio Vivaldi's Concerto in A Major for Viola d'Amore, Strings, and Basso Continuo, RV 396, across the work's three movements. The analysis of the movements follows the ascending in half-step order chromatic octave (Primary Chromatic Array, or PCA) and the descending diatonic octave (Primary Diatonic Array, or PDA), with lesser chromatic orderings not reaching tonic octave completion (Secondary Chromatic Arrays, or SCAs) included. These methods are applied using the dual modal and chromatic progression tools based on the gamut system of that mode, which was suggested by Henry Burnett and Roy Nitzberg.

Keywords: Henry Burnett's system; Baroque aria; instrumental concerto; modality; musical forma; Ritornelle; pattern.

1 Introduction

The form of ritornello (also written as French *ritournelle*), devised in opera arias and cantatas by Alessandro Stradella (1639-1682) and systematized by Giuseppe Torelli (1658-1709), was in high demand among the composers of the late Baroque. By the end of the 17th century, the genre of concerto, written in three movements (fast-slow-fast), aspired to show both the virtuoso technique of the soloists' (*concertino*) and the harmonic strength of the ensemble (*ripieno*). Growing to include various contrasting episodes, it imitated the Italian opera arias, often based on ritornello as the structuring device. Ritornello form, with its (sometimes partial) returns of the initial orchestral statement (or ritornello theme) in different keys, separated thematically, tonally, and dynamically by the solo *concertino* episodes, emphasized the competitive and almost theatrical - without employing neither text nor dancing - nature of the performance. Thematic, tonal, and dynamic developments allowed for an expansion of structural and modal margins of the genre. "For, as sonata form comes to dominate the symphony, ritornello form comes to dominate the concerto, and can easily be seen as the first conspicuously successful solution to the problems of large-scale tonal architecture" [9, p. 31].

2 Literature Review

The form offered a thematic diversity - contrasting rhythmic patterns of the ritornello theme, a thematic exploration in the solo episodes, harmonic richness within the hexachordal scheme, choice of solo instruments, as well as various lengths of the segments and the entire composition. An early 20th century study of the Baroque concerto by Wilhelm Fischer in his work "On the History of the Development of the Viennese Classical Style [Zur Entwicklungsgeschichte des Wiener klassischen Stils]" [3, p. 145] provided us with the names of different segments of the ritornello theme. According to the Austrian musicologist, the ritornello theme includes three distinctive segments. The first one is *Vordersatz* (theprecursor) - the introduction or exposition of the motif and the tonic key, the second is *Fortspinnung*

(spinning-forth) - the continuation and extension of the initial material by using internal repetitions, intervallic changes and sequences, and the third one is *Epilog* (conclusion) - the formal cadence in the tonic. Continuing the Italian lineage of the ritornello form advancement, Antonio Vivaldi (1678-1741) attempted to further expand the possibilities of its thematic development. The composer used a "split ritornello" structure with the solo interruptions of the ritornello theme and included a new (fourth) thematic segment, termed in 1932 by Walther Krüger the *pianoidée* [3, p. 145], in that theme. When introduced, the *pianoidée* (quiet idea) brought about a sudden and dramatically expressive shift from the major key into its parallel minor, often accompanied by changed dynamic level (*diminuendo*) and a lighter texture of music. By adding the new thematic segment in the ritornello theme, Vivaldi ultimately opened another channel of modal changes within the composition.

This article analyzes the three movements of *Concerto in A Major for Viola d'Amore, Strings and Basso Continuo*, RV 396 by Antonio Vivaldi, with the task of establishing a close connection between its modal recounting and structural growth, throughout the entire concerto. Applying the tools of dual - modal and chromatic progression, based on the gamut system of that mode, which was suggested by Henry Burnett and Roy Nitzberg [3, p. 10], the analysis of the movements would follow the ascending in half-step order chromatic octave (*Primary Chromatic Array, or PCA*), and the descending diatonic octave (*Primary Diatonic Array or PDA*), with lesser chromatic orderings not reaching tonic octave completion (*Secondary Chromatic Arrays or SCAs*) included.

3 Materials and Methods

The theoretical basis of the study involves the following concepts: general theory of music, intonation theory, theory of musical style, doctrine of musical form. The method of ascent from the abstract to the concrete was used in building the interpretative model and concept of the work. The method of systematization and generalization was used to systematize and generalize information on the topic of research: aesthetic, musicological historical, and theoretical literature. The deductive method was chosen to isolate and characterize the individual components of the late Baroque vocal-interpretive model.

4 Results and Discussion

When eleven chromatic and diatonic pitch classes are interrupted by the twelfth or "missing pitch" - "the minor third or augmented second above either the central hexachord of the modal gamut or of the tonic system of a key" [3, p. 11], the system modulates from one eleven-pitch-class system to another. Burnett and Nitzberg's eleven-pitch-class tonality theory shines a new light on the interpretation of the *pianoidée* as a new thematic element in Vivaldi's famous concertos.

The first movement of the Concerto in A major

The first movement of Vivaldi's *Concerto in A Major for Viola d'Amore*, RV 396 gives a perfect example of the composer's resourcefulness in the use of ritornello form. Centered on the A hexachord, it consists of five ritornellos and three solo episodes (see Figure 1).

Hexachord pitch classes: D - A - E - b - f# - c#
Harmonic function: IV I V II VI III

Figure 1. "Hexachord and Harmonic function"

The ritornello theme of the movement is tonally closed; the feature becomes a sustained and strengthened element of the late Baroque concertos [4, p. 329]. Vivaldi's ritornello theme begins and ends in the tonic and combines all four main segments,

described by Wilhelm Fischer: the *Vordersatz* (mm. 1-4), the *Fortspinnung* (mm. 5-7), the *pianoidée* (mm. 7-10), and the *Epilog* (mm. 10-13) (see Figure 2).

Figure 2. “Four main segments in Vivaldi’s ritornello theme: the *Vordersatz*, the *Fortspinnung*, the *pianoidée* and the *Epilog*”

The tonal changes within the ritornello theme, moving from A major to A minor and then to A major, dictate an evident modal shift from the 3# system to the “0” system, carried out by the *pianoidée* segment and not reversed at the cadence of the theme. The “0” system will be sustained until the following solo episode.

The music of the *Vordersatz* relies, characteristically for the early eighteenth-century music, “upon variety of rhythmic patterns rather than on melodic profile” [3, p. 145]. It presents several of such rhythmic patterns:

- *rhythmic pattern a* (m. 1) – a combination of the eighth and sixteenth notes, moving in parallel intervals in the upper voices, and steady moves of the eighths in the lower voices;
- *rhythmic pattern b* (m. 2) – a syncopated rhythm of the embellished eighth note followed by a quarter note, then an eighth note in the upper voices, still moving in parallel intervals, against steady moves of the eighths in the lower voices (repeated twice), where the accompaniment of the lower voices provides a continuity complementing the contrast of two patterns;
- *rhythmic pattern a¹* (mm. 3-4) – the modification of the original pattern is caused by a switch from a unison playing of a melody (upper voices) and an accompaniment (lower

voices) to the unison of all instruments, including basso continuo, carried out to the end of the *Vordersatz*.

The segment is harmonically stable, confirming the key of A Major; it plays the role of the thematic “seed”, shared and developed by the other upcoming segments of the ritornello theme. For example, the first half of m. 1, supported by a harmonic progression $I - ii_6 - V^{4-3} - I$, is repeated exactly in the *Epilog* segment of the theme (m. 11), copied by the upper voices of the *Solo Episode 1* (m. 13) and repeated in that manner in the *Solo Episode 3* (m. 51). The motive $b-a-g\#-a-g\#\text{-}f\#$ in the upper voices of m. 1 (the second beat and the first half of the third beat) is later moved to $d-c\#-b-c\#$ in m. 3 (the same beats), then reversed into $b-c\#-d-c\#$ in m. 2 (including the ornamentation), which would be important for the melodic formation of the *pianoidée* segment.

The *Vordersatz* ends on a half cadence in A Major (middle of m. 4), and the *pianoidée* begins with the two unison notes, connecting it to the segment of *Fortspinnung* – the diatonic sequences, melodically grown out of the contours of $b-a-g\#-a-g\#\text{-}f\#$ of m. 1, sustaining the key of A Major. The third descend of the sequence (middle of m. 7) is abruptly stopped by the *pianoidée*, which relies on the dominant pedal and presents a tonal (A minor), dynamic (*pianissimo*), and textural contrast to the previous material (short imitative motives of viola d’amore/violin I and violin II are in obvious opposition to the unison of the *Fortspinnung*). The placement of the *pianoidée* right after the *Fortspinnung* is typical for Vivaldi concertos. The abrupt change in the flow of the composition is accentuated by the modal shift. Transfer from the 3# system to the “0” system is accomplished by means of the missing tone (C^b); it is emphasized melodically by the viola d’amore and violin I ($d-c^b-b-c^b-c^b$, m. 8).

The *pianoidée* segment moves directly into the *Epilog*, which brings back *forte* and A Major of the opening segments of the theme. The presence of C hexachord will remain in effect until its missing pitch (Eb or D#) is introduced. The *Epilog* (mm. 10-13) is melodically, rhythmically and texturally based on the *Vordersatz*, and the first half of m. 11 is an exact copy of the first half of m. 1. As a conclusion of the theme, the *Epilog* ends affirmatively on a perfect cadence in A Major.

The *Solo Episode 1* (mm. 13-26) begins with the repetition of mm. 1-2 of the *Vordersatz*, moved two beats forward and linked to the first descending sequence of the *Fortspinnung* (mm. 15-16 copy the material of m.5), modulating from A Major to E Major. The harmonic progression from the tonic to the dominant as a first step of motion is typical for the Vivaldi’s ritornello forms when they are written in the major key. D# – the missing pitch of the “0” system – is introduced by the violins in m. 19, shifting the mode back to the 3# system.

Ritornello 2 (mm. 26-34) is in E Major. It includes three segments out of original four: a shortened (by one measure) version of the *Vordersatz* ending on a half cadence (mm. 26-29), the transposed into the dominant *pianoidée* segment (mm. 29-32), and the abridged *Epilog* (mm. 32-34) that starts right on the “copied” part of the *Vordersatz* and ends, as before, on a perfect cadence in E major. Use of all three rhythmic patterns with the *Vordersatz* (*a*, *b*, and shortened *a¹*) proves that the ritornello has only one *Vordersatz* and is not divided into two smaller units.

The *Solo Episode 2* (mm. 34-46) starts in the key of the dominant, E Major, and modulates, ending on a perfect cadence, to the minor mediant, C# minor, which fulfills a common penultimate harmonic goal for the movement based on the A hexachord. According to the research done by Henry Burnett, “in terms of sheer dramatic intensity, composers would naturally choose iii as a climactic event, since iii is the furthest pitch class away from the tonic within the reordered hexachord of the key” [3, p. 148]. The move begins with the chromatic sequence in E Major $V^5_6/IV - V^5_6/V - V^5_6/vi$, “brushing against” future C#

minor, but most importantly, introducing the pitch members of the A hexachord's PCA. Both **PC1 (A#)** and **PC2 (B)** appear in **m. 38**, played by viola; **PC3 (B#)** and **PC4 (C#)** are joining them in **m. 39**, also played by viola (see Figure 3).

Figure 3. "Modal development: The Solo Episode 1, Ritornello 2, The Solo Episode 2, movements I"

Introduced in **m. 39 B#** is the central hexachord's missing pitch, it shifts the system three sharps up to the **F# hexachord (6# system)** – until it is followed by **A (or A^b)** in **m. 40** (viola d'amore and violin II), which would be the missing pitch of the hinted **F# hexachord**, reversing the modal progression back to the **3# system**. There are two more pitch-classes shown in **m. 42** – **PC6 (D#)** and **PC7 (E)**, both are played by violin I (see Figure 4).

Figure 4. "Central hexachord's modal progression"

Solo Episode 2 is concluded by a perfect cadence in **C# minor**, leading into the next part of the form.

Ritornello 3 (mm. 47-50) is the shortest in size. It is represented by a single *pianoidée* segment, played in **C# minor** and sounding quite different from the original segment. Instead of the dominant pedal, lighter texture of the segment and *pianissimo*, an initial melodic jump to the seventh of the **V₇**, and a half cadence in its conclusion, this "version" of the *pianoidée* is supported by the pedal on the "new tonic" (**c#**), it is played *tutti* and *forte*, melodically outlines **C# minor triad**, and concludes with a full cadence in the key of **C# minor**. There are several repetitions of the modal shift **3# system – 6# system**, initiated by

B# in **m. 42** (viola d'amore and violin II) and "cancelled" by **A** in **m. 47** (in violin II), then initiated again at the end of **m. 49** (lower strings and *basso continuo*) and "balanced back" into **A hexachord** in **m. 51** (violins). *Ritornello 4* (mm. 51-55) re-establishes **A major** and presents both shortened and reduced in scoring versions of the *Vordersatz* and the *Fortspinnung* of the theme.

Solo Episode 3 (mm. 55-70) is in the tonic; it is the largest of the solos, and can be called the "central episode". The climb up the PCA, started in *Solo Episode 2*, continues: **PC9 (F#)** is in **m. 62**

(violins), followed by **PC10 (G^b)** in **m. 64** (viola d'amore), then **PC11 (G#)** and **PC0 (A)** in **m. 70** (viola d'amore). The episode is concluded by a perfect cadence in **A major** (see Figure 5).

Figure 5. "Modal development: The Solo Episode 2, Ritornello 3, The Solo Episode 3, movements I"

The *Ritornello 5* (mm. 71-79) completes *Ritornello 4*, repeating three segments of the ritornello theme - the *Fortspinnung* (mm. 71-73), the *pianoidée* (mm. 73-76), and the *Epilog* (mm. 76-79) – exactly the way they sounded in mm. 5-13. Confirming **A Major** once more, *Ritornello 5* presents a modal shift from the **3# system** to the "0" system accomplished – just like in *Ritornello 1* - within the *pianoidée* segment (**m. 74**). Not only the ritornello theme, but the entire first movement ends in the "0" system.

The second movement of the Concerto in A major – Andante

The second movement of the *Concerto in A major – Andante* - is intermediate in nature (simpler in structure, shorter in size, subtler in sound) and somewhat reminiscent of the opening *Allegro*, following the contours of its tonal plan. **A major** (the main key of the movement) initiates the first part of the rounded binary form (typical dance form, with a triple meter and large-scale repetitions), then modulates to the dominant by the middle of it (**m. 93**), confirming **E major** in a full cadence (mm. 96-97). The second part of the binary form starts in **C# minor** (mm. 98-106), then, without any modulation (just like at the beginning of *Ritornello 4*), returns directly to the tonic. Melodically, it also refers to the previous ritornello. For example, the opening two-bar motive is associated with the motive **a-g#-a-b-a-g#** of the *Vordersatz*, and the expressive jump from **B#** up to **A** in **m. 100** is a reminder of the *Solo Episode 2* (mm. 43-44).

Andante returns the composition back from the "0" system to the **3# system** with the show of **D#** (the missing pitch of the **C hexachord**) in **m. 90**. In **m. 100**, **B#** of viola d'amore produces a modal shift to the **6# system**, which is sustained up to **A^b**, played by each of the instruments in **m. 107**. After that point, the **3# system** remains stable – until the next movement.

The third movement of the Concerto in A major

Finale of the *Concerto in A major* is also a ritornello, with five ritornello and four solo episodes centered on the A hexachord. The ritornello theme is tonally closed, its *Vordersatz* combines two rhythmically contrasting fragments (mm. 118-119 and mm. 119-122), giving the composer a recognizable and diverse material for future installments of the ritornello. The theme does not present the *pianoidée*, but includes extended *Fortspinnung* (mm. 122-126), leading to the *Epilog* (mm. 126-130), which ends on a full cadence in the tonic.

Solo Episode 1 (mm. 131-143) incorporates some sequential movements within the borders of the central hexachord and modulates to E major. It does not produce any modal changes. *Ritornello 2* (mm. 143-147) remains in the key of the dominant and includes both of the contrasting fragments of the *Vordersatz*, confirming that it is one undivided segment.

In *Solo Episode 2* (mm. 148-160), which starts in E major and employs sequencing moves to establish C# minor by m. 154, there is a noticeable climb up the PCA. **PC2 (B)** in m. 148 (played by viola d'amore) is followed by **PC3 (B#)** and **PC4 (C#)** (both – in violin I and violin II), in m. 152. **PC6 (D#)** in m. 153 it resolves into **PC7 (E)** in m. 154 (viola d'amore). B# as the missing pitch of the 3# system is causing – again – a modal shift to the 6# system (m. 152) (see Figure 6).

Figure 6. "Modal development: Solo Episode 1, Solo Episode 2 in the movements III"

This shift is sustained throughout *Ritornello 3*'s shortened *Vordersatz* in the key of the minor median (mm. 160-164) and half of the *Solo Episode 3* (mm. 164-171). There A, played by viola d'amore, double bass and basso continuo (m. 168), confirms the return to A major and revokes the modal shift, reinstating the 3# system.

Ritornello 4 (mm. 171-174) is, once more, a shortened *Vordersatz* in the tonic key, but the following *Solo Episode 4* (mm. 174-189) imitates the *pianoidée* of the ritornello by switching to the parallel minor. Appearance of C \flat (end of m. 176), just like in the *pianoidée* of the opening *Allegro*, brings about a modal change from the 3# system to the "0" system, as well as the remaining pitch-classes of the PCA – **PC8 (F \flat)** in m.

180 (viola d'amore and violin I), **PC10 (G \flat)** in m. **181** (violin II), and later **PC11 (G#)** in m. **187** resolving into **PC0 (A)** in m. **188** (both played by viola d'amore) (see Figure 7).

Figure 7. "Modal development: Ritornello 3, Ritornello 4 in the movements III"

The completion of the PCA coincides with the conclusion of the last solo episode of the third movement and D# (the missing pitch of the "0" system) played by violin I in the final measure of that solo (m. 188), signaling the return of the original A hexachord as a modal center. *Ritornello 5* is the exact replica of the *Ritornello 1*, stabilizing and finalizing the developments within the Finale.

5 Conclusion

Three movements of the *Concerto in A major for Viola d'amore, Strings and Basso Continuo* appear to be an excellent example of the highly advanced in terms of modal and tonal exploration late Baroque style. Music of it demonstrates typical for the style aspiration of portraying contrasting emotions and ideas through a wide range of diverse harmonic, rhythmic, and structural components. The form of ritornello allows Vivaldi to find many new possibilities of materializing that aspiration. Undoubtedly, there is a certain "scenario" of modal and tonal progressions, creatively reinterpreted but congruent for the each one of three movements, based on the traditional for the late Baroque music logic of dramatizing and propelling forward the flow of the composition.

Moving from the tonic in major to its dominant key and then the minor median as a way for attaining the dramatic effect is reinforced and complemented by the underlying logic of its modal progressions, following the fifths of the composition's central hexachord and reaching the outer edge of it at the point of the central episode of the ritornello (from A to E to c#). The movements of the *Concerto* are connected through their ongoing modal changes, initiating rapid shifts of the system (6# - 3# - "0") within the borders of one segment or movement and resolving them within the other. Exploring - again and again - the structural and harmonic importance of the single pitch-class, the missing pitch of the given system's hexachord, approached from

the various "spelling" points (A-B# vs. A-C \flat), Vivaldi delivers an elaborate ritornello form, always remembering to keep his audience surprised.

Ritornello's flexibility of design and variety of both harmonic and rhythmic expression found its way into compositions of other influencers of the late Baroque music of different countries: concertos of German-based Johann Sebastian Bach (1685-1750) as well as the early symphonies by "The English Bach", Johann Christian Bach (1735-1782), and a prominent composer of the Milanese school, Giovanni Batista Sammartini (1701-1775). Before the sonata form reached its peak, namely

ritornello form of the late Baroque concerto provided composers with numerous possibilities of thematic and structural exploration, closely connected with the inner modal plan of development.

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PHILOSOPHICAL AND METHODOLOGICAL PRINCIPLES OF TEACHING JAPANESE LANGUAGE TO PHILOLOGY STUDENTS IN UKRAINIAN HIGHER EDUCATION INSTITUTIONS

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Abstract: The article describes an attempt to trace essential peculiarities of Japanese language within the context of non-Western (Japanese) concept of education, with the aim to analyze the possibilities of improving philosophical and methodological base of teaching Japanese language to philology students in Ukrainian universities. In particular, the system of Japanese language teaching standards (JF standard), developed by the Japan Foundation on the basis of the system used in European methods of teaching foreign languages, is described. The paper discusses strategies through which current JFL teaching and learning practices can be improved, to effectively form communicative and academic language competence of students.

Keywords: Japanese language teaching; language competence; higher education; education philosophy.

1 Introduction

Currently, the problem of training highly qualified specialists capable of intercultural communication is becoming increasingly urgent. This is especially well understood by the current generation of students, who actively strive to participate in intercultural communication and study two or more foreign languages at the same time.

Knowledge of foreign languages as means of intercultural communication in the context of globalization is highly valued by famous scientists and representatives of a wide variety of scientific fields [6]. Thus, according to the famous American psychologist and cultural scientist David Matsumoto, as the world moves further along the path of integration, knowledge of more than one language becomes a vital tool for mutual understanding and communication with people of other cultures [24]. However, the researchers note that no matter how important knowledge of many languages is now, it is likely to become even more important in the future.

Japanese language is learned in 136 countries worldwide. The increase in the numbers of learners, institutions, and teachers is observed. Over the past 40 years, the number of Japanese language learners increased by 31.3 times. Among the reasons and purposes for Japanese-language study, "interest in Japanese language" is the most frequently mentioned (62.2%). The next most frequently cited motivation is "communication in Japanese" (55.5%) [26].

Currently, advanced systems for training foreign language specialists are using the capabilities of innovative technologies, the theoretical basis of which is the cultural approach and the principle of humanization of education more frequently. Therefore, various educational institutions, and primarily universities, widely use the opportunities of international programs that are designed to link language training and activities aimed at the interpenetration of cultures into a single process. Intercultural linguistic skills are of particular relevance for philology students studying a foreign language. At the same time, it is generally accepted that the Japanese language system is one of the most complex in the world and extremely labor-intensive for students to master [19]. The specifics of teaching Ukrainian students the main types of speech activities in Japanese are closely related to the characteristics of the language system itself, as well as to the national and cultural characteristics of the Japanese reflected in it.

As it is known, the structure of Japanese language is significantly different from most other languages of the world. Its origin has not yet been precisely determined. The differences between Japanese and Indo-European languages, which include Ukrainian, are especially noticeable. This circumstance undoubtedly makes it difficult for Europeans to studying it. Therefore, according to the American scientist R. A. Miller, in

the early 50s of the last century there was only one Japanese language school for foreigners in Japan at Chiba University, where only citizens of Asian countries were studying. Until the 1960s in Japan Japanese was taught only to people from Southeast Asian countries [18].

The relevance of applying a systematic approach to considering the features of the process of preparing Japanese language specialists who are capable of intercultural communication at a university, is determined by the fact of the interaction of two main subsystems of the educational process, including the following:

1. Japanese language - as a system of symbols that serves as a means of human communication, thinking and expression, (meaning processes of encoding and decoding) is dynamically developing and includes such subsystems as phonetics, vocabulary, grammar, and writing. In our case, Japanese language system plays a determining role in the structure of higher-order subsystems under consideration, due to the objectivity of its existence as a social phenomenon (primacy) [18].

2. Teaching Japanese language as an educational system, i.e., specially created teams of teachers and students at a university, as well as a set of appropriate conditions make it possible to organize a controlled process of cognitive activity of students in order to develop their ability for intercultural communication [16].

The interdependence of the functioning of these systems indicates signs of systematicity and structure in the process of training Japanese language specialists as a whole. At the same time, it is necessary to once again emphasize the fact that the nature and content of the didactic system under consideration should be determined by the features of Japanese language system. In this regard, one can conclude that, despite the existence of general approaches to training specialists with knowledge of foreign languages, the training of Japanese language specialists will differ from the training of specialists of any other language, even very close in structure to Japanese. In turn, such variability in foreign language teaching systems in a constantly developing world obliges researchers in each specific case to clarify the characteristics and capabilities of the designated systems to consider their elements and internal connections in detail, as well as the nature of their interaction with other systems.

It is interesting to note that many observers, both Japanese and European/American, have repeatedly noted that for the Japanese mass consciousness the very idea that a foreigner, especially a representative of Europe or America, can speak, read, and write in Japanese is unusual. Nowadays, the situation is gradually changing, but it is still common to say that it is impossible for a non-Japanese to learn Japanese language due to its exceptional complexity. A "scientific basis" was provided for the ideas about the difficulty of Japanese language, the impossibility for foreigners to master it and, ultimately, its exclusivity among the languages of the world. An example is the book by Professor Tsunoda Tadanobu, "*The Japanese Brain: Uniqueness and Universality*," which was sensational in Japan and became famous in other countries [31]. Based on his experiments, the auditoria's perception of vowel sounds by Japanese and other nationalities, he concluded that all peoples of the world, excluding Japanese and Polynesians, perceive vowels and consonants only with the left hemisphere of the brain, associated with logical thinking, while Japanese and Polynesians perceive only consonants with this hemisphere. At the same time, vowels and non-linguistic sounds fall into the right emotional-intuitive hemisphere of the latter. It follows that the sounds of nature and Japanese music are inaccessible to almost all people. According to a Japanese researcher, "all these people (i.e., non-Japanese) feel alone in nature and are unable to go beyond logic, while the

Japanese feel nature and is able to intuitively perceive the world" [31]. Tadanobu tries to prove the uniqueness of the Japanese brain and, accordingly, Japanese language. Moreover, the uniqueness of the Japanese brain is not mentioned as innate one, but is derived from life in Japanese society. In addition, Tsunoda argues that Japanese people living abroad, outside the national environment, lose this uniqueness.

Of course, the book "*The Japanese brain*" cannot be regarded as anything other than unscientific. At the same time, statements about the exclusivity of Japanese language and the difficulties of mastering it are not unreasonable. The presence of all these phenomena in Japanese language and Japanese culture can most likely be explained by geographical and the historical features of Japanese society development, which has long been isolated from the other world, rather than by the special structure of Japanese language, which is impossible to master by representatives of other cultures. At the same time, the process of teaching Japanese to Ukrainian students is significantly complicated by its sociolinguistic features, where the tradition of polite speech (keigo) adopted in the system of interpersonal relations of Japanese stands out.

Nevertheless, special attention should be paid to the study of the motivation for learning Eastern languages, namely Japanese, since the teaching and learning of Japanese language in Ukraine is becoming increasingly more popular. O.V. Asadchykh and O.O. Khamrai, in an article devoted to the study of the determinants of motivation for learning Japanese by students at language universities in Ukraine, presented the results of a survey on 387 students studying Japanese at the universities of Kyiv, Lviv, and Kharkiv. According to these results, before entering a university, two criteria influenced the choice of learning Japanese among other Eastern languages. Mainly prevailed: linguistic criterion- the desire to learn Japanese or become a translator, and a cultural criterion- encouraged by learning pop culture and literature of Japan (anime, manga, etc.). However, as evidenced by the survey data, after gaining learning experience, motivation changes to a large extent. Being aware of the real state of affairs in the labor market, 4 main criteria dominate among the main motivation criteria. Firstly, the continuation of studies in Japanese universities. Secondly, the desire to become a teacher. Thirdly, the desire to study the Japanese language, literature, and methods of teaching them in Ukraine, motivation to become a scientist, as well as the goal of becoming a translator. Moreover, such a trend can be observed among students studying Japanese in all regions of Ukraine [1]. Thus, the entire range of this motivation represents the basis for selecting the most successful philosophical and methodological principles for teaching Japanese to Ukrainian philology students.

2 Method

The theoretical and methodological foundations of the research are the basic principles developed in philosophical, sociological, psychological, and pedagogical sciences, used and developed in professional education: the principles of openness, consistency, interactivity, creative interaction. The methodological basis of the study consisted of the following: psychological and pedagogical concepts of the readiness of future specialists to solve professional problems. The study is based on systemic-structural and synergetic approaches, as well as a cultural approach.

3 Results and Discussion

Japanese language is taught in several universities of Ukraine nowadays: Taras Shevchenko National University of Kyiv, Kyiv National Linguistic University, M. P. Drahomanov National Pedagogical University, Boris Grinchenko Kyiv University, Ukraine Open International University of Human Development, Odesa National University named after I. I. Mechnikov, Kharkiv National Pedagogical University named after Hryhoriy Skovoroda, Lviv National University named after Ivan Franko, National University "Lviv Polytechnic", Dnipropetrovsk National University named after Oles Honchar [3].

Students of Educational and Scientific Institute of Philology of Taras Shevchenko National University of Kyiv, on the basis of direct bilateral agreements between universities, have the opportunity to study at leading universities in Japan, including Aoyama Gakuin University (青山学院大学) (Tokyo), Keizaihoka University, and others. Additionally, with the assistance of the Embassy of Japan in Ukraine, Ukrainian students have an opportunity to participate in government programs from the Ministry of Education and Science of Japan at many other Japanese universities.

However, the current training systems of Japanese language for students at universities do not yet have a sufficiently developed theory and methodology for using international cooperation between universities in the field of education to intensify the process of preparing Japanese language specialists for intercultural communication, namely:

- Scientific and methodological support for training Japanese language specialists for intercultural communication on the basis of international cooperation in science and education has not been fully developed;
- The adaptation processes of native Japanese teachers to the Ukrainian education system have not been adequately studied;
- Domestic teachers of Japanese language are not fully updated for international cooperation and the use of this experience in training Japanese language specialists.

Educational institutions pay attention to the professional and scientific training of their students and masters, to make their communication level sufficient for professional and cultural contacts. Therefore, teachers of these universities are actively involved in the creating a modern educational and methodological base of Japanese language at all levels. Applied aspects of education receive scientific and theoretical justification. However, holistic methodical systems of teaching Japanese language at its various levels are an actual direction that requires further research.

Professional training of a Japanese philology student at a Ukrainian university should not be limited to levels A1–B1 of Japanese language proficiency. According to the data of the annual survey conducted by Japanese government as a part of monitoring programs for teaching and learning Japanese as a foreign language in Ukraine, every second university graduate can be criticized for insufficiently developed Japanese academic literacy skills [2].

In addition, there is a contradiction between the development of pedagogical theory and the theory of vocational education and the current system of language training for students at the university.

In this regard, Ukrainian language universities should review and rethink the goals and objectives of Japanese language courses.

When talking about classes in professional communication or teaching speaking a foreign language, it is necessary to consider many nuances. Only the knowledge of language grammar was considered as the basis of communicative competence until the mid-1960s. Since the 1970s, researchers from different fields began to consider communicative competence in a broader sense, and only in 1983 M. Canale identified 4 areas within communicative competence [29]: 1) grammatical competence - grammatical rules, knowledge of vocabulary, pronunciation, spelling and etc.; 2) sociolinguistic competence - the use of the necessary lexical expressions and grammatical structures in relation to a specific person, in an appropriate situation and manner; 3) the ability to build a conversation or dialogue - the ability to start, continue, control, and end a conversation, as well as change the topic of conversation if necessary; 4) strategic competence - the ability to regulate own speech (switching to other expressions, explaining and even using own native language) if for some reason it is not possible to communicate properly [15, p. 17-21].

In addition, the study of memory structure has huge importance for studying the problem of teaching hieroglyphs, since it is difficult to imagine a well-structured learning process or the creation of new teaching and development technologies without considering the patterns of memorizing and forgetting material. Any diagnostic procedure, whether it diagnoses the level of cognitive development, the individual uniqueness of cognitive processes or the characteristics of intellectual activity, requires the knowledge of memory functioning patterns [10; 22]. This is especially aright for teaching hieroglyphs, since the main difficulty in the process of mastering hieroglyphic symbols is, first, memorizing a large number of spellings, meanings, and readings of hieroglyphs.

A good example of optimizing work with the semantic component of a hieroglyph is to practice with students the skill of composing associative chains in order to remember the meaning of the hieroglyph. Techniques based on the principle of associative memorization often represented as a set of ready-made associations and associative series. Meanwhile, an important condition for successful memorization is the connection of new information with personal experience and accumulated knowledge [7]. Therefore, we consider it advisable to use the associative schemes proposed by the authors of the methods only as examples of how imaging descriptions of hieroglyphic symbols can be compiled.

In addition, when using methods from foreign authors, the cultural context should also be taken into account: often, the descriptions of hieroglyphs are incomprehensible due to students' ignorance of certain geographical names or cultural phenomena. For example, in one of the Japanese hieroglyphic aids for memorizing the syllable [he], the following picture and a mnemonic phrase are offered: St. Helene Mountain. Undoubtedly, memorizing the syllable "he" in the word "Helene" and fixing the sound in memory with the help of the image of the mountain bearing this name justifies itself if the audience is familiar with this geographical object. But it is also obvious that for students to whom the name of this mountain means nothing, this image will not be effective.

Regarding these techniques, the teacher also needs to explain to students that when using memorization techniques based on the principle of associative thinking, it is important to avoid the 'temptation' to get used to judging the meaning of a hieroglyph only by its components, since it is not always possible to understand the meaning of a hieroglyph based only on its constituent elements. Let us remember that a hieroglyph is not a "pure" ideogram, and its meaning cannot be understood outside the writing system in which it functions; the meaning of a hieroglyph is the meaning of the linguistic unit that it records.

The system of standards for teaching Japanese language (JF standard) was created based on the Common European Framework of Reference for Languages: Learning, teaching, assessment (CEFR) - pan-European competencies in foreign language proficiency: learning, teaching, assessment, used in the European methodology for teaching foreign languages. CEFR is a standard that was adopted and unified by the Council of Europe. Since the project's founding in 2001, it has received attention not only in Europe but throughout the world, and its standards have been applied to every fairly common language. The JF standard was created on the basis of the CEFR and continues to be further implemented and developed in the field of Japanese language teaching. This standard allows the student not only to assess his level of proficiency in Japanese language, but also to independently monitor the progress of mastering Japanese language [12, p. 5].

The Japan Foundation Standards Tree was first published in 2010 (JFスタンダードの木); it interconnects the following main parameters: communicative language activity and communicative language competence.

Communicative language activity (hereinafter referred as language activity), in turn, is divided into three large blocks: perception (reading and listening), reproduction (speech, or

monologue, and writing) and interaction (dialogue and correspondence). Communicative language competence, which is presented "in the tree" as a root that supports language activity, also consists of three parts: fundamental language competences (vocabulary, grammar, phonetics (pronunciation) and writing), sociolinguistic competences (language use in accordance with the situation and relationship with the interlocutor), and pragmatic competencies (discourse ability - conducting a conversation, and functionality - understanding the role and purpose of using suitable language structures). Further, language activity and language competence acquire many "branches", or categories, such as: grammatical accuracy, composing speeches and presentations, understanding the conversation of native speakers, etc. It is important that in any situation related to the use of language, linguistic competence and language activity closely interact and often depend on each other [12, p. 7-8].

The JF standard uses a six-level system for assessing foreign language proficiency: A1 and A2 - beginners or basic, B1 and B2 - independent, C1 and C2 - advanced or professional. "Can-do" ("Goals") tables are used as an assessment system, which indicate what knowledge and skills students should have at the end of each lesson, course, or section. "Goals", or "Can-dos", differ not only in the specified levels of language proficiency, but also in the categories into which language activity and language competence are divided. In other words, depending on the level of language proficiency, the type of presentation or report a student can make will differ. Due to this approach, not only a teacher, but also a student himself can assess his language skills. In addition, for a more detailed assessment, JF standard suggests using portfolios - folders or files where students will write down and where they can store everything related to the language learning process: assessment sheets, records of linguistic or cultural experience and learning results [12, p. 12-19].

It is engaging to dwell on the most interesting and relevant approaches and ideas described in the series of JF books 「日本語教授法シリーズ」 [13-15].

For example, when teaching Japanese grammar, the role of a teacher is not only to explain the grammatical rule clearly and correctly, but also to select a series of exercises for reading, spelling, listening comprehension and reproduction of this grammar in speech, so that a student can freely operate with the received knowledge in life. Moreover, students should be as involved as possible in the process of analysis, discussion, and reflection on the grammatical structures being explained. This can be achieved if to follow a non-standard way of explaining grammatical rules: presentation of vocabulary and grammatical construction - 文法・語彙の提示, exercises to consolidate ドリル練習 (基本練習); application exercises コミュニケーションのための練習 (応用練習) - to add between the introduction of a grammatical structure and consolidation exercises so-called tasks for understanding the presented grammar - インプット理解の練習. For example, when explaining Japanese verb - もらう - "to receive something from the 2nd or 3rd person", not only to give a standard example 「昨日は私の誕生日でした。私は母にプレゼントをもらいました。とても嬉しかったです。」, but also to involve students in the process of understanding the context and situation of using a given verb by asking an additional question: 「皆さんは誕生日に何をもらいましたか。」 Using this approach, students begin to make assumptions themselves, trying not only to voice the new form, but also to understand its meaning, as well as the context of use [14, p. 12-22].

When explaining grammar at a basic level, the use of visual material and visual aids is considered effective. These can be pictures, graphs, gestures, and actions of a teacher, as well as videos. This approach has several advantages: 1) students understand grammatical construction in a shorter time; 2) it is easier for a teacher to convey the context and situation of using the presented grammar; 3) students perceive the material that

being explained with greater interest; 4) information received under a certain (pleasant) impression remains in memory for a longer period [14, p. 35]. As a teaching aid that contains more visual material and role-playing games on grammatical structures, the "Otasuke task" textbook, aimed at studying grammar in the communicative aspect, is well suited [29].

At a more advanced stage, it is proposed to move from the lecture type of grammar explanation 「講義タイプ」 to the so-called 「学習者発見タイプ」 – when students try to guess, formulate, and understand a particular grammatical rule by themselves, based on the provided examples of modeling forms or constructions. For example, students need to form a continuous form 「～ている」 to convey the action occurring at the moment of speech. The teacher can show a picture of a mother washing clothes and invite students to translate this phrase into Japanese themselves. Since students do not yet know the new construction, they will most likely convey the original phrase through the Present Future Tense, i.e., the form 「ます」. Afterwards, it is proposed to enable a dialog in which the new construction will be used 「～ている」 (continuous) and ask students to spot the difference. Next, students listen to the dialogue again, skimming the script for the audio application in the textbook, underline or highlight the new grammar and answer the question about the context and situation, as well as the meaning, from their point of view, where the new construction is used. And finally, for a deeper understanding, it is necessary to give other examples from the grammar and explain in more details the method of formation and the meaning of the grammatical structure. With the "discovering a rule by student" approach, it is faster and better remembered, since the process of involvement is used. Not only the perception of new material, but also its active understanding, comprehension, and formulation on the part of the foreign language learner [14, p. 38-40].

In order to master speaking skills, the following forms of work can be offered: interview, speech, discussion, and role-play. During the interview, one acquires such abilities as the ability to start, continue, and end a conversation, to show one's interest and understanding of what the interlocutor has stated, as well as, in case of misunderstanding of the speaker, the ability to find a way to replenish communicative competence to correctly complete the interview. In the process of preparing a speech, students develop various competencies: the ability to choose an interesting topic, as well as select and competently compose the speech itself; the ability to appropriately begin, continue, develop, and end speech; the ability to capture the attention of the audience, making own speech or presentation unforgettable, and, finally, the ability to meet the allotted time. To choose an interesting topic for a presentation, a teacher can invite students to discuss the options in pairs or groups.

To attract the attention of listeners and involve them in the process, it seems advisable to use, for example, handouts, a presentation on a computer, visual material or video, a poster, as well as an assessment sheet that a teacher himself can hand out, thereby developing in other students the ability to attentively listen to the information provided and evaluate it according to criteria such as content, grammatical errors, answers to questions, etc. In senior years, with the consent of students, it is possible to record a speech or presentation so that each speaker can subsequently watch and evaluate the level of his presentation skill. During the discussion, depending on the skill level of language learners and the topic chosen depending on this, the participants in the conversation learn to competently choose the sequence of statements and express their opinions in such a way as to be understood by their interlocutors. Role-playing game involves communication in a given situation and possibly using the proposed lexical base, depending on the level of training.

The main skill that students develop in the process of role-playing games or role-playing dialogues is associated with the development of sociolinguistic skills, i.e., understanding the situations and under what circumstances a particular expression, statement, style of speech or grammatical construction is used.

Topics for interviews, speeches, discussions, and role-playing at the elementary level can include issues related to everyday life: studying at university, daily routine, choosing a gift for a friend, visiting cafe or restaurant, etc. For advanced and high levels of Japanese language proficiency, it is encouraged to choose topics such as environmental issues, choosing a future profession, job interviews at a company, etc.

In professional communication classes, when various texts are read, analyzed, and discussed with students, it is very important to use the so-called 生教材 – real material, as well as レアリア – realities, i.e., give as much information, photographs, brochures as possible about modern Japanese society, culture, life in Japan. This makes classes live, interesting and motivates students further study the language and culture. To save time spent working directly in the classroom, a teacher can send students more visual materials by e-mail in advance, invite them to prepare short stories based on the material received, and subsequently discuss this task during class. As a visual material, one can bring to class Japanese advertising magazines, brochures, prospects, tickets to exhibitions and museums, boarding passes and much more. Depending on the topic of the lesson, discuss vocabulary with students, act out dialogues and situations, ask them to find necessary information, numbers, names, etc.

If the level of Japanese language learners is above average, then it is possible to use the following methods of memorizing the lexical minimum [4]: 1) retelling the text using the necessary vocabulary; 2) composing or supplementing sentences with this vocabulary; 3) writing essay on any topic using the proposed vocabulary; 4) creating a thematic poster or thematic map in a group using the necessary vocabulary; 5) expansion of vocabulary by selecting a synonymous series for words from the lexical minimum; 6) memorizing the necessary words as part of set expressions, etc.

Currently, while teaching Japanese language in the world leading universities, much attention is paid to the communication competence and communication activity of the student, which means that any material that is offered to students of Japanese language (as well as any other foreign language) must be accompanied by cultural explanations and clarifications, visualization or a video clip, brochure, photo, or even an actual item. Moreover, it is necessary to constantly involve language learners in the process of explaining any grammatical rule, lexical expression, or new construction. This approach allows students to receive information about Japanese customs, traditions, lifestyle, and outlook, promotes better, faster and deeper understanding and memorization of information, makes classes interesting, impressive and unforgettable, and also integrates themselves into the process of learning and using it in a real situation and in real time.

Thus, it can be assumed that the training of specialists with knowledge of Japanese language capable of intercultural communication can be successfully carried out if the university creates an educational environment in which, through its interaction with educational institutions in Japan, both the basic subjects and elements of the artificial language environment will be synthesized, as well as subjects and elements representing actual Japanese culture and language [8].

Some experts talk about the need to distinguish three stages of training specialists and study their interdependence and interrelation, which will make it possible to think through the issues of their targeted intercultural adaptation, and, consequently, preparing students for intercultural communication [25].

In addition, at the theoretical level, the idea of identifying a synthetic language environment as a connecting stage is justified and implemented in practice. At the same time, the training of specialists at the stage of a synthetic language environment contributes to the gradual inclusion of subjects and elements of Japanese realities into the educational process and gives students the opportunity to adapt to them in the educational setting with

the help and under the control of teachers, i.e., in conditions of active pedagogical support [21]. This approach to organizing the educational process makes it possible to effectively solve the problems of culture shock and linguistic barriers, which are the main obstacles complicating intercultural communication of young specialists or scientists today. These principles are consistent with the JF standard described above.

It should also be remembered that the main goal of non-Western education is to improve the relationships “human-nature”, “human-society”, “human-human”. Western anthropocentrism, in the process of education, creates a person who stands above nature and the world of other living beings, promotes the exploitation of nature, interference in natural processes, and forms the idea of increasing human needs [27]. The traditions of Eastern education represent human as an integral part of the biocenosis on the planet, but not its owner [28]. In structural terms and in form, Japanese educational system is in many ways like American one. But in its content, and especially in its spirit, Japanese education is unique. It cultivates Japanese national spirit, forms appropriate moral standards, and develops national character traits. The educational function is characteristic not only of primary and secondary education, but also of higher education. The idea of instilling respect for parents, elder people, and faith in friends runs throughout the entire educational path. This moral aspect is the main difference between Japanese education and Western education. Accordingly, the philosophical and methodological foundations of teaching Japanese language should take this aspect into account.

The patterns of manifestation of the national psyche of different ethnic groups influence the assimilation of acquired knowledge and the effectiveness of students’ adaptation to the pedagogical process [5]. National character traits inherent in students also require consideration when teaching Japanese language.

It is noteworthy that the modern educational tradition of Japan, influenced by Buddhist doctrine, differs in many ways from the Western approach, as it was mentioned above. Research in the field of existentiality of Japanese pedagogy speaks of a fundamental difference in the methodology of working with texts in the learning process: when reading Japanese texts, readers are required not to understand, but to transform, merge according to the principle of direct contact. In other words, the emphasis is made not on gaining knowledge, but on experiencing it, not on acquisition, but on “growing” into knowledge and insight in the process [28]. In particular, the results of a corpus analysis of the functioning of Japanese agentive somatic constructions show that somatisms in the subject position do not exhibit agential properties due to the priority of the animate subject in Japanese language, however somatic object actants not only retain agentive characteristics, but also perform the function of mitigating anthropo-oriented influence, which is unusual for Japanese language [33]. Agency is a set of semantic characteristics of a statement that describe the process of causation, the integral components of which are intentionality, consciousness, and controllability of the action performed. These characteristics are inherent to varying degrees of the participants in the events described in the statement: the agent as the actor (the bearer or source of the action produced by the predicate) and the patient as the object of application of this action. According to the provisions of the general linguistic theory of Proto-Agent and Proto-Patient in the concept of D. Dowty [9], the prototypical agent is a person, and at the other pole of the agency scale is an inanimate thing, which, due to the lack of necessary characteristics, cannot occupy the position of an agent/causator in utterance. However, in the reality around us, we often observe situations where the initiator of action is inanimate subject, for example: we are ‘tormented’ by curiosity, actions upset us, feelings overwhelm us, words confuse, thunder scares, etc. In the case of Japanese language, which generally demonstrates tendency towards dominance of intransitive constructions and reduced agency [11; 17], these algorithms that are common to us in our interaction with the outside world (for example, “the letter upset me”) come into conflict with cognitive restrictions: not to allow such subjects to take the position of agent (a letter, even if it

is a source of joy, in Japanese view is nothing than a tool, which means it should occupy a peripheral instrumental position while maintaining a person in the leading position of agent). Consequently, when objectifying such fragments of reality in Japanese language, a grammatical transformation of the utterance is necessary to correlate syntactic and semantic roles of the actor and the source of influence.

In this context, it is advisable to use manga as an effective tool of teaching Japanese. The following factors speak in favor of this choice. Firstly, manga is an authentic text material, characterized by the naturalness of lexical content and grammatical forms, the situational adequacy of linguistic means; it reflects the features and traditions of the construction and functioning of speech in everyday communication. Due to its complexity, students can read original Japanese literature no earlier than in the 4th-5th year of study, while simple manga can be read by second-year students. In addition, there is an increasing interest among young people in such phenomena of Japanese culture as anime and manga nowadays. Secondly, manga represents a component of Japanese culture; they contain rich cultural potential. Through manga, we are introduced to cultural realities, which is of great importance in the process of learning Japanese language in general. Thirdly, comics, according to researchers, are a qualitatively different form of presenting information - capacious, imaginative, and having a direct impact on the recipient’s feelings [32].

However, due to the huge variety and quantity of anime and manga, their selection to use in the classroom is somewhat fragmented: it often happens “spontaneously”, only based on the preferences of a teacher or students. Insufficient attention is paid to determine the methodological value of various anime and manga; all lingua didactic capabilities of these works may not be unfolded.

Posters may depict a typical family in Japan using the example of Sazae-san’s family. Despite the outdated graphics of these works, they are very valuable for displaying the smallest realities of Japanese life (which may be unfamiliar to students from textbooks), as well as the language, behavior of heroes’ characteristic of different genders and ages, displaying corporate culture, etc. Short stories in anime and manga “yonkoma” (consisting of four frames) make them very convenient for use in the classroom; they can be effective in developing linguistic, speech, educational-cognitive and sociocultural competencies. It does not matter if these works are not very popular, but with a high probability they will bring significant novelty to Japanese language classes; the sociocultural characteristics of Japan and the personalities of Japanese are especially clearly expressed in them. It is also important to emphasize the length of manga chapters and anime episodes, suitable for independent use by students and while using them in a classroom, the possibility of varying it.

In our opinion, the more effective use of anime and manga in the educational process will be facilitated by its technologization. It will help translate it into an instrumental tool, identify and describe all the selection steps and all the features of anime and manga that will be used during training, in particular during the formation of foreign language communicative and academic competence.

However, without an effective system for adapting native Japanese language teachers to Ukrainian education system, as well as the education system of a particular university, it is problematic to achieve their effective work, i.e., manifestations of cultural and linguistic resonances. The need to include Ukrainian-speaking teachers in the international cooperation of the university is also obvious as the most important condition for their professional actualization. Also, the involvement of Ukrainian and foreign teachers in joint educational and methodological activities can have a positive impact on the development of their professional creativity, which is manifested in the joint conduct of scientific research and the development of teaching aids. All this will undoubtedly help to increase the level of preparedness of Ukrainian-speaking teachers to educate future Japanese language specialists.

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Primary Paper Section: A**Secondary Paper Section: AM**

DESIGN THINKING IN THE VISUALIZATION OF ECONOMIC DEVELOPMENT PROJECTS IN THE AGRARIAN SPHERE: SCIENCE AND ART

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Abstract: The article represents an attempt to comprehend the possibilities of applying general methodological principles of design thinking in the process of planning and developing innovative economic development projects in the agricultural sector. The relations of design and visualization as the science and art processes in the economy are outlined. It is noted that smart agriculture uses advanced technologies such as sensors, devices, machines and information technology, robots, GPS technologies, which will allow farms to be more profitable, efficient, safe, and environmentally friendly. The authors claim that the goal of digitalization of agriculture is to achieve a significant increase in the efficiency and sustainability of its functioning through fundamental changes in the quality of management of both technological processes and decision-making processes at all levels of the hierarchy, based on modern production methods, and the further use of information about the state of controlled elements and subsystems, as well as states of the economic environment of agriculture. Based on a study of the use of visualization technologies within the framework of the philosophy of design thinking, it is shown that the introduction of digital technologies in the agro-industrial complex will dramatically increase labor productivity and reduce risks in agriculture. In modern conditions of intense competition, digitalization based on such projects will give the agricultural sector of any country (which is especially important for developing countries) great competitive advantages.

Keywords: agrarian sector; design thinking; theory and history of arts; economic process digitalization; innovative projects; visualization.

1 Introduction

The current stage of development of productive forces and production relations initiates the need for their qualitative transformation within the framework of the emerging model of innovative development of the country. This is reflected in the agricultural sector of the economy, where innovative activity becomes the dominant direction.

Meanwhile, low profitability of production and high risks of introducing innovations have made the agricultural sector of the economy unattractive for private investors, while local government support for investment processes does not make it possible to determine a system of strategic priorities for innovative entities in the agro-industrial complex. This proves the relevance and timeliness of scientific developments in the proposed direction.

Generalization and systematization of existing definitions of innovative activities of organizations in the agricultural sector make it possible to clarify the interpretation of this phenomenon. Leading experts believe that the investment process should be considered as a complex system characteristic capable of adapting to the changing influences of external and internal environmental factors, which is a constant and continuous process of transforming technical or technological ideas based on scientific developments into new technologies. In the prospect, these technologies should be used directly in production in order to obtain qualitatively new products and achieve economic, socially beneficial, and environmental effects [20].

It should also be taken into account that the complexity of agricultural production is the main factor when choosing methods for managing the innovation process, since, along with industrial means of production, biological organisms take an active part in the production process. Their development is determined by the action of natural laws and depends on factors such as climate, weather, heat, moisture, light, soil structure, etc. Such features predetermine the complexity and high level of risks of innovation processes in the agricultural sector. At the same time, it is necessary to take into account significant specifics in the assessment of innovative activity. Thus, the use

of land as the main means of production requires the application of a dual approach to assessing innovation. Obtaining an economic effect, firstly, must be combined with replenishing soil fertility and preserving the environment and, secondly, the products of the complex must meet modern sanitary and environmental requirements. This gives grounds to define innovation, in relation to the agro-industrial complex, as a systematic process of using technical, technological, organizational, economic, social, and environmental innovations that ensure enhanced agro-industrial potential and increased socio-economic efficiency while maintaining and improving soil fertility and product quality.

A critical factor in the development of the agricultural sector today is digital transformation. Under the influence of digital transformation, agribusiness is changing quite quickly, while traditional boundaries and industry segments are blurring. Signs of the next revolution are already visible: robots and unmanned vehicles that are being developed specifically for agriculture, mechanized weed removal and fertilization or fruit picking. Robotic farming is now gaining momentum around the world, although just a few decades ago it seemed like a dim prospect. Precision agriculture is now based on soil maps, the use of satellites and drones, and information obtained through the Internet of Things. Drones, thanks to the advent of lightweight and powerful hyperspectral cameras, have made it possible to calculate the biomass and nutrient supply of plants, creating the basis for the development of more complex and accurate recommendations. Moreover, models based on decision trees that have been developed to date have made it possible to distinguish plant diseases based on visual information. "Virtual fence" technologies allow livestock to be grazed remotely using remote monitoring using sensors installed on the animals' bodies [14]. For example, in Germany, the use of precision agriculture and smart farm systems has been practiced for almost two decades. Continuous improvement of hardware and software makes it possible to significantly improve the agricultural process, for example, for the optimal organization of the supply chain, from production to the flow of products to consumers [13].

Smart farming, as noted by Swiss scientists, reduces the harmful impact of agriculture on the environment through minimized or precise application of fertilizers and pesticides [10]. With modern ICT, near-constant monitoring of a farm using a network of sensors is entirely possible. Theoretical problems and practical issues of integrating information about the state of plants, animals, and soils with the needs for resources such as water and fertilizers have also been solved. Such goals are quite achievable even on a global scale.

The latest technologies make it possible to increase the volume of products produced, while using fewer resources and allocated space. Agriculture could soon become more precise, sustainable, and environmentally friendly. Combined together, these technologies have brought about revolutionary changes in agriculture in both more and less developed countries.

Digital technologies provide new opportunities for farm diversification. Like the "smart cities" that have been the subject of discussion and concept development, ICT capabilities are likely to lead not to a globally standardized and quickly adopted business system, but to a diversity of business systems. Management consulting will facilitate the contribution of technical innovation to diversification if it is reliable and transparent, even if farmers have no experience in growing a particular crop.

However, although the Internet of Things, applied to farm machines, animals, fields, plants, and trees, can be used to manage routine situations in agriculture, the farmer still has to be a researcher while keeping an eye out for an abnormal situation to arise. In addition, as in other sectors of the economy,

competition is intensifying due to the development and implementation of the latest breakthrough technologies, in particular quantum technologies. In turn, there is an urgent need to apply the fundamentals of design thinking in projects in the agricultural sector.

Design thinking methodology has a creative component and borrows the work process of designers. David Kelly identified several basic principles of design thinking: idea generation, a team with diverse professional experience, maximum empathy towards consumers, and rapid prototyping using available tools [2]. Today, design thinking is actively used in the innovative activities of companies; the approach allows identifying the hidden needs of potential clients, understanding a person, his motives and values. Namely this feature of design thinking allows the team to focus its attention on the end consumer and, in the process of innovation, create a clearly valuable offer. One of the important areas of application of design thinking in the agricultural sector is the visualization of economic development projects. Design research allows identifying, interpreting, and visualizing information in a form accessible for further communication to all stakeholders.

It should be remembered that in the mid-20th century, the expression "industrial design" began to be used in relation to industrial production. However, by the end of the 20th century, the concept started to stabilize, and soon began to be pronounced simply as "design". Currently, the term "design" is used to express the nature of the artistic process or artistic and technical concept. Visual materials in the form of projects, sketches, layouts, various products, already completed projects, printed products, etc. can be called the final product here. Design and design thinking have become an integral part of the post-industrial economy. The very definition of the modern socio-economic formation - "karaoke capitalism" - indicates a paradigm shift in both economics and art; there is a kind of convergence of economic processes, digital transformation, and the development of visual art.

Design occupies an important place in the theory and history of art, since already starting from the 20th century, art has increasingly merged with design. The Bauhaus is the most famous and influential interdisciplinary school of art and design of the 20th century. The main concept of the school was to combine art with the practical skills and knowledge of the properties and capabilities of the material. The main task was to move away from the classical perception of art as separate forms, to bring together all its types, from painting to architecture and mechanisms. This school of design specialized in making products whose appeal was created not by extra work (such as external ornamentation, which takes time to apply), but by the inherent properties of the object. Interestingly, the creators of Apple used the basic principles of Bauhaus and believed that the design of every product should be beautiful and simple. But most importantly, if the product did not work or was too difficult for the user, then beauty did not matter.

Thus, design is not a simple field of activity. On the contrary, the design is complex in terms of structure. This includes the interrelationships of social and economic life, cultural and artistic activities, the manufacture of products and the formation of the necessary environment, as well as the description and optimization of economic processes. The visual display allows users to intuitively perform data sorting and classification operations and quickly understand the characteristics and category features of the data. But design thinking is a necessary condition for development of such visualization tools. Agrarian sphere is one of the fields where the above trends manifest to significant extent.

2 Method

The theoretical and methodological basis of the study consisted of the works, developments, and scientific recommendations of academic economists on the issues of innovative development of rural commodity producers, increasing the efficiency of their functioning, the formation of innovative infrastructure of the

agro-industrial complex, the works of scientists on the problems of informatization and digitalization of agriculture and the use of information and digital technologies in agricultural management production.

The research carried out was based on a systematic approach to the objects and processes being studied. In the course of the work, dialectical, abstract-logical, monographic, and other methods of research were used.

3 Results and Discussion

Today, the philosophy and approaches of design thinking are actively used in innovative entrepreneurship - to create new businesses, as well as to generate business models [22]. There is a tendency to use the apparatus of design thinking to form desirable scenarios for the development of the future, because the activities of any organization will be determined to a greater extent by the holistic vision of the society it serves to build.

Design thinking is understood as an approach that is based on the designer's intuition and problem-solving methods, aimed at meeting people's needs in a commercially viable and technologically feasible way. In other words, design thinking is nothing more than innovation, the center of which is the person and his needs [10]. The words "design" and "innovation" are now becoming synonymous, and design thinking is characterized as a methodology for creating these innovations.

Design thinking takes advantage of the capabilities that exist in every person, but are not taken into account in standard problem-solving methods. Design thinking is human in its essence and is based on a person's ability to intuitively feel, to create ideas that carry not only a functional, but also an emotional component, to express oneself not only in words or symbols [1]. This is not about managing a project based on feelings, intuition, and inspiration, but about the need to move away from over-reliance on rationalism and an analytical approach [23].

The process of solving a problem from the point of view of design thinking consists of a number of successive stages, each of which requires compliance with the above principles. The Stanford School identifies five main stages - "Understanding", "Focus", "Idea", "Prototype", "Testing". In a number of studies, a larger number of stages is found only due to the fact that individual steps are divided into smaller, narrow tasks [24]. In general, the design thinking method consists of six key stages:

Stage 1 – empathy. The concept, which comes from psychology, is borrowed and effectively implemented into the mechanism of design thinking. It means the ability to hear and understand what exactly the client is saying, what wishes he expresses for the final product. But it is even more important to hear what the client did not say and, perhaps, did not realize himself, but at the same time what is really important and desirable for him. Empathy is associated with the ability to 'put oneself in the consumer's shoes'. And here the approaches developed and already actively implemented by modern companies within the framework of stakeholder theory become relevant. Dialogue with stakeholders is built "from a position of flexibility, differentiation depending on the interests of stakeholders, their tasks and goals, and is based on the principles of trust, mutual respect and feedback" [1]. Feedback is at the heart of the first stage of design thinking. In addition, important elements of this stage are observations, in-depth interviews, studying the environment surrounding a person, the context of his problem, one day in the life. The result of the research is an empathy map - a tool that helps understand the customer to whom the product is addressed. By creating such a map, the developer puts himself in the user's place [6]. Empathy maps can be used to test prototypes and during role-plays to better understand the needs of the audience.

Stage 2 – focusing. This is a transitional stage at which the received information is processed in order to eliminate everything unnecessary and secondary. At this stage, the client's problems should be formulated, which will subsequently become

tasks. Focusing allows getting an explicit expression of the problem that needs to be solved based on the collected information about the needs of the person. The point of focusing is to formulate a question; the question should be related to the problem. In this case, the question should be formulated as specifically as possible, not about the problem as a whole, but about the problem of a specific person.

Stage 3 – generation of ideas. At this stage, there is a transition from defining the problem to creating a solution for the user. It is very important that this solution is truly created for a specific client, consumer, and not tailored to a standard option. Non-standard and individuality are the main postulates of this stage. To generate ideas, the creation of a prototype or layout, as well as bodystorming, is used. In the latter, the idea is to imagine what it would be like if the product existed and act as if it ideally existed in the place where it will be used.

Stage 4 – choosing an idea. To select an idea that best suits the needs of the consumer, it is necessary to develop selection criteria. Then, from a variety of possible scenarios, the ideal one is selected, which best meets the requirements and satisfies the selected criteria.

Stage 5 – prototyping. A prototype may look like a simple drawing, or a fully thought-out concept represented using a template, or a spreadsheet [15]. The prototype has several purposes. It is necessary as a tool for communication with the client, interaction for the purpose of the most fruitful and effective interaction. With the help of a prototype, it becomes possible to test a finished product or service, which will maximize the satisfaction of the customer's wishes. The prototype allows managing the solution development process and identifies changeable conditions.

Stage 6 – testing. Testing is about getting feedback on prototypes. Testing can take place in two scenarios. In one, the customer tests the prototype independently, while in the second, testing is carried out jointly with the contractor. Testing is aimed at solving several problems: improving the prototype, identifying its shortcomings, identifying unsolved problems and developing new solutions. Testing eliminates possible misunderstandings between the customer and the contractor. If to ignore this stage, then most likely the needs of the interested parties will not be fully satisfied and all previous work will be in vain, and therefore, the costs associated with it will not be covered by income [8; 24].

Since agriculture is dynamic, it exhibits both positive and antagonistic interactions due to the presence of contradictions in any sphere of human activity. Firstly, all objects in the agricultural economy are interconnected, secondly, they interact with each other, thirdly, interaction is a process of mutual influence, high communication and mutual relations between them. Agriculture is a production system whose purpose is to produce food products for consumption and raw materials for processing industries. This means that economic processes in agriculture are not the result of the interaction of two or more objects. The system determines the presence of many interconnected opposing elements that are in constant, enduring contradiction. Design thinking can help resolve contradictions and harmonize all elements.

As noted above, the goal of digitalization of agriculture is to achieve a significant increase in the efficiency and sustainability of its functioning through fundamental changes in the quality of management of both technological processes and decision-making processes at all levels of the hierarchy, based on modern production methods and the further use of information about the state of controlled elements and subsystems, as well as the state of the economic environment of agriculture.

Among the key basic areas of innovation, the following should be noted [19-21]:

1. "Smart" field - ensuring stable growth in the production of agricultural crop products through the introduction of

digital technologies for collecting, processing, and using an array of data on the state of soils, plants, and the environment.

2. "Smart" garden - at least 90% of the area of perennial plantings in digitized form in a unified geographic information system; at least 40% of the area of industrial gardens must be provided with means of collecting data on the state of soils, plants, and the environment; at least 50% of the area of industrial gardens must be covered by a data transmission network to ensure the collection of Big Data; at least 60% of mobile technical equipment will be equipped with monitoring systems and included in a unified geographic information system; at least 30% of technical equipment will be robotic.
3. "Smart" greenhouse - development of modern integrated technology for "smart" greenhouses, based on the use of the Internet of Things for food production; ensuring stable growth in crop production in protected soil; obtaining highly competitive substrates and fertilizers; domestic innovative systems (microclimate, lighting, efficient energy supply, universal module, power supply, autonomy, etc.) for closed ground; methods of product quality control, increasing the nutritional value of vegetables.
4. "Smart" farm - the creation of digital technologies that ensure the independence and competitiveness of the livestock complex; creation and implementation of technologies to increase milk productivity of animals up to 13,000 l/year; reducing the incidence of mastitis in cows and, consequently, reducing the cost of antibiotics; creation and implementation of technologies for autonomous production (without an operator), energy efficiency and energy mobility in a "smart farm"; creation of safe and high-quality, including functional, food products.

The development of the modern agricultural sector occurs in several directions simultaneously, with the main focus being on the introduction of new technologies in agriculture. The use of best practices helps improve agricultural sustainability through smarter and more informed management decisions.

In addition, modern agricultural technologies to increase yields optimize the profitability of agricultural enterprises. Farmers successfully combine time-tested and new farming methods. For example, the sequence of crops in a crop rotation can be effectively planned using digital agriculture technologies to monitor field productivity based on satellite imagery.

It is necessary to develop the following end-to-end technologies: Internet of Things; RFID technologies; neural networks; big data; artificial intelligence; new production technologies; sensors and robotics components; Blockchain technologies; contactless and remote technologies [4; 7].

New technologies in the agricultural sector (agritech) cover a wide range of industries and technical means aimed at increasing the productivity of agricultural enterprises. Of course, the development of such technological solutions requires visualization.

The introduction of new smart farming methods based on projects that involve visualization within the framework of design thinking, taking into account all systemic connections and influencing factors, benefits all participants in the agri-food chain. The use of the latest technologies in agriculture to optimize and automate agricultural operations and field work can significantly save time and resources. Let us name the main advantages of using new agricultural technologies:

- Using irrigation water, fertilizers, pesticides, and other resources in smaller quantities allows agricultural producers to reduce costs and retain more of their profits;
- Reducing the volume of chemical runoff from fields and preventing pollution of water bodies mitigates the negative impact of farming on the environment and helps to increase the sustainability of agriculture;
- Increased productivity with reduced labor costs;

- Simplification of interaction between participants in the agricultural process and coordination of their actions using mobile devices, new specialized applications or web resources;
- Facilitating access to agricultural insurance and financial services, as well as market and technological data;
- Minimization of losses due to the invasion of field pests, natural disasters and unfavorable weather conditions in the fields using permanent agricultural monitoring systems at reasonable prices;
- Increased income of agricultural enterprises due to improved quality of agricultural products and strengthened quality control;
- Timely detection of nutrient deficiencies in plants and informing agricultural producers about the type and quantity of fertilizers and other agrochemicals needed to treat crops and increase their yield;
- Ability to predict potential problems in the field through new capabilities to visualize production patterns and laws resulting from the application of new methods for analyzing current and historical field data.

Agriculture 4.0 is born in the era of widespread automation and the use of digital technologies. The development of new agricultural technologies is becoming more integrated and networked, which makes it possible to optimize all stages of the production process and improve the processes of monitoring, control, and business management [19].

During the production process, farmers face a number of problems such as pest attacks and plant diseases. The weather factor in agriculture should also be taken into account: meteorological anomalies can cause serious damage to the crop. However, new digital technologies make it possible to minimize negative consequences. At the same time, with the help of new technologies, farmers can control those agricultural aspects that directly depend on them, and as a result, increase their profits. In particular, digital technologies in agriculture help to obtain a reasonable answer to the following questions [5; 10]:

- What types of crops to grow;
- How to optimally alternate crops in crop rotation;
- How often and in what volume to use water for precision irrigation;
- When to apply fertilizers and plant protection products, which one and how much;
- Which treatment is best suited for a given soil type.

The competitive advantages of agricultural enterprises are ensured by the use of modern software, remote sensing technologies (especially high-resolution satellite images), proximal sensors, new means of communication, and risk forecasting algorithms based on accurate data.

For example, one of the useful developments is CROP-monitoring, a high-tech agricultural tool that provides reliable analytics of field conditions for farmers, agricultural traders, and insurers.

In particular, EOSDA Crop Monitoring offers many useful features, such as graphs of precipitation and weather conditions. The user can analyze the values of accumulated precipitation and determine the level of humidity in a specific field. In this way, he makes reliable decisions regarding the need for irrigation and adjusts the timing of field work depending on meteorological phenomena. This allows avoiding excessive or, conversely, insufficient irrigation.

Visualization is one of the foundations of Crop Monitoring. For example, the Red Edge Chlorophyll Index shows areas of soybean field that need fertilizer (see Figure 1).



Figure 1. Chlorophyll Red Edge index, visualization (CROP Monitoring)

The normalized difference RedE indicates the photosynthetic activity occurring in the canopy and the estimated nitrogen concentration in the soybean plants in the selected field (see Figure 2).



Figure 2. Normalized RedE difference indicating photosynthetic activity CROP Monitoring)

Satellite photography can considerably improve variable rate seeding. The utilization of remote sensing data from the EOSDA Crop Monitoring satellite-based precision agriculture platform is one example. The scientists focused on vegetation and soil indices from several spectral bands. They were able to pinpoint areas of interest where agricultural tactics for precision planting variable rates should be readjusted due to drastic variations in those values (see Figure 3).

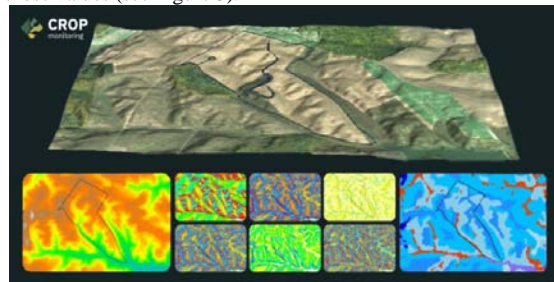


Figure 3. 3D visualization of the field with a digital elevation model, its derivatives, and a prediction map of the soil cover

General sample of visualization of agri-data tools for big data analytics is presented in Figure 4.

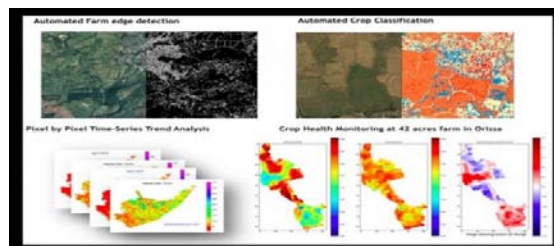


Figure 4. Visualization of agri-data based on big data analytics

Internet coverage, standard interception, interference, propagation losses, communication range, wireless connection quality, network growth, network management, communication protocols, latency, and throughput are the most frequent Ag-IoT network layer challenges. Because most farms are in rural areas, isolated locales, or mountain regions, getting internet connectivity to them is a big difficulty because these underpopulated areas have little internet infrastructure. Creating a local network, akin to a hybrid cloud, could be one approach. This system does not connect to the internet, but it does allow local servers to provide rudimentary IoT capabilities [3]. Because of recent advancements in low earth orbit (LEO) satellites, commercial internet connectivity via satellite, as shown in Figure 5, would be available shortly. In fact, Figure 4 is a 'classic' example of the use of design thinking in the visualization of economic development projects in the agricultural sector.

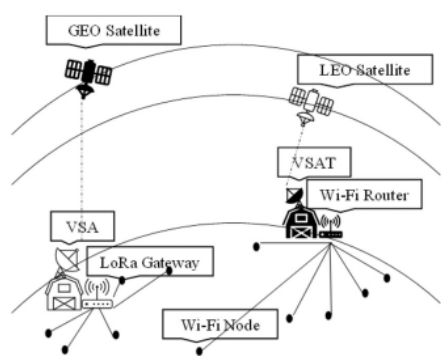


Figure 5. Future Ag-IoT system with satellite connected internet [3]

Moreover, VR and AR have emerged as transformative tools for stakeholder engagement, surpassing traditional communication methods and now are actively used for visualization of innovative projects in agriculture sector, enabling addressing the interests of all stakeholders and participants in frames of design thinking [9].

Plant Vision (formerly known as Huxley) is one such example. This crop management system entirely digitizes plant farming by utilizing artificial intelligence, machine learning, and augmented reality. To collect data, RGB and infrared cameras and sensors are being deployed in a facility. Crops are photographed every minute, and the AI scans the images to determine their health. A farmer can utilize wearables such as Google Glass to acquire augmented reality information such as temperature and plant health.

Irrigation, application of fertilizers, pesticides, and other agricultural inputs at large agricultural enterprises no longer occurs "by eye" or in equal quantities throughout the entire field. Thanks to new technologies in agriculture, agronomists can apply only what is required on a particular site, and also carefully select the right treatment for each crop.

It must be taken into account that AR/VR technologies are a tool, and the creation of cases and understanding of effectiveness is based on tasks and needs, which is determined when applying design thinking. In particular, AR/VR technologies are used to increase the investment attractiveness of agribusiness and to present agricultural enterprises to potential investors. In particular, in Ukraine, a unique comprehensive virtual tour was created for APK-Invest, one of the largest agro-industrial complexes in the country (it covers a significant territory of the Dnipropetrovsk region, almost 30 thousand sq. m.). As part of the project, digital platform company 3D TOUR created aerial panoramas, ground-based 3D panoramas, video inserts, and a corporate-style web interface for the presentation of the tour.

Despite the apparent external stability of the structure of the regional agricultural sector, it is in constant movement and

development both in time (from the moment of sowing seeds to harvesting agricultural crops; from the birth of the offspring of farm animals to their rearing and fattening) and in space (movement of products agriculture within the territorial boundaries of the region and beyond).

Having defined time, space and movement as the main characteristics of the existence of processes and phenomena in the agricultural economy, as well as taking into account the presence of the unity of their three entities - the external environment, the object and the boundaries between them, we predetermined the need to study these categories from the point of view of the repeatability of economic processes, as well as objective the existence of opposites and contradictions in them. However, one should recognize the existence of the factor of chance as a reflection of external, insignificant, unstable, single connections of reality, the result of the intersection of independent causes and events. At the same time, there are several different options for turning possibility into reality, but only one is implemented. The effect of randomness has a destructive impact on cyclical processes in agriculture - these are natural and man-made risk factors, as well as economic factors (for example, the recent EU embargo on grain imports from Ukraine).

Therefore, the goal of the designing and development of innovative projects and digital platforms of the agro-industrial complex is to radically increase the efficiency of agricultural and agro-industrial enterprises through the widespread introduction into production processes of new digital, including end-to-end, technologies and innovative business models for market interaction of these enterprises based on the model "platform as a service", which involves complex visualization and the mandatory application of design thinking principles.

In each area of the agro-industrial complex, there are several markets, each of which can be equipped with its own digital platform. For convenience, if a certain market is part of another, larger market, then the digital platform supporting it will be called a subplatform in relation to the platform of the larger market. Each of these subplatforms may have its own subplatform. For example, a crop subplatform may contain grain subplatforms, which in turn may contain wheat subplatforms, corn subplatforms, etc.

Application modules (API) can be programmatically attached to each subplatform, which solve specific problems of the subplatform participants. In addition, sections of subplatforms may use the end-to-end technologies described above.

Thus, design thinking, including in agrarian sector, is actually a human-centered approach. This approach is capable of revealing new perspectives through interdisciplinarity, embodying the most original ideas, satisfying the most demanding stakeholders and leading to innovative solutions in the agricultural sector. Design paradigm helps in visualization of both production and economic processes in agrarian sphere, with AR and VR as the convergence of science and art. Combining data, design and artificial intelligence will create new breakthroughs in digital experiences.

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Primary Paper Section: A

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CHAMBER CANTATA IN THE WORK OF JEAN-PHILIPPE RAMEAU (THE STAGE OF THE FORMATION OF THE COMPOSER)

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Abstract: The purpose of the article is to reveal the specifics of the chamber cantata genre in the context of the early period of Jean-Philippe Rameau's work. The novelty of the article is due to a comprehensive look at the formation of the chamber cantata genre in the work of J.-Ph. Rameau in the context of the formation of his own compositional style. Seven chamber cantatas by Rameau were the composer's first foray into dramatic music. Taking into account the composer's existing experience in the motet genre, the article outlines the vector of the artist's assimilation of his contemporary genre system from chamber to synthetic and the movement towards dramatic music. It has been established that Rameau follows the lines of the French school in sacred music, while the vocal parts of cantatas embody an individual composer's style. In many fast numbers of the cantata, above all in the expressive instrumental obbligatos, one can note the unparalleled skill with which Rameau combines the graceful contours of French vocal declamation (with the liveliness of the Italian instrumental tradition and the musical instruments complementing the achieved dramatic effect with the solo voice), trying to compensate lack of a visual expression parameter.

Keywords: Jean-Philippe Rameau's oeuvre; chamber music; chamber cantata; vocal art; genre; style; baroque; national traditions.

1 Introduction

In the course of the all-European revival of baroque music and in the context of historically informed performance, the opera work of Jean-Philippe Rameau is gaining particular popularity. Numerous performance and directorial versions of works of mixed genres ("Platee", "Les Indes Galantes", "Les Paladins") and tragédies en musique of the composer exist in video formats and are available to anyone interested. The opera works of Jean-Philippe Rameau, as the brightest manifestation of his creative nature, are often performed and actively studied by researchers, and the most famous opuses of the composer represent the embodiment of the national traditions of French music-theatrical and vocal art, among which: attention to the embodiment of the subtlest nuances of the text in music, rhetorical declamation, the presence of dance diversions, an emphasis on the dramatic structure of the work, which all together creates a magnificent musical and theatrical canvas.

Despite the existence of a sufficient body of literature devoted to the life and work of Rameau and the cantata genre, we note the sources important for this article. This is a monograph by C.M. Girdlestone [7], research by T. Oltean [9], and the book by D. Tunley [12], in which the genre of the French cantata of the 18th century in general and in the work of Rameau in particular is studied mainly from the standpoint of its identification and comparative characteristics with the Italian primary source. The relevance of this sphere of Rameau's oeuvre for modern researchers is also confirmed by the relatively recent attribution of the Cantata to the holidays of St. Louis, reported in M. Cyr's article "A New Rameau Cantata" [3]. In another article by an American researcher, "Towards a Chronology of Rameau's Cantatas" [4], opuses stored in the archives of French and American libraries are considered. In the study of C. McManus "The Cantatas of Jean-Philippe Rameau" [8], general conclusions regarding the form, composition, staff of performers, performance nuances of the musical text of the composer's cantatas are outlined.

Among the modern works of Ukrainian musicologists, we note the dissertation of Omelchenko-Agai Kuhi "The genre of the solo cantata of the European tradition in historical development (17th-20th centuries)" [10], which traces the evolution of the Italian solo cantata genre and the existence of this genre in other countries and stylistic periods, as well as the article by G.

Dzhulay "Metamorphoses of the image of Orpheus in the French solo cantata of the 12th-13th centuries" [5].

The practical significance of the study is that its intermediate and final conclusions, individual observations and opinions can be used in the further study of the work of Jean-Philippe Rameau.

2 Method

The research methodology is based on approaches developed in musicology: classification-analytical, structural-functional, comparative, stylistic, intonation-thematic, traditionally used in musical analysis. The study of Rameau's musical and theatrical works is based on the principles of the musical historical school, as well as on the use of the historical and stylistic method of comprehensive research.

3 Results and Discussion

Jean-Philippe Rameau: personal factors of formation

Rameau's immersion in the inner world, the intensification of his intellectual life, without which the writing of theoretical works would have been impossible, draws attention to the characteristics of his personality, whose existence is depicted as a continuous creation by man of himself, a figure depicted by contemporaries as a man-mystery, a person in himself, "a person in a case". On the other hand, the unstoppable desire and striving for professional recognition as a composer, despite the title of one of the most outstanding theorists of our time, led Rameau to the operatic Olympus in the mature and late periods of his life. The mysterious combination of introverted concentration and intense inclusion in the socio-cultural life of his time determined the presence of specific, but reasonably explained aspects of his creativity.

It is known that J.-Ph. Rameau began writing large stage works at the age of fifty, which is one of the features of the artist's creative biography. This milestone, which is evidence of the maturity of a creative personality, will be the end point of the chronological dimension of the article. Namely in the first half of the composer's life, where external conditions and "personal factors" are combined, one can find answers to the riddles of his creative life path.

Turning to the first decades of the composer's life, it is possible to note a combination of the usual favorable and individually specific conditions characteristic of artists' biographies. Among the initial relevant situations, we will mention the place and conditions of the artist's birth. Born in the family of a Dijon organist in 1683, the future composer received an elementary musical education and learned to play the harpsichord, organ, and violin under the guidance of his father and uncle, who worked as local organists for many years. So, the plot of a possible biographical scenario of the future composer was partly predicted from early childhood.

The boy's development was also influenced by the city of Dijon, in whose socio-cultural space at the time of the future composer's birth provincial status and rich cultural heritage were combined. At the Jesuit College of Dijon, J.-Ph. Rameau studied for only a few years due to unsatisfactory academic performance, because, fascinated by music, he did not study other subjects (as the researchers write, the unfinished stage of basic education later reflected in the verbosity and confusion of statements in future treatises, about which contemporaries often reproached the composer ironically). In college, the young man also had the opportunity to get acquainted with the student musical theater, participation in the productions of which was his first experience, the impetus for future achievements in the opera genre. Thus, already in childhood and youth, the composer's professional guidelines were determined, which accelerated the beginning of his career: genetics, his father's attentive attitude to

the development of Jean-Philippe's abilities, as well as the cultural and artistic environment of the educational institution.

There is almost no information left about the eighteen-year-old young man's several-month trip to Italy as an accompanist of a traveling theater, but the features of Italian vocal art were later vividly manifested in the composer's chamber cantatas, which he created. Also in Paris, the composer wrote music for fair theater performances, the specifics of which he could feel "from the inside" as a participant in Italian productions, that was probably also connected with his trip to Milan.

After returning to France, Rameau worked as an organist in the cathedrals of Avignon and Clermont-Ferrand, Lyon and Paris, often changing cities and places of work. The inability to stay in one city for a long time may have been due to the search for own vocation. In 1706, fate brought him to Paris; working as an organist, there he published a small collection of harpsichord pieces that did not attract much public attention. The next attempt to 'conquer the capital' by a young performer and composer took place thirteen years later, and the emergence of a mature theoretician on the front stage of French musical culture (as the author of the 450-page "Treatise on Harmony, reduced to its natural principles", 1722) became triumphant [2].

The characteristics of the work of the early period of the artist's activity require clarification. Known primarily for his operas, Rameau is also the author of a harpsichord suite (1706), four motets and nine chamber cantatas on antique-pastoral themes. The publication of the above-mentioned fundamental theoretical work (1722) marked the beginning of a mature period of activity, but it was still more than ten years before the peak of creative expression, which indicates the absence of a clear watershed between the early and mature stages of activity, the separation of scientific and creative components of the "universal creative personality" of Rameau. The years from the artist's arrival in Paris (1722) to the premiere of his first opera can be considered such a transitional period. The premiere of the first tragédie en musique "Hippolyte et Aricie" (1733) became a landmark event in the composer's life, dividing his path into two major stages. It can be considered the beginning of the peak phase in the artist's work – "acme", which is evidenced by the level of the composer's skill in creating a tragédie en musique, and the socio-cultural resonance of the work.

Until now, there are mysteries in the features of the early period of Rameau's work. The fact that the artist, who worked as an organist for about twenty years and had a talent for composition, left behind only four examples of spiritual music in the genre of the great French motet and several chamber cantatas is surprising. Statements about dramatic theater and ballet traditions are well-known, on the basis of which the top genre of French musical theater, the symbol of the national tradition – "tragédie en musique" – arose. In addition to the related court ballet and comedy-ballet, vocal-instrumental genres are also important – for example, cantatas and motets, which, although they were in a more distant orbit relative to the center, nevertheless formed the necessary discourse for the formation of the composer's 'handwriting' of the "French style" model. The motet genre in the works of Rameau was already discussed in the pages of Ukrainian publications [1], while less attention was paid to the cantata genre. Meanwhile, the time of a kind of 'calm', called by researchers the period "between Lully and Rameau", is interesting precisely for the development of chamber genres, which rarely come to the attention of musicologists-researchers, one of which is the French cantata.

Genre of chamber cantata in the context of the French national tradition

As it is known, the Italian origin of the genre caused the cautious attitude towards it from the side of French – known fanatical supporters of national traditions, and determined the difficult history of its entry into the sound space of French vocal-instrumental art. Rameau is considered the author of the first samples of cantata in its French variety, a popular and sought-after genre at the beginning of the 18th century (1671–1741); he

sought to popularize Italian cantatas in France. The poet published about two dozen texts, thereby defining the predominantly antique theme of the plots of French cantatas, which was variously embodied in the poetic texts of famous dramatists of that time – A. Danche, A. U. de la Motte, L. Fuselet, P.-Sh. Rua. The establishment of the French version of cantata is associated with the name of M.A. Charpentier and his work "Orphée descendant aux Enfers" (1683), and at the beginning of the 18th century, J.B. Morin played an important role in stabilizing the genre, publishing the collection "French cantatas for one and two voices accompanied by instruments" (1706). As T. Oltean notes, "although Charpentier – the eternal rival of Lully – wrote the first cantatas already at the end of the 17th century, only at the beginning of the 18th century it was possible to talk about an authentic type of French cantata <...> In France, the success of the cantata was doubled by the audience's reaction to Lully's music, which, although still highly appreciated, was considered somewhat out of fashion" [9, p. 66].

In the first half of the 18th century, the French cantata gained recognition and successfully developed in the works of many famous composers, such as N. Bernier, A. Campra, M.-P. de Montclair, L.N. Clerambault, and J.-Ph. Rameau. Musicologist D. Tunley identified more than one hundred French composers and more than four hundred titles in the genre of baroque French cantata (grouped into six cycles), dating between 1703 and the French Revolution [12]. Such a repertoire is worthy of a separate study, during which long-forgotten masterpieces could be updated. In its classical form, the composition of a solo cantata with basso continuo accompaniment (some with obligate instruments) usually consists of three recitatives and three arias, while larger cantatas for two or three voices may contain at least four arias and at least one ensemble (more often two – initial and final). In addition to the text in French, a specific feature of the French cantata is the presence of dance parts introduced into its structure and borrowed in a stylized form from the suite (presented as entrée/antre in some cantatas).

Reflecting the main aesthetic trends of the beginning of the 18th century, the French cantata genre became one of the personifications of the polemics of that time, because the main specificity of the French cantata is the relationship between French and Italian styles, which was manifested, in particular, in the peculiarities of the vocal art of that time [14]. Namely the French cantata became one of the genres where, during the first thirty years of the 18th century, the ideas of synthesis of the brightest features of two national traditions were embodied. According to the testimony of contemporaries, at first the French public was reluctant to "vocal melodic manifestations, eccentricity of harmony, general virtuosity and expansiveness of the types of accompaniment of Italian music. Gradually, however, it began to appreciate these stylistic features, which local composers sifted through the sieve of typical French melodiousness and expressiveness, organically integrating them into the musical material" [8, p. 61].

Jean-Philippe Rameau's chamber cantatas in the context of the formation of the composer's style

Seven chamber cantatas by Rameau¹ (there were nine of them in total, but two have not survived) were written from 1721 to 1730², that is, in the decade before the premiere of the first tragédie en musique, and turned out to be the composer's first "test of the pen" in the realm of drama music. In the previous five years, Rameau mastered the motet genre, which allows outlining the vector of the composer's assimilation of his contemporary genre system from chamber to large synthetic genres and a steady movement towards dramatic music. Chamber cantatas became his "creative laboratory" in the field of dramatic music, and the modest performance requirements of

¹ 1. Aquilon at Orithie, 1715–1719; 2. Thétis, 1715–1718; 3. Médée, 1715–1722, did not survive; 4. L'Absence, 1715–1722, did not survive; 5. L'Impatience, 1715–1722; 6. Les Amants trahis, do 1721; 7. Orphée, prior to 1721; 8. Le Berger fidèle, 1728. 9. Cantata pour le Fete de Saint-Louis (approx.1730)

² In the article, we rely on the chronology of M. Cyr [4]

the genre increased the chances of a real sounding of the works of an unknown young artist.

The vast majority of cantatas written by French composers are intended for the performance of the soprano voice with basso continuo, and namely for such a composition Rameau created the cantata "L'Impatience". However, in general, the composer uses different types of voices and instruments: "Aquilon et Orithie" and "Thetis" were written for bass accompanied by violin and basso continuo, "Orphée" and "Le Berger fidèle" - for soprano and instrumental ensemble (including violins, basso continuo and harpsichord), "Les amants trahis" - for two voices, soprano and bass accompanied by harpsichord and viola. It is worth noting that Rameau, like other French composers, uses mythological subjects in the texts of his cantatas. The characters of his cantatas are traditionally gods and heroes, and the plot basis is legends about them.

Having no reliable information about the names of the librettists and only the approximate dates of the performance of these works, however, having the musical material of the composer's cantatas at hand, it can be confidently asserted that this genre is fundamentally important in the formation of Rameau's creative method. Along with motets, cantatas are the first vocal-dramatic works in which the characteristic features of the artist's compositional style are formed. And while Rameau follows the French national tradition in spiritual music, his individual style in writing vocal parts is truly revealed in cantatas.

Rameau himself evaluated his cantatas as an important experience of a traveler on the way to a career as an opera composer. However, these works are filled with the same melodically bright numbers as the later operatic works of the artist. Some of them, like numbers from the cantatas "Aquilon et Orithie" and "Thetis" are full of declamatory energy, complemented by bright instrumental accompaniment; others, including the solo numbers from the cantata "Limitation" and the touching monologue in "Orphée", are filled with grace, sometimes with an elegiac tone. In many fast numbers, above all in the expressive instrumental obbligatos, one can note the unsurpassed skill with which Rameau combines the graceful contours of French vocal declamation with the liveliness of the Italian instrumental tradition, and the musical instruments complement the achieved dramatic effect with a solo voice, trying to compensate for the lack parameter of visual expression. Quite often, the composer uses the technique of highlighting individual words or phrases of the poetic text with the help of singing (which was not characteristic of French recitatives and arias), the use of elements of sound imagery and rhetorical figures, etc.

In the context of the confrontation between Italian and French national musical traditions, the spread of the cantata genre during the period of "fashion" for Italian music and vocal art during the Regency period and the decline of the genre in the 1730s, when the French national tradition came to the fore, is logical. At the same time, Rameau, having gained the necessary experience in small genres of vocal-instrumental music, moved on, completely consciously choosing the vector of development and the main goal in professional growth - musical theater.

4 Conclusions

Jean-Philippe Rameau is a symbol of the perfection of the French style, a theoretical scientist, polemicist, musician, composer and performer, who is hard to imagine without close interaction with the environment. However, the introverted artist managed to find ideal forms and methods of representing his ideas. If in the early and mature period of creativity, the scientific plane of the artist's activity is represented by theoretical treatises, then in the musical sphere the genres of motet and cantata became fundamental on the way to "tragédie en musique" According to the researchers, Rameau highly valued the creative assets of the pre-opera period and "attached special importance to chamber works, because they provided an opportunity to demonstrate the skill of dramatic writing on a small scale" [11, p. 909]. This is confirmed by the composer's

words from a letter dated May 29, 1744 (published in the "Mercure de France" edition in June 1765, after the artist's death), where, answering a young musician's question about how to succeed in writing stage music, Rameau replied that it is best to start with small works, cantatas and divertissements, "which nourish the mind, educate the spirit, and gradually make it proficient in greater things" [11, p. 909]. Advocacy of theoretical positions in disputes with encyclopedists, zealous introduction of innovations into the plot and language of musical and theatrical works created difficulties in the composer's life and work. At the same time, tense relations with society, willingness of Rameau's to stick to his convictions even against his own interests is due to his colossal contribution to French musical culture.

Prospects for further study of the given topic are the possibility of using the obtained results and conclusions in scientific research devoted to the study of the chamber cantata genre in general and in the work of Rameau in particular, the peculiarities of dramaturgy, musical vocabulary, the embodiment of images in vocal art, as well as in practical use in performance and in educational courses on the history of music in artistic educational institutions.

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FINANCIAL SUPPORT OF LOGISTICS: SECURITY ASPECTS AND SUSTAINABLE DEVELOPMENT (IN UKRAINIAN CONTEXT)

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Abstract: The article defines the relevance of financial support for logistics as a critical element of ensuring sustainable development in modern conditions of global economic challenges. Security aspects and the impact of financial strategies on logistics processes are considered. Financial planning, budgeting, and risk management tools aimed at ensuring logistics chains' reliability and sustainable development are defined. The importance of effective interaction between monetary and logistical components of economic activity for achieving sustainable development goals has been proven.

Keywords: financial support; economic security; sustainable development; investments; competitiveness.

1 Introduction

The specificity of business processes functioning in the modern economic system is characterized by profound changes in the global economic environment, which pose numerous challenges and tasks to business entities. Logistics plays a vital role in this context, as it ensures the efficient organization of supply, production, and distribution of goods and services. Accordingly, it is critical for achieving sustainable development of individual enterprises, business processes, and society [30].

Logistics' financial support is a critical aspect of this modern reality. This is because business entities must provide sustainable financial support to optimize logistics processes and ensure the reliability and security of logistics supply chains. At the same time, namely the consideration of security aspects becomes a necessary condition for efficiency since threats from the actions of competitors, technical failures, innovative challenges, and other factors can significantly affect the functioning of logistics systems.

On the other hand, the need to study the relationship between financial support and logistics, with a particular emphasis on security aspects and sustainable development, is gaining special relevance now. In particular, it means using essential financial tools, such as financial planning, budgeting, and risk management, to ensure the proper level of security and sustainable development of logistics systems in production business processes and national and regional economic systems.

Thus, there is a need for an in-depth study of strategic cooperation between the financial and logistics divisions of organizations since, for the business environment, such cooperation is an essential element of success in ensuring the long-term sustainable development of business entities [12]. In addition, the security of logistics processes includes not only protection against potential threats but also risk management related to the financial activities of enterprises. Therefore, understanding, analyzing, and minimizing financial risks in logistics currently represent an essential asset for any enterprise. At the same time, the effective management of financial resources can reduce the cost of storing goods, contribute to the

optimization of the enterprise's production stocks, and help maintain the balance between the volume of stocks and demand.

Therefore, considering the relevance of financial support for logistics processes, there is a need for a deeper understanding of the importance of an appropriate financial strategy to ensure the efficiency and sustainable development of logistics systems and consider the role of security aspects in this context.

2 Literature Review

Financial support of logistics is one of the main factors in ensuring the sustainable development of business entities in the modern business environment. At the same time, there is a significant amount of scientific work in which this problem is revealed in detail and systematically.

In particular, in this aspect, it is worth noting the works of I. Britchenko [1-9], O. Hrynkevych [23], N. Kunitsyna [27], N. Popadynets [31-32], M. Rudenko [35] and A. Yakymchuk [42], who define logistics as a set of measures and methods used to optimize the flow of financial, material, and information resources in the system of supply of goods and services. At the same time, it is noted that the primary condition for the successful functioning of logistics systems in modern business processes is the need for adequate financial support. The authors emphasize that the financing of logistics operations allows for a significant increase in the efficiency of supply chains and reduces the overall costs of the enterprise, which will directly impact the price of the finished product and strengthen the position of the economic entity in the market struggle.

It is also worth paying attention to the studies of Y. Danshina [10] and I. Lazaryshyna [28] which determine that security is an essential aspect of the financial support of logistics since logistics systems are exposed to various risks and threats. At the same time, it is claimed that such threats can be related to the influence of natural factors, as well as to technical production failures, loss of property, etc. The general conclusion of this research direction is that the importance of financial resources for responding to risks and threats is determined, which contributes to the more effective security of logistics systems.

In addition, we can note the research of S. Koshova [24-25], M. Maš'lan [29], O. Ramos [33], and A. Zielińska [43], in which the importance of strategic planning and budgeting in the financial support of logistics is determined. In this aspect, attention is focused on the fact that an appropriately adjusted financial strategy helps business entities achieve more effective results in logistics operations, resulting in a general reduction of unproductive costs in production activities.

Separately, it is worth paying attention to a number of the latest approaches and technologies for the financial support of logistics, which are focused on the broad application of digital and information products, including the latest software products [36]. In particular, this direction is defined in the works of M. Dziamulych [13-21], M. Kryshchanovych [26], J. Reitšpís [34], and I. Voronenko [41], which indicate significant prospects for using blockchain technologies and artificial intelligence to significantly increase the efficiency of financial support and improve security in logistics processes.

On the other hand, available scientific research determines the importance of financial support of logistics for the sustainable development of enterprises in the modern business environment. At the same time, there is an objective need to deepen research in the field of using financial resources to ensure security and optimize logistics processes to increase competitiveness and ensure the successful operation of enterprises in the conditions of dynamic changes in the modern business environment [22; 39].

3 Materials and Methods

Various scientific research methods are used in the research process, which revealed the financial support of logistics and its impact on security aspects and sustainable development. In particular, such methods were used to obtain a deeper understanding and analysis of the relationship between financial support and logistics and their impact on the sustainable development of business entities.

One of the critical methods was the analysis of literary sources, based on which a review of theoretical approaches to the essence and principles of logistics financial support was carried out, the results of previous research in this field were evaluated, and other sources related to the research topic were analyzed. The analysis of literary sources became the basis for formulating the study's conceptual framework.

Methods of synthesis and generalization were used to combine and generalize information from various sources. At the same time, based on the synthesis, a holistic view of the financial support of logistics processes was formed by combining individual elements of information. Fundamental aspects and conclusions from literary sources were highlighted by generalization.

The abstraction method highlighted the key ideas and concepts of the study. In particular, with the help of this method, attention was focused on the essential aspects of the financial support of logistics and the need to reduce risks and threats to logistics processes.

An empirical method was used to confirm the theoretical conclusions and to study specific scenarios of applying financial strategies in logistics. It was used to collect and analyze practical data on enterprises' financial and logistical activities, as well as to evaluate data from other information resources.

In general, with the help of the mentioned methods, information was systematized, and the problem of logistics financial support was evaluated, which allowed us to reveal its impact on the stability and security of logistics systems in modern business processes.

4 Results and Discussion

In modern conditions, characterized by significant turbulence of economic relations, logistics processes are one of the most important in the mechanism of formation of financial and economic security of business because its logistics component is a concept of ensuring financial and economic security within the framework of the functioning of one or more business structures. In the business processes of enterprises, the logistics component occupies a leading place because it concerns the financial and economic security of the business. That is why forming an organizational and economic mechanism for the financial support of logistics requires a high level of organization, systematicity, structure, and control.

The prevalence of flow approaches characterizes the logistics stage of the economy, which is determined by the integration of market entities to achieve optimal interaction in micro- and macro-logistics systems and the formation of global logistics networks. In these conditions, the basis for developing effective mechanisms for managing the financial support of logistics processes of enterprises is the integration of methodological provisions of financial management into the logistics system.

The financial and economic security of a business is a state of the enterprise's management system in which the management of financial resources is achieved, and it is possible to respond to changes in the external and internal environment adequately and to project potential threats and reactions to them to ensure the crisis-free development of the enterprise. After all, the management system recognizes threats and develops measures to overcome them. Therefore, the main goal of providing the

financial and economic security of business at present is to achieve the maximum stability of its functioning and to create a basis for the further growth of its economy even in the presence of objective and subjective factors [40].

It is worth noting that from the point of view of the systemic approach, the logistical component of the financial and economic security system is a relatively stable set of structural or functional divisions of enterprises, suppliers, and consumers, which are interconnected and united by a single system of managing the logistical process of financial and economic security for implementation of the logistics strategy. Therefore, a systematic approach to the formation of logistics strategies for the system of financial and economic security of business requires the fulfillment of two mandatory conditions:

1. They must be connected with other functional strategies and correspond to the optimal process of implementing the competition strategy to ensure the business's financial and economic security.
2. They should cover all financial and economic security areas of business processes.

At the same time, logistics financing is closely related to logistics planning and affects all aspects of the company's logistics operations. Logistics planning defines the strategies and principles used to achieve optimal results in managing the flow of goods and services in logistics supply chains. Financial support, in turn, ensures the allocation of financial resources to implement these plans and ensure the reliability of logistics systems. In practical terms, financial support is implemented based on logistics planning, which includes several principles, namely:

1. Resource Budgeting and Analysis – logistics planning involves determining resource needs, such as vehicles, storage facilities, equipment, inventory, and personnel. Therefore, financial support includes the budgeting process, which allows allocating the financial resources required to meet these needs.
2. Inventory management – logistics planning includes inventory management strategies that affect inventory levels and product turnover. At the same time, financial support guarantees the availability of sufficient capital for the purchase and storage of production stocks of the enterprise, as well as for optimizing their level by strategic goals.
3. Infrastructure and technologies – logistics planning can include developing and modernization of infrastructure and using modern technologies. Accordingly, financial support consists in finding sources of financial resources necessary for the construction and improvement of infrastructure, the implementation of information systems, and the development of new technologies to optimize the logistics processes of the economic entity.
4. Risk management – logistics planning includes analyzing and managing risks associated with logistics operations. At the same time, the financial support of these operations is aimed at allocating funds to reduce risks, such as delays in deliveries, natural disasters, and other unforeseen circumstances.
5. Suppliers and partners: logistics planning can include interaction with suppliers and logistics partners. Financial support helps develop relationships with these parties through investment and financial incentives to achieve shared goals.

Logistics financial support is generally based on logistics planning and determines the allocation of financial resources to achieve strategic logistics goals. This approach helps enterprises achieve sustainable development goals and ensure the efficiency of their logistics operations.

In the practical aspect of implementing financial support, the planning of logistics operations significantly depends on specific logistics technologies for stream management optimization, which are essential for increasing the efficiency and

competitiveness of logistics systems. At the same time, optimizing flows allows a rational use of resources, helps enterprises to reduce costs, etc. (Figure 1).

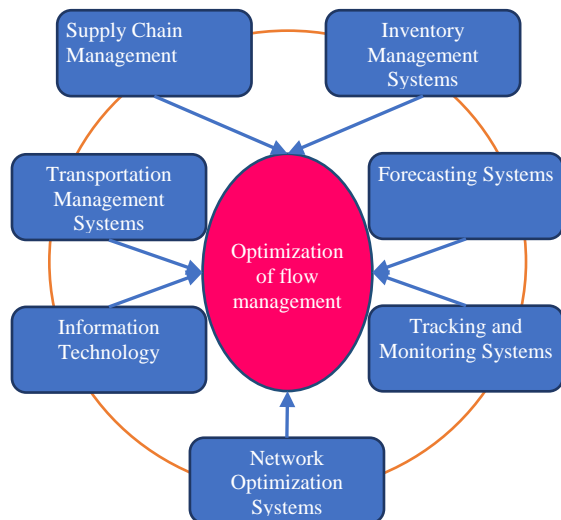


Figure 1. Modern logistics technologies for stream management optimization

Source: constructed by the author

As one can see, the most common modern logistics technologies for stream management optimization are:

1. Supply Chain Management, which optimizes the entire supply chain, including suppliers, manufacturers, distributors, and customers. This technology allows refining and analyzing information on demand, inventory, production, and delivery of goods to plan optimal solutions.
2. Inventory Management Systems. Such systems allow enterprises to manage their stocks, effectively minimizing their excess and shortage. They are based on demand analysis, forecasting, and optimization of inventory levels to ensure the best performance and reduce costs.
3. Transportation Management Systems that help manage traffic flows and optimize delivery routes. They consider various parameters such as cost of transportation, delivery time, and selection of optimal vehicles.
4. Forecasting Systems – these systems use analytical methods and algorithms to forecast the demand for goods and services. This allows enterprises to adapt their operations to future changes in logistics and reduce the risks of shortages or oversupply of goods.
5. Information Technology. The use of modern IT solutions, such as artificial intelligence and the Internet of Things, allows business entities to receive online information about the state of logistics flows and to automate and digitize almost all processes involved in modern logistics systems.
6. Tracking and Monitoring Systems - these systems allow tracking the movement of goods and vehicles in real-time, which contributes to increasing transparency and control over logistics processes.
7. Network Optimization Systems. Such systems help business entities determine the most optimal supply and distribution network, which considers the cost of delivery, its volume, distance, and other factors necessary to ensure the optimal location of warehouses and production.

Thus, these technologies help optimize logistics flows, increase enterprise productivity, improve customer service, and reduce costs. All of them are based on the collection, analysis, and use of information to make optimal management decisions in logistics.

Thus, we conclude that the organizational and economic mechanism of the logistics component of the financial and economic security system of business processes provides the

necessary set of services with the maximum possible reduction of associated costs caused by the performance of logistics operations (Figure 2).

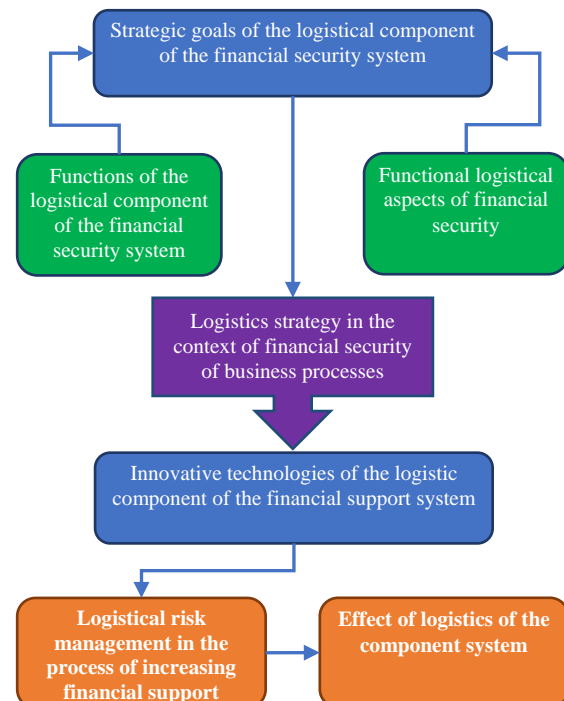


Figure 2. The mechanism of formation of the logistic component in the context of financial support of the economic security of business processes

Source: systematized by the author based on [38]

Let us talk about the security aspects of the financial support of logistics. They are determined by a set of measures and strategies to ensure the reliability and safety of financial resources invested in the enterprise's logistics operations. Such aspects are crucial for the sustainable functioning of logistics systems and the successful development of a business entity. In particular, security aspects include protecting financial resources from risks and threats associated with the destructive influence of external factors. This may impact natural factors and the risks of political and economic instability [11], technical failures, cyber threats, etc., which may lead to the loss or reduction of the company's financial assets. Therefore, ensuring resistance to such risks requires developing and implementing a risk management system.

In addition, the security aspects of financial security are related to the need to avoid financial transactions that may lead to financial losses or financial accounting inefficiencies. Such aspects include developing and implementing internal control and regulatory systems, audit of economic activities, control over access to financial resources, and other measures to prevent financial abuse.

On the other hand, the security aspects of financial support include the preservation of liquidity and financial stability of the enterprise. Therefore, optimizing liquidity management and ensuring the appropriate level of financial reserves help the business entity to ensure the stability of its financial flows for logistics operations. In a practical context, this is implemented by developing crisis management plans and diversifying financial resources.

In general, it is worth noting that the security aspects of logistics' financial support are crucial for ensuring the reliability and stability of the company's logistics systems and their successful development. Therefore, ensuring the security of financial resources requires a combination of technological solutions, internal policy, and strategic management. In practice, the most

straightforward tool for forming security aspects of financial support is most often used - a local SWOT analysis of threats and opportunities of logistics systems. It allows identifying the strengths and weaknesses of the organization's internal activities and analyzing the opportunities and threats that affect the external environment [38].

Accordingly, if we consider the financial support of logistics systems, it is suggested to develop enterprise strategies to increase the reliability of financial resources, reduce risks, and ensure the sustainability of economic activities in the logistics context. For this purpose, we have developed a specialized SWOT matrix, which determines the financial and logistical opportunities and threats of business entities based on security (Figure 3).

Strengths	Weaknesses
Security of logistics systems Financial security Service logistics service	Financial problems Lack of investment resources Failures in the functioning of logistics systems
Opportunities	Threats
Opening of new supply chains Improvement of the material and technical base of logistics systems	Instability of calculations Regulatory constraints in supply chains Unforeseen changes in business processes

Figure 3. SWOT-matrix of the financial and logistical potential of enterprises based on security principles

Source: developed by the author

The proposed matrix of SWOT analysis reflects important aspects of financial support and security of logistics at the enterprise. Among the strengths, there is the reliability of logistics systems and financial stability, which contributes to successful operations and customer service. However, weaknesses such as financial problems and lack of investment can threaten the efficiency of logistics operations. Opportunities such as the opening of new supply chains and improved infrastructure provide potential for growth and development. At the same time, threats that include settlement instability and regulatory restrictions require attention and flexibility in management to prevent possible risks and maintain the stability of logistics financing.

To determine the efficiency of logistics systems based on this matrix, it is needed to analyze the feasibility of financial costs. At the same time, for each of the cost elements, it is necessary to divide it into risk areas, which represent a zone of total losses, within which there is a threat to the effective functioning of logistics systems:

- area of absolute stability;
- area of normal stability;
- area of unstable state;
- area of critical condition;
- area of crisis.

In the future, to determine the safety indicator of the efficiency of logistics in certain of the specified areas, it is necessary to apply the table of correspondence of the values of the indicators (Table 1).

Table 1: Assessment of safety indicators of feasibility of financial expenditures

Area of assessment	Indicator values	Risk level, %
Absolute stability	$I > 0$	0
Normal resistance	$I \geq 0$	0-25
Unstable condition	$I \approx 0$	26-50
Critical condition	$I \leq 0$	51-75
State of crisis	$I < 0$	76-100

Source: [5]

In general, the application of this method makes it possible to assess the practicality of implementing financial costs to improve the efficiency of logistics systems and evaluate the current state of security of the financial support of logistics. In particular, if in the process of SWOT analysis of the state of the logistics system, the critical value of a specific parameter is revealed, then it is advisable to implement a comprehensive system improvement program to ensure its effectiveness by the defined safety parameters.

5 Conclusion

Thus, we conclude that security aspects represent a significant factor in ensuring enterprise logistics' reliability and sustainable development. At the same time, the analysis of strengths, such as the security of logistics systems and financial stability, shows significant achievements in these areas, contributing to successful operations and ensuring a high-efficiency level of logistics systems. However, the presence of weaknesses, such as financial problems and lack of investment resources, can significantly affect the efficiency of logistics operations. Therefore, enterprises must solve these problems and look for ways to improve financial security. At the same time, one should consider the opportunities that open up, in particular, the opening of new supply chains and the improvement of infrastructure, thanks to which the potential for the sustainable development of the business entity and the improvement of its logistics system is formed.

The presence of threats related to the instability of settlements and regulatory restrictions in supply chains requires the management of logistics based on risk management. At the same time, developing strategies to overcome the identified threats can help the enterprise maintain the stability of the financial support of logistics. In general, adequate financial support for logistics is essential in ensuring a business entity's sustainable development. In turn, solving financial problems and using opportunities for growth can strengthen its competitive position in the market and allow achieving success in logistics.

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THE DYNAMICS OF SPEECH: FROM THE PROCESS TO PEDAGOGICAL CULTURE

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Abstract: This article delves into the intricacies of speech dynamics, exploring the relationship between the speech producer, subject, and the unique role of pedagogical speech. Drawing parallels with physics, the text establishes that the speech producer stands outside the speech act, much like an observer in an experiment. It emphasizes the significance of the subject of speech as an intermediary, shaping the independent existence of speech. The discussion extends to the specific features of pedagogical speech, focusing on audience awareness, personal attitude, and the visual elements that accompany effective communication. The article concludes by underlining the pivotal role of speech culture in the overall professional and pedagogical competence of contemporary educators.

Keywords: speech culture; rhetoric; teaching process; language; communication.

1 Introduction

The speech culture is an indicator of the general culture of a person, his intellectual development. Possession of the culture of speech communication is an important condition for the future professional self-realization of university students. Currently, the labor market is in demand for a creative person who is able to carry out speech interaction effectively. Competitiveness, career growth directly depend on the organizational and oratorical abilities of a person, the ability to establish and maintain business contacts with partners. The speech culture is such a choice and such an organization of language means that, taking into account the situation of communication and observing the actual linguistic, communicative, and ethical norms, can ensure the greatest effect in achieving the set communicative goals.

Rhetoric was formed in Sicily. The concept of "rhetoric" comes from the Greek *rhetorike techne* (oratory), and covers the following fields of knowledge: the theory of speech — the art of speech — oratory. Rhetoric is understood — consciously or unconsciously — as the technique of speech, manifested in various forms, speaking by the individual [17]. The question arises: why turn to the past? But not knowing history means always being a child. All arts consist in the exploration of truth. It is impossible to know the essence of modern oratory if not to turn to history, just as it is impossible to understand the culture of a people without paying attention to its past [7; 17; 20]. Talking about the knowledge of the Greco-Roman world as a way of knowing selves and the universe, they do not mean the need to study vocabulary, grammar rules, passages in Greek and Latin, they mean: to know the Greeks and Romans themselves, their way of life [21].

In the 8-7 centuries B.C., the migration of Greek tribes spread their culture throughout the Mediterranean, reaching even the shores of the Black and Caspian Seas. Because of the Macedonian expansion, they penetrated the East, including India and Central Asia. Somewhat later, contact with the original Roman culture arose, which began to develop as the second culture of the ancient world. The main source of our acquaintance with ancient literature are the works of ancient authors, Greek and Latin. However, until our time, these works have been poorly preserved [6]. Bartoszewicz wrote, "what can discourage from rhetorically is its apparent complexity and alleged interpretative empty spaces, which are left open by rhetorical methodology" [3]. The contemporary conceptualization of rhetoric is ambivalent and a phenomenon of polysemantic meanings is associated to the word [10].

The history of the development of the cult of eloquence is not over to this day. The importance of being able to clearly express one's thoughts and influence the opinion of the audience is still vital for politicians, judges, and teachers [20].

2 Method

The methodological support for the research implied an analytical review of the stages of development of the doctrine of speech culture and research problems in the theoretical and practical aspects of linguistics and pedagogy, as well as a system-functional approach to the theoretical substantiation of the research problem, the theory of speech activity as a component of the social and mental activity of the individual as a whole. The organization of the study were carried out taking into account the requirements of systemic, holistic, and synergetic approaches to the analysis of social and pedagogical phenomena.

3 Results and Discussion

The formation of oratory

The objective basis for the emergence of oratory as a social phenomenon was the urgent need for public discussion and resolution of issues of social significance. A good speaker can only arise from one who wants to become a speaker, who strives for this, who works hard on himself. Already in the most ancient religious and philosophical teachings, correct speech was given a special place. The path to truth was divided by the Buddha into eight parts: right discrimination, right thinking, right speech, right action, right living, right work, right memory and self-discipline, right concentration. It is significant that among the first steps on the path to truth, there are right thinking and right speech. Without these conditions, correct action is also impossible. There are three categories of speakers: "Some can be listened to, others cannot be listened to, and others cannot be ignored". What we say largely determines whether we will be listened to or not, or whether we even be able not to be ignored, not listen. But it depends on our voice whether or not we can be listened to at all. The richness of the voice is closely connected with the richness of thought and imagination, with the emotional richness of the sounding word. Correct pronunciation, good diction, developed breathing and voice are necessary for an actor, director, teacher, reader in order to be able to act with a word, convince, excite, make listeners empathize [13].

Oratorical speech consists of five parts, the essence of which is an attack and a sentence, a division and presentation of the circumstances of the subject, arguments and refutation, a pathetic part and a conclusion. It is obvious that each part, depending on the topic and task of the speaker, may or may not be present. In one case, it will turn out to be a separate element of the structure of speech, and in the other, a component of other elements (for example, a refutation can be part of a speech, or it can be included in other parts in small fragments if not one global idea is refuted, but several less important ones). The introduction, the main part, and the conclusion should be present in every speech [2, p.37].

By nature, a person is endowed with a speech and thinking apparatus, without which speech activity would be impossible. To engage in speech activity, a person must have the ability to think and speak, must feel the desire to realize his thought, to transfer it to another. Eloquence is the light that gives brilliance to the mind (according to Vvedenskaya and Pavlova [22]). What a person is, such is his speech. Each statement, both in fact and in the mind of the perceiver, is an instant disclosure of the entire experience and character, intentions and feelings of a person [21].

Not only writers should have their own speech, their own peculiarities in speech. Everyone needs original, unconventional speech, especially those who write for others or speak to others. "Speech depends on geographical latitude, lips, home education, childhood friends, landscape, sky, nose, environment, nutrition, degree of exposition, school, language ... Speech is always colored, riddled with features ..." [17]. The correctness of speech is a mandatory, but not the only indicator of its culture. Along

with the task of writing and speaking competently, correctly, as the given cultural environment commands and requires, there is another task — to write and speak skillfully, masterfully. Such features as clarity, accuracy, stylistic consistency, expressiveness, the absence of informatively redundant components, etc. characterize skillful speech.

Speech culture

The vocabulary of a person is enriched gradually. Therefore, in order to improve speech culture, it is necessary to replenish own vocabulary constantly, which is facilitated by reading works of art, literature in the specialty. A large vocabulary, knowledge of the meanings and shades is the key to a high speech culture. Being able to choose words and use them freely in speech is important for everyone. Lexical norms do not allow the unreasonable use of obsolete, dialectal, colloquial, professional, slang and vulgar words. Explanatory dictionaries help to determine the degree of literary word, its suitability, thus they should be referred to.

Speech culture is a culture of personality that develops on the basis of objectively existing links between language and cognitive processes, suggesting a sense of style, taste and erudition developed. Speech culture is connected closely with the literary language used in all spheres of human activity: in government institutions, in the field of science, production, culture, in the press, in everyday communication. The literary language, according to I.A. Fedosov, is a processed folk language. "Language is created by the people. The division of language into literary and non-literary only meant we have a "raw" language processed by masters. In terms of clarity and expressiveness, it is the perfect means of communication" [8].

Most scientists shows overall level of speech culture and believe that it is necessary to conduct systematic work on the formation of linguistic and communicative competence. The speech culture is understood as its grammatical and orthoepic correctness, accuracy, lexical richness and diversity, logical harmony, expressiveness and figurativeness. Of particular importance for the culture of oral speech is the correct literary pronunciation, corresponding to the accepted orthoepic standards. The rules that determine the pronunciation of words constitute pronunciation or orthoepic norms. Compliance with them is of great practical importance, since their violation distracts listeners from the content of the speech. Everyone who appreciates the elegance and beauty of the language, must observe orthoepic norms. Mastering the speech culture comes down to the accumulation of a large stock of words, knowledge of their meanings, shades and stylistic coloring, the ability to find the most accurate one from a number of synonyms, the assimilation of orthoepic norms, accuracy, imagery, and the ability to correctly build a phrase.

Developing the structure of speech is necessary to influence a specific audience. The speaker chooses the best way to deploy and justify the thesis, the most correct order of content components (and the order of thoughts in them): Every speech should be composed like a living being — it should have a body with a head and legs, and the torso and limbs must fit together and correspond to the whole. Logically consistent speech is understandable, facilitates establishing and maintaining contact with the audience: "If a thought jumps from subject to subject, is thrown, if the main thing is constantly interrupted, then such a speech cannot be listened to," A.F. Koni wrote. "The natural course of thought delivers, in addition to mental, deep aesthetic pleasure" [15, p. 178].

Speech as a process

Creating speech, its producer (as well as the addressee) is outside this speech, like an artist outside the picture he has painted, like a sculptor outside the work he has sculpted, i.e., the producer of speech is on a different plane, a different reality than speech itself. An analogy of this situation can be seen in physics. The researcher conducting the experiment is outside the process under study; however, the presence of an observer-experimenter can affect the process under study. Moreover, modern physics

takes into account the possibility of such an influence. In the case of speech production, the addresser cannot influence the spoken (or written) speech. He can only create another speech work. In the same way, the addressee for the sake of whom the speech is made is outside it, although inside the speech situation and the speech act.

Speech as a process, as communication is represented by speech acts — the minimum units of communication. The scheme of the speech act is known: addresser (speech producer) — speech — addressee (recipient).

The subject of speech is a necessary component of a speech act, the scheme of which will appear in the following form: Producer of speech — Subject of speech — Speech — Addressee. The speaker manifests himself in speech in a variety of ways and by no means always directly. The subject of speech acts as an intermediate link between speech and its producer. The producer of speech is present (explicitly or implicitly) in every utterance, in every act of speech. The subject of speech is also a mandatory affiliation of the statement; it is the one on whose behalf the speech is being made. However, in the flow of speech, it can be explicit and implicit (see below).

In reality, the producer of speech appears as its subject. They may or may not match: *I write. You are writing. He is writing.* In all three sentences, the speech producer can be the same. However, in the first case, the producer of speech and its subject coincide. The speech producer speaks about himself (this is his own speech). There are no gaps between speech and its producer. In the second sentence, the subject of speech is the one whom the speaker calls "you". The producer is somewhat removed from his own speech. Some gap appears: the speech producer and its subject do not match. However, the connection between them is very close: "you" and "I" are mutually coordinated: "you" mean "me". The greatest detachment of the producer of speech from its subject and from the speech itself is observed in the third sentence. There is no direct connection between the producer of speech and its subject. It is defined extra linguistically: he is a person, object, etc., which fall into the sphere of vision, understanding, knowledge, etc. of the speech producer. Here the greatest departure of the producer of speech from his own speech takes place. However, although the speech producer does not appear directly in the speech, it is implied. Thus, the producer of speech in speech itself acts as its subject. Namely through the subject, the speech producer, who is outside of it, enters into speech. As the speech producer, the subject of speech is just as essential component of it.

Teacher's speech

Between speech and its producer (author, speaker), there is necessarily an intermediary the subject of speech. To produce a speech means to convey information to another person(s). However, in order to carry out the speech act, to move from the speech producer to speech itself, the alienation of speech is necessary. The subject of speech performs this function — the formation of the independent existence of speech. The professional speech of the university teacher is focused on being understood by others, with the aim of influencing their consciousness and activity, as well as fostering social interaction. In this regard, his speech in quality should satisfy the general requirements for speech activity [14, p. 27]. A modern university teacher should have an idea of the basics of sociological science in order to clearly understand the nature of social difficulties associated with social transformations, their consequences in the specific circumstances of education [4].

Publicity, the focus of pedagogical speech on the audience as its most important specific feature, necessitates:

- a) Good knowledge by the teacher of the individual properties and qualities of students, the characteristics of the classroom team, the ability to predict the impact of their words on everyone in general and on each student individually;

- b) Teacher's own attitude to what he is talking about, that is, the personal coloring of statements;
- c) Skills and abilities of organizing a dialogue (even when the teacher uses a monologue form of pedagogical speech). Dialogicity can be achieved by using statements-addresses ("let us imagine", "as you remember", etc.), emotionally expressive words, rhetorical questions.

Visually, in the process of the teacher's speech activity, students perceive the mimicry and pantomime of the teacher, the emotional expressiveness of his behavior, which accompany the statement (the kinetic sign system of pedagogical speech).

This feature requires the teacher to develop the ability to control his appearance in the process of speech activity, communication with students and also adequately perceive the reaction of listeners (skills of social perception). "The work of the teacher is aimed at shaping the personality of a growing person, it contributes to the development of certain rules of behavior, provides intellectual development of a person. In order to be able to interact correctly with other people, and especially with students, the teacher must possess not only special knowledge in the subject, but also professional communication skills" [1].

"Speech culture is also an important aspect of a contemporary teacher's overall professional and pedagogical culture" [19, p. 106]. "Speech culture is not a private matter of the teacher, but social need" [18]. A high speech culture of a teacher usually means the ability to master the language perfectly, to choose and use words successfully, to express thoughts logically, expressively, vividly, eloquently. Exemplary speech is unthinkable without observing the grammatical, pronunciation norms of the language and the accuracy of word usage. It should not be forgotten that the teacher conveys to students not only scientific knowledge, but also a high culture of speech. The most important condition for the correct language design of a lecture, conversation, report, other types and forms of training sessions is the skillful selection of verbal material. Paying due attention to the scientific nature of the content, the relevance of the topics of the classes, one should at the same time improve their form, ensure that each lecture, conversation is lexically accurate, grammatically correct, stylistically expressive. A significant drawback of teachers' public speaking is often the poverty of vocabulary or, conversely, unnecessary verbosity, monotony or clumsiness of syntactic constructions, patterns and clichés that make speech dry, dull, unnatural. While choosing lexical means, it is necessary to be guided by more or less fixed norms of word usage. When choosing words, one must take into account not only their inherent meanings necessary to express a certain content, but also the environment in which the word falls — within the phrase and in a wider context. This means that the word must be used in full accordance with the meaning that is inherent in it. In each individual case, one needs to choose the word so that it most accurately expresses the concept. The inaccuracy of word usage in some cases is associated with a misunderstanding of the meaning of the word, in others — with an unsuccessful choice of a word (synonym) that is close in meaning, in the third — with a mixture of words that sound similar in sound, etc.

4 Conclusion

The culture of oral and written speech shows that these questions are of a certain complexity and require close attention from every educated person.

The culture of the language is linked with the culture of speech inextricably. Language is an effective tool of education and one should use this tool skilfully, strive for a better mastery of it. The flowering of culture is linked with the development of the culture of the language in its written and oral form. A persistent and daily struggle is needed for the purity of the language, for a high culture of speech, for careful observance of language norms.

The teacher should speak quietly, clearly, and at a speed of about 120 words per minute. To achieve expressive sound, it is

important to be able to use pauses — logical and psychological. Without logical pauses, speech is illiterate, without psychological pauses it is colorless.

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EXPLICIT INFORMATION: DEFINITION, ROLE, AND APPLICATIONS IN THE MODERN WORLD

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Abstract: Clear and understandable information is crucial to various aspects of modern society. This paper examines the concept of explicit information and its significance in education, business, research, science, health, culture, and the arts. This research focuses on the essential principles which are required to deliver effective communication to a diverse audience and aims to enhance the ability to interpret relevant information. We explore approaches for producing and displaying explicit information, comprising text, graphics, audio, and video, and methods for visualising and analysing data. We additionally explore the security and protection of explicit information, covering encryption, authentication, and measures to prevent data leakage. Ultimately, the article analyses the future of explicit information in the context of digital transformation, the use of big data, and artificial intelligence. Explicit information persists as a pivotal component in knowledge transfer, decision-making, and societal development, and its significance will persist in the future.

Keywords: explicit information; text; authentication; encryption; linguistics.

1 Introduction

The concept of explication, deriving from the Latin *explicato*, meaning "explanation", has been known by various names in the linguistic tradition, which convey similar meanings and contents. Examples include the reception of lexical additions, descriptive translation, explanatory translation, and paraphrase.

Explicit information refers to information that is expressed directly and obviously by a given linguistic unit or system of units, without any transformation. Explicit information is typically encoded in the dictionary definition of a word or morpheme. In a narrower sense, explicit components of meaning refer to those with a clear word-shaping (morpheme), form-shaping (morphological), or syntactic (lexico-semantic) expression [19].

The main goal of this research is to clarify, define, and examine the role of explicit information, as well as to explore its applications in the modern world.

2 Materials and Method

In order to achieve our objectives, we will investigate the presentation of explicit information in scientific literature. We will evaluate the influence of the latest trends in information visualization and analysis technologies to comprehend their effect on demonstrating explicit information. Additionally, we will compare the application of explicit information across various cultures, industries, or languages to identify differences and similarities. We will rely on specific linguistic facts as research materials to accomplish this.

3 Literature Review

Theoretical and empirical work has distinguished the comprehension of explicit and implicit information in both written and spoken texts, with predictors identified [3; 5; 8; 14]. However, several studies that have utilized more sophisticated data analysis approaches to examining of the dimensionality of reading comprehension have produced inconsistent findings [2; 16]. Basaraba's (2013) [2] research implies that reading comprehension encompasses multiple dimensions and supports the possibility of distinguishing between explicit and implicit comprehension. However, M. Muijselaar's (2017) [16] data challenges the concept that explicit and implicit comprehension can be considered as separate constructs.

Explicit comprehension involves utilizing language to describe characters, objects, and actions presented in a book, whereas implicit comprehension involves using language to deduce, analyze, hypothesize, or reflect upon and integrate ideas and information. A. Paris and S. Paris (2003) [17] created a task to

evaluate implicit and explicit comprehension proficiencies in young children's storytelling. According to D. Altun's (2018) [1] categorization, explicit comprehension of a story involves identifying its basic elements, such as characters, setting, initial event, problem, and solution. In contrast, implicit comprehension encompasses the ability to infer the main characters' emotions, causal relationships, predictions, and overarching themes. As such, implicit comprehension is a more advanced skill that requires a deeper understanding of the story than explicit comprehension.

4 Results and Discussion

The phenomenon of explanation can be understood in two ways. Firstly, it embodies the direct meaning of a statement, which is commonly found in the works of K. A. Dolinin. As he states, "*The meaning or explicit content of a statement (text) is the content that is directly expressed by the combination of linguistic signs from which this statement is composed*" [4, p. 7]. Thus, the meaning of explication is the direct result of the semantic combination of linguistic units, according to this definition. With this regard, the meaning of explication is the direct result of the semantic combination of linguistic units, according to this definition. However, explication has another meaning as well. For example, L. K. Latyshev viewed explication, on the one hand, as a "special" translation technique, which will be further discussed in this work, and on the other hand, he wrote about the linguistic phenomenon of transmitting content at the level of the interpreter. Let us quote the author: "*To compensate the reader for a lack of implicit information in translated texts, the most effective method of translation is to include it explicitly*" [13, p. 224]. We believe that the two interpretations cited share similarities in explicating actions, conveying juxtaposed and combined meanings while following the grammatical norms of linguistic units. However, their dissimilarity is rooted in the functional context, where the phenomenon can operate with both the direct and implied meaning of the statement. On this basis, we consider that explication can be seen as a means of rendering implicit meaning into linguistic form. It probably comprises not just lexical and grammatical elements of the source language, but also corresponding fragments of world knowledge.

V. Komissarov (2013) [11] contends that the meaning of non-equivalent words can be conveyed through explication. However, the author cautions that this technique can be cumbersome and should only be used in cases where a concise explanation is sufficient. It can be concluded that in this interpretation, the use of explication is limited to the zone of transformations, and serves as a descriptive technique, which eliminates its value as an interpretation method.

Conversely, Latyshev associates explication with "specific" translational transformations, including implication, demetaphorisation, and metaphorisation. The author highlights that all these techniques have the common feature of providing a more distinct form to the expression [13, p. 291]. Moreover, explication plays a crucial role as a technique that aids in interpreting the original statement by rendering the implied meaning in verbal form.

Nevertheless, the text frequently comprises implicit details, which are not explicitly expressed but rather hidden. In such instances, we may refer to subtext as the occurrence of implicit linguistic content [20, p. 44]. According to Ye. Yermakova's definition, subtext comprises content that does not directly feature in the customary lexical and grammatical meanings of the linguistic units which make up the statement, but is derived from comprehension of the statement [20, p. 18]. Implicit content can arise either as an isolated statement or within a broader context. Therefore, it is essential to establish how to retain covert modal meanings and to what extent implicit messages can be conveyed during translation.

According to G. Khamzina (1998) [10], implicit information is not directly expressed in language but can be inferred through implication. This is achieved by extracting unspoken content from the spoken word. The components of semantics in the meaning of speech units or their elements represent the implicit content. In other words, the full range of grammatical and lexical-grammatical categories has substantial implicit potential. Lexical items, in particular, carry implicit meanings, which can be largely attributed to polysemy — the phenomenon where a single word has multiple interpretations. As a result, lexical polysemy acts as an infinite source of meaning.

When reading a translation, the reader anticipates the ability to fully delve into the text, relying on appropriate understanding resources. Implicit and explicit links do not pose any significant comprehension challenges. If language links, whether implicit or explicit, assume the existence of common or scientific knowledge that the recipient may not possess, problems can arise. The task of the translator is to convey the original content in a semantically equivalent manner, ensuring the meaning of the statement is preserved. The translator needs to make implicit connections explicit, which may require specific knowledge. However, the recipient of the translated text may not need this knowledge. Explicitization is frequently observed as a phenomenon that clarifies information more extensively in the translation than in the original.

Explanation is a phenomenon that frequently results in additional explicit information being expressed in the translated version compared to the original. The authors propose that the translator may add explanatory phrases, clarifications, and additional details to the source text to ensure logical coherence in the narrative. M. Larson (1984) presents an intriguing perspective, asserting that a recipient's comprehension of information shared is reliant upon the inferences they deduce from contextual cues. However, this can only be achieved when both the sender and recipient operate within the same cognitive framework and communicate effectively in the same language. In bilingual communication scenarios, misunderstandings can arise due to the complexity of decoding implicit information in the original text. Therefore, to avoid misunderstandings, translators often introduce implicit information into their translations [12, p. 37]. Dealing with explicitation is a complex phenomenon, and linguistics emphasises explicitation as a means of achieving adequate translation, i.e., as a translational transformation. At the same time, linguistics aims to conduct focused research on the aspect of conveying information openly and determining implied meanings.

In light of the preceding, our thesis regards explicitation as both a technique and a means to assist translators in clarifying and expanding the context of information, making it more easily accessible to readers. It is also deemed an independent process that transcends mere transformation, as the translator must adopt the role of an interpreter, ensuring an accurate understanding of the content derived from the grammatical and lexical aspects of the source language.

The semantics of a linguistic unit comprises its explicit and implicit parts. The explicit part is conveyed through lexical and grammatical means, whereas the implicit part lacks its own labels. *"In some instances, the implicit semantics are deduced from the explicit semantics and background knowledge by logical inference. In other instances, they are attributed to the linguistic unit by convention"* [9]. For example, when examining the English linguistic unit "earring", its denotational meaning solely encompasses the sememe "ring associated with the ear". When this explicit meaning is coupled with background information, it becomes clear that the term refers to an earring due to the lack of any other commonly established relationship between a ring and an ear in social conventions. The implicit meaning of the linguistic unit "earring" derives from the complex of sememes that characterize it, inferred from its explicit part and background knowledge.

To illustrate, let us consider the term "seaplane" in English. Its explicit meaning comprises the sememe "airplane related to the

sea", which may have varying relationships. Based on background knowledge, this term could have multiple meanings in theory: 1) Water search and rescue aircraft, 2) Seaplanes, 3) Fishing aircraft, 4) Oceanographic aircraft, 5) Carrier-based fighters, 6) Coastal patrol aircraft, 7) Anti-submarine warfare aircraft. The authentic meaning of this linguistic unit is second variant — seaplanes. However, the meaning of "airplane related to the sea" is not unambiguously derived from explicit information and background knowledge. Instead, it is attributed to this unit by linguistic convention. This additional meaning is known as augmented, and the phenomenon is referred to as semantic integrity.

In the underlying structure of language, there exists a solitary negation operator that communicates its directive: negation, correction, or cancellation of the action plan for either the full sentence or its individual constituents. Nonetheless, the homogenous nature of the explicit and implicit negation does not necessarily equate to absolute equivalence of these types of negation on the surface structure of language. Explicit methods of expressing negation in contemporary British English consist of pronouns and adverbs with negative semantics. These indicate the absence of an object either wholly or partly based on qualitative or quantitative indicators. Common examples include "no", "no one", "none", "nobody", "nothing", "neither", "never", and "nowhere". Additionally, conjunctions such as "nor", "neither... nor", "not... but", "lest", and "unless" express dissimilarity or opposition between elements: *The man ceased to rotate. He strolled down the lane until he reached its end, finding nothing and no one there.* In English, negation can be explicitly expressed by a range of word-forming elements, including non-, un-, il-, dis-, de-, mis-, and -less. The addition of these negative affixes communicates the meaning of absence, deprivation, or opposition: *"In an attempt to trace her origin, he scanned the bare and uninterrupted wall, but found it empty and bricked up"*.

Implicature is a linguistic phenomenon defined by the omission of meaning through formal means. It occurs across language levels. Implicit negation is a significant category of linguistics. What makes implicit negation unique, as with all implicit language components, is its asymmetry, whereby the content and expressive levels do not match, and the failure to express meaning through formal-grammatical indicators is observed. Negation in language can be implicit in both exclamatory and interrogative sentence forms. Expressive negation can be indicated by all structural patterns of interrogative sentences, whether with or without an interrogative word. Interrogative expressive intonation, grammatical structure, lexical content, and linguistic function distinguish interrogative sentences with implicit negation from purely interrogative sentences. Moreover, the negativity of interrogative sentences may be contextualized. Questions can imply negations, even in the absence of formal-grammatical negation indicators in sentence structures. In other words, these types of sentences contain an implied negative meaning: *"Are you too young to understand this?"* A question is consistently more emotionally charged than a statement or negation. Thus, an affirmative statement with an interrogative form becomes more emotionally charged, more emphatic, and hence more indicative of the speaker's stance towards the topic under consideration.

"Explicit statements convey information obtained directly from the dictionary meanings of the words used in the sentence. These do not require further decoding. Implicit statements, on the other hand, require identification of the content based on additional understanding of the meanings of words and expressions within the context and situation in which the statement is used" [18, p. 271].

Traditional concepts are limited to the single subject of human consciousness, while there are many other sources that reflect and transform such concepts. In another aspect, information can be understood as the transmission and reflection of diversity in any objects and processes, both inanimate and living nature, which is its broadest interpretation, including both qualitative

and quantitative aspects. This definition is taken from the reference provided. The term “information” holds an explicit advantage over related terms like “content”, “meaning”, and “sense” in the study of textual issues. According to I. Galperin (1981), “information is a measure of the realization of content” and “removes uncertainty in a specific message” [7, p.15] The overall message conveyed in the text, referred to as the “content of the text as a complete whole” [7, p. 40], pertains to the potential nature of content or concept as a category of thought. In linguistic terms, meaning relates to a sign. Unlike content, meaning is typically viewed as the realized meaning, which is a semantic-pragmatic phenomenon determined by the subjective component, dialogism, and context. The processing of someone else’s text into meaning involves storing it in memory, putting it into action, and reproducing it when necessary.

The communication of information should be conveyed in a way that relates to its expression and the depth of language structures. This involves explicitness, which ensures clarity, and implicitness, which minimizes ambiguity. Additionally, objective measures of novelty and valences realization are important, along with qualitative assessments. It is imperative to avoid convoluted language and subjective evaluations when producing academic writing. It is also essential to adhere to customary academic structure, sustain a formal register, and utilize precise, technical vocabulary. The informative potential of text units depends on the interplay between these features. The actual ability of a syntactic unit of text to convey semantic information can be measured by the ratio of the total number of expressed information, both explicit and implicit (predicative centres), to the number of explicit information (predicative units). “Unlike language’s semantic capacity, which only refers to its conveyance of meaning in texts of a specific length” [7, p. 28], this measurable characteristic provides valuable insight into a text’s implementation of semantic information.

It is important to note that Galperin previously expressed concern regarding the widespread adoption of statistical methods from information theory in linguistic research. Galperin believed that this approach posed a risk of replacing established linguistic methods with those from another discipline. His work emphasises the need for caution when integrating methods from different fields. The presentation of semantic capacity as a ratio is apt only when adhering to the universally acknowledged principle that “much of the information conveyed by the speaker to the audience in everyday life is suggested rather than asserted” [15, p. 288].

5 Conclusion

Explicit information is information that is clearly expressed and readily understandable. It can be presented in textual, graphical, audio, and video formats, as well as in other formats.

In today’s society, explicit information has become an integral component in numerous fields such as education, business, scientific research, healthcare, culture, and the arts. The utilization of explicit information is prevalent in knowledge transfer, decision-making, data analysis, and ideation.

Numerous methods exist for the creation and presentation of such information, which include text, graphics, audio, video, presentations, applications, and documentation.

Visualization and analysis techniques facilitate working with data and yield valuable insights. Safeguarding and preserving sensitive information is imperative in thwarting data leaks and security breaches. This entails implementing data encryption, authentication, physical security measures, and other precautions.

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DIALOGUE IN CRITICAL-REALIST LITERATURE: CHARACTEROLOGICAL ROLE AND ARTISTIC-STRUCTURAL SIGNIFICANCE

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Abstract: In the article, it is noted that in modern linguistic research, dialogue (including literary dialogue) is analyzed as a basic form of speech communication and as an important component of the compositional speech structure of a literary text, shaping its polyphony. The shift from the systemic-structural paradigm to the communicative one has led to a shift in emphasis in textual criticism: the communicative-activity approach becomes a priority, since namely this approach allows revealing the ontological properties of language and text with the greatest completeness and depth. Such a position is unthinkable without taking into account the various manifestations of human speech activity in the process of direct speech communication, which is demonstrated in the article based on works of Azerbaijani literature.

Keywords: dialogue; text; Azerbaijani fiction literature; realist literature.

1 Introduction

Dialogue, in its original meaning, is a conversation between two or more people. Of course, fiction, especially prose and drama, cannot be imagined without dialogue. In the language of artistic works, dialogues are used in all areas. However, it should not be forgotten that dialogues in the language of artistic works loaded with the writer's goals and actions are also loaded with a serious socio-psychological meaning like every artistic detail and become a message that conveys serious matters to the reader. "Dialogue brings variety of ideas to literature, reveals the inner world and character of heroes, allows declaring relationships" [4, p. 509]. In this sense, in the poetics of critical realism, creative language and dialogues, which are its components, are of great importance in understanding the writer's goals and ideals. The more the mutual conversation of the images allows understanding the intentions and goals of the parties, the more it affects the determination of the general idea of the work and the understanding of the events. From this point of view, just as monologues are used as an artistic tool loaded with serious meaning in critical realist literature, dialogues are also used in this aspect.

2 Method

The research is carried out using descriptive and comparative methods. Methods of analysis and synthesis, component, static and functional methods are also used. The functional-communicative approach became a priority in our study when analyzing dialogue. In this case, dialogue appears as a sphere of manifestation of human speech activity, and its participants - as linguistic individuals, represented in different types of activity, but primarily communicative. At the same time, dialogue is studied from the standpoint of the theory of speech activity, speech communication, and linguistic pragmatics.

3 Results and Discussion

As it is known, creative language is of special artistic importance in critical realist literature. Language is an important tool for describing the general and individual characteristics of the work and the images and characters within it. It should not be forgotten that, according to critical realists, "one of the main features of the language of satire is the use of words in a figurative sense, thus giving ample space to irony" [1, p. 117]. According to the famous opinion of the wise philosopher Socrates, whose method was given special importance ("Speak, I will tell you who you are"), in critical realist literature, language has played the role of a serious source and tool. Language is an identity, an individual quality, an expression of goals and intentions, a social status, a cultural-spiritual level, etc. From this point of view, dialogues in critical realist works act as one of the primary sources for revealing the general idea and spirit of the work. In general, in dialogic speech, dialog is a source of speech

that provides a more flexible, concise and quick learning opportunity for the study of the intention, psychology, and spiritual world, concrete mood of a character or type in artistic works. "Dialogue in literature serves to explore and reveal characters and situations" [4, p. 512]. In the creativity of critical realists who treat language as a means of personalization, dialogue examples act as one of the frequently used means of speech. Azerbaijani critical realists Jalil Mammadguluzadeh, Mirza Alakbar Sabir, Abdurrahimbey Hagverdiyev, Yusif Vazir Chamenzaminli, Uzeyirbey Hajibeyov, and others used dialog examples in their artistic works with all their richness to express typicality and reveal artistic intent. In the stories of "Danabash kandinin ahvalatlari (Stories of Danabash village)" named "Eshhayin itmekliyi (Losing of the Donkey)", the great master Jalil Mammadguluzadeh, based on their dialogues, revealed the true face of the two "germs" of the public environment - the katda of the village Khudayar Bey and Gazi. In fact, the role of such dialogues was also that they revealed the inner face of Gazi, katda, and other officials, whom the simple masses recognized as a positive image and feared, and introduced them to the people by showing the true purpose, intention, and essence of their actions. That is why such works stimulate the awakening of the people in general, and by changing public thinking, they had a positive effect on the outlook of the masses. The dialogues of Khudayar bey Gazi, Karapet aga, and Karbalayi Jafar, one of the main heroes of the work and the leader of the main tragedy that happened in the village, in "Stories of Danabash village" provide a perfect opportunity to understand the idea of the work both separately and in general, and to reveal the characters of the heroes separately:

- Where are you from, my dear.
- I am the katda of Danabash Khudayar bey, I want to meet with gazi aga.
- What is under the kheyma, my dear?
- That is sugar, I brought it for Gazi aga. We have a useful work and that is mouth sweetness", etc. [8, p 54].

In the dialogue between Gazi aga and Khudayar katda, the points of understanding between the two types, who are in conflict with each other, are clearly included. While one of the writer's goals here is to show the actions of Khudayar katda to get Zeynab, the main goal is to present and expose the force that enabled his evil intention. In the circumstances and period in which the work was written and the events described, Qazies had the influence of the God of the earth for the masses. Since the words of the Qazies were revealed to the masses in the name of God, the Prophet and the Quran, their influence was very deep and unshakable. Apparently, that is why the great writer and his pen pals targeted religious figures in the first line of criticism in artistic creation and literary activity. In general, the first targets to be eliminated in the Mollanasraddinism movement and Azerbaijani critical realism, founded by master Jalil Mammadguluzade, were religious figures and religious administration. Therefore, in the great writer's memoir "Khatiratim" and in numerous articles and feuilletons, the groundlessness of the religious administration and harsh criticism of the religious figures took a leading place: "...the tyranny that stands like a mountain in front of us was the tyranny of the East and the darkness of the East, it was the tyranny of the king and the sultan, and it was the darkness of sharia" [9, p. 67]. Because the consciousness, way of life and thinking of the common people were mostly defined by religious figures with their sermons and teachings. That is why the great writer called clergymen "insects without bathing" [9, p. 67]. For this reason, in his artistic works, Jalil Mammadguluzade either directly created the images of religious figures and exposed their bad deeds, or indirectly exposed them to criticism by showing the impact of their dominant position and propaganda on the spirituality of ordinary people. Gazi's self-interest is clearly reflected in his conversation with Khudayar. Qazi Khudayar's wife Zeynab does not consider the issue of marriage according to the rules of Sharia, but because of the Russian skull sugar and

money, and performs the religious act by hiring fake lawyers and witnesses. Gazi's vigilance, fearlessness, and avoidance of all kinds of actions are manifested in all responses and behaviors.

As we have already mentioned, artistic language criticism plays a fateful role in the structure of realist works, in its idea-aesthetic determination. For the critical realism native to the Socratic method, dialogues were also more sympathetic in terms of creative style. It is known that Socrates presented his teaching based on dialogues. His lessons were based on dialogues. As it was mentioned above, for Socrates, language was the most important tool for expressing ideas. It should also be noted that monologues and dialogues occupy an important informative place in the structure of the artistic work in terms of characterological speech. "In general, the author uses the most colorful methods to reveal the characteristics of his hero" [10, p. 3]. Based on the researches of Z. Mammadova, it can be said that the author, especially in order to present the perfect and detailed character of the critical realist literary type, and its comprehensive characteristics, does not end with the author's provocation, but also includes the character's own speech, including monologues and dialogues, which in the literary text is called characterological speech [10, p. 3]. In this sense, both monologue and dialogue play the role of the main tool for critical realism in the field of clear, comprehensible expression of thought and revealing the purpose of the writer. Sometimes, even a single word performs a serious function in the direction of establishing the work and opening the ideological-problematic issues. Jalil Mammadguluzadeh's "Pocht gutusu (Mailbox)", "Usta Zeynal (Master Zeynal)", "Hurriyyet in Iran (Freedom in Iran)", and other stories, as well as "Oluler (The Dead)", "Danabash kendinin mektebi (School of Danabash village)", "Danabash kendinin muellimi (Teacher of Danabash village)", "Anamin kitabi (Mother's Book)", "Deli yiginjagi (Assembly of Madmen)", "Lanat (Curse)", and other dramatic works have interesting examples of dialogue. One can even talk about works that are based on dialogues. In this field, the works of Jalil Mammadguluzadeh, Mirza Alakbar Sabir, and Abdurrahimbey Hagverdiyev stand out for their excellence.

As mentioned, dialogues, which are an element of characterological speech, perform a very important function in revealing the characteristic features, goals and intentions of an individual or type. In Jalil Mammadguluzadeh's "Anamin kitabi (Mother's Book)", the author presents interesting dialogues in order to reveal the true social intentions of Abdulazim's three children, who were educated in different places and returned to their country - Rustam Bey, Samad Vahid, and Mirza Mahammadali. In particular, the dialogues of these three children with their friends are very important in terms of revealing the author's intention. For example, the author presents the dialogue of Rustam Bey's friend Aslan Bey, who studied in Russia, with the shepherds as follows:

Aslan bey (after a little thinking). Well, tell me, do you disinfect the sheep's wound?

Ganbar. We didn't understand, doctor.

Gurban. We couldn't understand my dear.

Zaman. What is that, dear doctor?

People laughing" [8, p. 463].

In a simple dialogue, the author was able to reflect the problem of the mother tongue, as well as the concerns of the misunderstanding between the nation's intellectuals and the common people during the period of independence and revolutionary era, which was an important period in the beginning of the 20th century. Thanks to a very remarkable, typical conversation, it becomes clear to the reader that there is no understandable communication between ordinary people and intellectuals. The great nationalist writer points out that this misunderstanding is not only between the people and the intellectuals, but also the intellectuals' milieu, with typical examples of dialogue that he carries to himself, and that there is

a misunderstanding between the representatives of the intelligentsia and the elite class, and even the mutual hatred and anger are arising from this misunderstanding. For example, at the meeting of the Charity Society, an interesting dialogue takes place between the representatives of that intelligentsia:

Mirza Bakhshali (Mirza Muhammadali). "Here, sir, it's your turn.

Mirza Muhammadali (stands up). Fasli-nozdahhum der bayanukusuf and khusuf, so the eclipse of the moon and the sun...

Mrs. Zivar (slowly to Mr. Rustam). Nelzya li sokratit rechi oratorov?

Mirza Muhammadali. The mood is similar to that of the stars, and in the same way that the moon is a definite gender, and it casts light from the afitab, and because...

Mr. Teymur. As far as I'm concerned, there's no need to elaborate.

Mirza Muhammadali (angry and loud). How it doesn't need it?" [8, p. 460].

First of all, it is easy to understand and see from the dialogue that there is no mutual understanding among the representatives of the intelligentsia due to multilingualism. Also, because of different ideas and languages, there is mutual anger and hatred between these parties. The great writer managed to draw a portrait of the types he created in the example of such dialogues both in the spiritual and external sense, as well as he was able to present the main rock, the core of the social and artistic problem. The great writer successfully continued the problem of the national intellectuals of the revolutionary era in his story "Nigaranchilig (Anxiety)" and presented intellectual irresponsibility and national lack of self-esteem based on their dialogues. "Great artists always pay special attention to the individualization and typification of the figurative language and speech. Each lexical unit moves the image, internally warms, amazes, prepares for a response to the question of the next person. That is why the use of words in a stage play, dialogue, and monologue require special skills and high talent from the dramatist" [6, p. 28-29].

By presenting mutual dialogues of different social groups and representatives of the same social group in their works, prominent writers have facilitated the discovery of the true idea and author's intention. Such dialogues play an important role in the ideological opening of difficult-to-understand dramas such as "Oluler (The Dead)", "Deli yiginjagi (Assembly of Madmen)" and the opening of types, as well as the intentions of social groups. Especially in the work "Deli yiginjagi (Assembly of Madmen)", which is related to absurd theater and whose idea is not very easy to decipher, both the representatives of the pilgrim community, the representatives of the mad community, and the sarcastic conversations of the representatives of this community, as well as the dialogues of Molla Abbas and Doctor Lalbyuz, who do not belong to any of these social groups add their own color and richness to the work, provide an important stimulus for internal tension and explosion of ideas.

The great satirical poet Mirza Alakbar Sabir also has interesting satirical works based on monologues and dialogues. In the great satirical poems such as "Sual-Javab (Question-Answer)", "Olmur, Olasin", "Bura say (Count Here)", "Ahvalpursanlig ve ya gonushma (Ahvalpursanlig or Conversation)", "Bakida bir kende muhavire (A Conversation in a village in Baku)", "Ramazan sohbeti (Ramadan Conversation)" in accordance with the literary-aesthetic characteristic of dialogical critical realism, the writer provides important information in terms of characterization of types, as well as social problems and environment. The two "Sual-Javab (Question-Answer)" poems of the great writer are very significant in terms of creating the public image and establishing the problem. In the writer's first poem "Sual-Javab (Question-Answer)", thanks to the dialogue between the tyranny and the citizen, the enslavement of the era

received its social content, while in the second “Sual-Javab (Question-Answer)”, the mood of a city found its own landscape:

- What is the decision of your mayor?
- Praise be to God, it is the same how the prophet Noah has seen!
- Has a new school been opened for the children of the homeland?
- Not a little! For the students of the madrasa that opened Adam!
- Do all the people of your city read the newspaper?
- Some idiots read, I don't read!
- Has a reading room been opened in your country?
- It was opened recently, we left it in ruins! [13, p. 147]

The identity of the first person is ambiguous and the content of the questions matters, it does not appear at the type level. But the second person generalized at the type level and summarized all his character and thinking with the answers he gave. The answers given by this type who is a supporter of antiquity, why his city is not developed, why schools and reading rooms are not opened, why women live as captives and widows, etc. hold a perfect mirror. This type mentioned in this poem of the writer is combined with similar types in other works, and they become the artistic reflection of the general picture of the period.

One of the famous and remarkable works of the writer based on dialogue is “Ahvalpursanlig”. This work attracts attention with the originality, naturalness, and typicality of both its language and replicas:

- What news, Mashadi?
- Your health!
- More or less again?
- Also Haji Ahmed has bought the newspaper.
- Pah! Boy, why? Did you see it yourself?
- They narrated like this!..
- God, who is left for me in this province?!

And this is the slave of that one too.

He has lost his religious faith, lost his way, he is a fool! [13, p. 262]

Of course, among the works that have a great idea-aesthetic content and a critical realist idea, rich in such valuable dialogues, there are the works of great writer Abdurrahimey Hagverdiyev - “Khorddanin jahannam mektublari (Ghost's Hell Letters)”, “Mirza Safar”, “Dishagrisi (The Toothache)”, “Mozalanbeyin seyahetnamesi (Mozalanbey's Travelogue)”, and other works. The following dialogue in “Khorddan's Hell Letters”, which occupies a prominent place in the writer's critical realist literature, is also very significant and remarkable from the point of view of the characterization of types:

“Someone says:

- If it wasn't for you, I wouldn't leave this religion and serve another religion.

The other one says:

- If you wren't, I wouldn't have killed my brother and married with his wife. You led me astray.

Other one says:

- Along the hundred years, I would not have taken a bribe and sold the country for money, you are the one who did it all.

The other one says:

- May the curse of God come upon you. If it wasn't for you, would I have been deceived by a head of sugar, a cup of tea, and ten manats of money and given Ramadan's wife in a robe to Shaban, or Rajab's wife in a robe to Safar?

Someone says:

- May you always be subject to God's wrath. Wasn't it you who led me astray, and I married Kazim's eight-year-old daughter at the age of fourteen. As soon as she left she died?” [3, p. 64]

The dialogue with Dasturov and Haji presented in A. Hagverdiyev's works, the dialogue between Farman and his father when he decided to leave home and become Nakam Darvish in “Odabashinin hekayeti (The Story of Odabaşı)”, the dialogue between Mirza Safar and the Chinese, Mirza Safar and Hasan Agha's relative in the story “Mirza Safar” and others are very memorable dialogues. In these dialogues, the eminent writer has shown great skill and professionalism in terms of presenting the general characteristics of types.

Mirza Ali Mojuz, follower and prominent representative of the Great Sabir school of poetry, showed mastery in revealing the faces of famous types by creating works based on dialogue, like his master. In the poem “Nikalay” created by Mojuz with great artistry, a dialogue between the Russian Tsar Nicholas and the Iranian Shah Mammadali is presented. Each type revealed its characteristics with its replicas, revealed its typical portraits and spiritual faces. In the great artist's satirical works such as “Ogul ve Ana (Son and Mother)”, “Hele ushagsan (You are still a child)”, “Onun ne akhireti khosh olar, ne dunyasi (Neither his afterlife, nor his world is well)”, “Onu (Him)”, “Lazimdir (It is necessary)”, dialogues play an important role in characterizing the type, revealing and presenting its individual and general characteristics. In the writer's satirical poem “Ogul and Ana (Son and Mother)”, there is a dialogue between a lazy child who is not interested in studying and a mother who invites him to science and education, and it has taken the form of a general characteristic of the era. The Mother in this poem, in our opinion, does not show typicality for her time. One of the most important topics and problems of critical realism was the issue of women's rights and freedom, in which writers deeply criticized important qualities such as the lack of education and commonness of women in moral and legal slavery. But the Mother in this work of Mojuz, depicted as a woman who knows the importance of education and science and believes in the future promised by education to her child, is completely different from these types. Of course, this quality, which is mentioned as a general female image and type gallery, a characteristic feature of critical realism, does not have a convincing effect and, on the contrary, has turned into a denial of the general picture. However, in the writer's poem “Hele ushagsan (You are still a child)”, the poet Mollanesraddinchi went further than his fellow poets and demonstrated great mastery and innovation by creating a dialogue between the lyrical self and Khaliq.

So, while his colleagues usually presented the common religious stereotypes of the time by making religious figures speak, Mujuz, unlike his colleagues, presented Khalig as the bearer of the religious-evil stereotype existing at that time and directly engaged in dialogue:

I said: Oh my god, you gave Petri a beautiful huri,

but me a dirty one, tell me, why are you God?

He said: He rides on kashtiyi-din and gives ijrat,

You haven't given navlig to a Godless one along the ten years!

I heard you are shave your face, hey bastard

The preacher does not receive your greeting, he says that you are wicked [11, p. 96].

“The language of the people depicted in the work of art is first of all associated with their individualized character. The character passes into the language and determines its characteristics. Language is a part of character” [10, p. 34]. Also, “Dialogical speech is always characterized by concreteness and brevity. In such a speech, the omission of what is known to the interlocutors is observed. Therefore, there is a subtextual meaning in the

semantics of dialogic speech" [7, p. 22]. In this sense, speech in the dialogues of critical realists is a direct character, a moral-psychological factor, even a worldview factor. The spiritual and psychological level and condition, character and individual qualities of the types were successfully embodied in the works of Ali Nazmin, Mashadi Sijimgulusi of "Molla Nasreddin". In the writer's dialogue "Son and Father" named "Beyt", typical people - individuals of a specific, typical social situation - clearly express the current social and moral situation:

Son
Hey father, let me go
To school, to learn science there.
Father
Shut up stupid,
The foolish, iddle
Son
Hey father, fogive me,
Let me never be illiterate as you.
Father
Ade, go away,
Hey let me to put you into grave [12, p. 39].

Nazmi's poems such as "Gimnaziyada (At the Gymnasium) (mullah and students)", "Gulushme (Laughter) (mullah and murid)", "Hitlerdan alaltilarina (From Hitler to his henchmen)" written during the Second World War are based on dialogue, as well as "Elmmi hiylkarligmi (Science or cunning)", "Sohbet (Conversation) (Javan and Haji Aga)", "Ata ve Ogul (Father and Son) (from our education)", etc. represent such examples of journalistic prose where the artistic theme is revealed and expressed by successfully using dialogue. The poem called "Laughter" reflects the issue of resistance and indifference to the press of the time:

Molla: - Have you heard, my son, the latest news?
Disciple: - What, what happened to akhund?
- Congratulations the newspapers are closed!
- Am I dead?! Which, which of them is closed?
"Hagigat" and "Seda" are closed.
- Hamdulillah!.. Both ha... ha, ha, ha!..
...With sorrow: - I just knew that the government was closed,
There is no taste, now that the nation is closed.
Ah! How sorry I am for these newspapers!
I will feel very well if they closed by government [12, p. 155].

Relying on the ability of dialogs to open up and suggest ideas, critical realists have effectively used dialogs in artistic publicism and have revealed interesting examples. The feuilletons of Aliqulu Gamkusar, who is considered the "heart" of "Molla Nasreddin" literary school, distinguished by his courage and openness, such as "Sheytan fehlesi (The Devil's Worker)" and "Sual-Javab (Question-Answer)" were created by using dialogues. A. Qamkusar begins the well-known column "Sheytan fehlesi (The Devil's Worker)" with such a dialogue that opens and exposes the ugliness of the social environment:

- "Kabla Imamverdi, Mashadi Orujali isn't seen for a long time has he gone any where?
- No, kablayi, he has some problem in bank form some days he tries to solve it but can't gain he is busy a little.
- Good, Haji Hummat didn't come here for some days isn't he ill?
- No, kablayi, the dervish in the coffee shop is telling stories, listening to stories, his head is very confused.
- And what about Kabla Fetulla ami, why is he ignoring us?
- They often visited here before, I hope they haven't been offended by me?
- No, kablayi, No, kablayi, they are playing gonchinka for entertainment in the traktir, they are confused, they can't even go out" [6, p. 115].

As it can be seen, unlike the author's prompting, the artistic load of the information given in this artistic text, which is constructed in the form of a dialogue, the power of influence and suggestion, the heat of exposure and criticism, is more unique and impressive. The author exposed and criticized the shortcomings

and deformities of the era by using the example of the conversation of two people, acting in accordance with the spirit, style, and poetics of the main article "Tiflis 1906 (Tbilisi, 1906)" of the first issue of "Molla Nasreddin" magazine. The realist writer behaved in this way in his feuilleton "Sual-Javab (Question-Answer)" and presented crooked, thieving, and low-quality human types in the form of a dialogue text - a conversation.

Thus, in the language of artistic creativity of critical realists, dialogues have taken an important place due to their literary effect. Dialogues have been widely useful as a means of revealing all the essence and details of a type or event, problem, social meaning and artistic role by performing a characterological function. Therefore, in critical realist works, regardless of whether they are poetry, prose, or drama, dialogs have been widely used and memorable examples. Dialogues, as a unique structure, have proved to be of great benefit in revealing the true nature of types and typical artistic entities.

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Primary Paper Section: A

Secondary Paper Section: AI

B PHYSICS AND MATHEMATICS

BA	GENERAL MATHEMATICS
BB	APPLIED STATISTICS, OPERATIONAL RESEARCH
BC	THEORY AND MANAGEMENT SYSTEMS
BD	INFORMATION THEORY
BE	THEORETICAL PHYSICS
BF	ELEMENTARY PARTICLE THEORY AND HIGH ENERGY PHYSICS
BG	NUCLEAR, ATOMIC AND MOLECULAR PHYSICS, ACCELERATORS
BH	OPTICS, MASERS AND LASERS
BI	ACOUSTICS AND OSCILLATION
BJ	THERMODYNAMICS
BK	LIQUID MECHANICS
BL	PLASMA PHYSICS AND DISCHARGE THROUGH GASES
BM	SOLID-STATE PHYSICS AND MAGNETISM
BN	ASTRONOMY AND CELESTIAL MECHANICS, ASTROPHYSICS
BO	BIOPHYSICS

RESEARCH OF PARAMETERS OF SECURITY ROOMS' ENCLOSURE STRUCTURES IN RESIDENTIAL APARTMENT BUILDINGS

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Abstract: For the safe stay of people in the premises of residential multi-apartment buildings in the conditions of military operations, it is essential to strengthen measures against the effects of explosive weapons. Enabling of the presence of protected spaces during the design of new or reconstruction of residential construction objects meets the modern requirements for the protection of people in the event of the use of means of explosive damage. Study of the consequences of the use of explosive weapons in populated areas, establishing the relationship between the ability of the structures of protective buildings of civil defense to maintain their protective properties and the parameters of the effects of damage from explosive weapons, assessing the vulnerability of the enclosing structures of residential buildings to threats under explosive loads, conceptual principles regarding the organization of work and construction of such shelters for the civilian population is carried out by Ukrainian and foreign scientists. However, there is currently no substantiation of the requirements for the enclosing structures of security rooms in residential multi-apartment buildings in Ukraine. According to the results of the study, an analysis of statistical data on the death and injury of the civilian population in residential buildings from explosive weapons was carried out; foreign sources on the protection of the civilian population from explosive weapons are analyzed; a mathematical model was developed and verified to describe dynamic loads from explosive weapons; the characteristics of explosive weapons used on the territory of Ukraine were analyzed; calculations of the design parameters of protected spaces capable of withstanding falling fragments of this weapon were carried out. The research makes it possible to develop proposals for the design of protective security rooms in multi-apartment residential buildings.

Keywords: protective security room; explosive weapons; enclosing structures; loads on building structures.

1 Introduction

Since the beginning of the full-scale war against Ukraine, more than 8,300 civilians have died (including 500 children), and about 14,000 (including 900 children) have been injured in various degrees of severity. More than 40,500 shelling were recorded, which hit more than 152,000 residential buildings, mainly in Donetsk, Kharkiv, Kyiv, Mykolaiv, Zaporizhia, Kherson, Chernihiv, Luhansk, and Dnipropetrovsk regions. The reason for the death of a significant number of civilians was the use of explosive weapons. Statistical data indicate numerous cases of fragments of explosive weapons falling on the residential sector [13; 21].

It is worth noting that many of the shelters that Ukrainians use today for civil protection are mostly built in Soviet times, are located on industrial and social infrastructure facilities, and in terms of efficiency in modern realities do not have the proper functional capacity. Moreover, the existing shelters allow protection of approximately half of the country's population [9].

The problems of protecting civilian population from explosive phenomena all over the world are attracting increasingly more attention from the political, legal, socio-economic point of view [5]. Modern engineering solutions for the design of new ones or reconstruction of existing residential facilities complement the general strategy of the civilian population security. The experience of the USA, Germany, Switzerland, Singapore, Finland, and Israel regarding the protection of the civilian population involves the construction of fortified rooms in residential buildings and public buildings (mammaka, mammada, or protective capsule rooms, etc.). One can move

there in a few seconds without leaving the building, which meets the requirements of today. As follows, the safe stay of the civilian population in the premises of residential buildings depends on the ability of their enclosing structures to retain their protective properties when being hit by an explosive weapon, taking into account the relevant volume-planning and structural solutions.

The use of enclosing structures in the premises of residential buildings, which can better resist shells fragments and the blast wave to reduce the destructive consequences and impact on people, is practically absent in Ukraine or has a very limited application. In domestic Ukrainian legal acts, there are not enough scientifically based requirements regarding the explosive load on building structures and provisions for their arrangement in residential multi-apartment buildings, capable of ensuring the safe stay of people during bombings and shelling.

This determines the relevance of the study regarding the establishment of conditions for the safe stay of the civilian population in the premises of multi-story residential buildings by equipping them with protective spaces, the enclosing structures of which are able to withstand the fall of fragments of explosive weapons.

The object of the study is the impact of the load on the enclosing structures of the security rooms of residential apartment buildings, which occur during the use of explosive weapons.

The subject of the study is the parameters of the enclosing structures of security rooms of residential apartment buildings depending on the characteristics of explosive weapons.

The purpose of the research is to establish the conditions for the safe stay of people in the living premises of apartment buildings by equipping them with security rooms, the enclosing structures of which are able to withstand falling fragments of explosive weapons. To achieve the set goal, the following scientific tasks are to be solved:

- To conduct an analysis of statistical data on the deaths and injuries of civilians in residential buildings from explosive weapons;
- To analyze foreign experience in protecting the civilian population from explosive weapons;
- To analyze the characteristics of explosive weapons used on the territory of Ukraine;
- To develop a mathematical model for describing dynamic loads from explosive weapons;
- To carry out calculations of the design parameters of the protective security room, which are able to withstand the fall of fragments of explosive weapons;
- To verify the developed mathematical model for describing dynamic loads from explosive weapons.

2 Method

The following research methods are used in the work: comprehensive analysis and generalization of previously performed works, mathematical modeling of the processes of construction and the effect of excessive explosion pressure on building structures, experimental method of elastic rebound, experimental method of researching the state of a building structure under the influence of excessive explosion pressure.

The method of the experiment on the dynamic behavior of the building structures of the protective security room is applied regarding the practice of protecting people in residential multi-apartment buildings due to the presence in them of building structures capable of maintaining protective functions against injuries from explosive weapons.

Guided by the strategic goal of increasing human security and possessing expert knowledge in the field of explosive objects,

the Geneva International Center for Humanitarian Demining characterized explosive weapons and their impact on the consequences (primary, secondary, and tertiary ones) of their use in populated areas as an important humanitarian problem [4]. Taking into account the conclusions of this institution, our research is based on primary (caused by direct destructive effects, which include shell fragments, high-pressure blast wave and thermal energy released during the detonation of the explosive) and secondary (secondary fragmentation, fires, aftershocks as a result detonation of shell on the ground or above the ground, formation of craters, etc.) factors. Tertiary factors are associated with damage to human health, social and economic infrastructure in a longer time scale (lack of clean water caused by damage to water supply and sewage networks; disconnection of electricity and gas supply, etc.) [2; 4].

In our study, a room located in a common area on a floor or directly in an apartment of a multi-story residential building, where conditions are created to minimize the negative impact of dangerous factors from the impact of an explosive weapon on a person, will be called a protective security room.

According to the authors, the concepts of "shock wave" and "blast wave" existing in the scientific discourse and current legal acts of Ukraine are debatable; therefore, in the context of the study, they are taken into account in view of the relevant literature.

3 Literature Review

Research of the fundamental physical principles of explosive phenomena by scientists has led to an understanding of how explosive properties develop from the early stages of shell burst and the spread of fragments and the blast wave [12]. As a result of these studies, semi-empirical forecasting tools for blast wave action scenarios have been developed. Scientists have proven that a blast wave is a region of sharp, strong air compression that spreads from the epicenter of the explosion at supersonic speed. The excess pressure in the front of the shock wave of the explosion, which occurs right next to the building, is the difference between the pressure of this wave and the atmospheric pressure. Below, there is a quantitative determination of the action of the blast wave according to its peak pressure and duration, its consequences for protective structures and people (Table 1).

The interaction of blast and obstruction is a complex multifaceted problem. While there are engineering-grade tools for predicting blast parameters (such as peak pressure, impulse, and load duration) under geometrically simple conditions, a blast wave is fundamentally altered as it interacts with an object in its path, and thus affects the very load parameters. A comprehensive overview of key research in this field, which concerns the direct impact of the blast wave on the surface of the structure, the pressure of the blast wave in the wake of the obstacle, the description of methods for predicting load parameters in the conditions of the interaction of the explosion with the obstacle, was investigated by the scientist O. Isaak. The key conclusions of the study concern the mechanisms regulating the weakening of the blast wave [10].

Table 1: Impact of the blast wave on the enclosing structures and the human body in quantitative terms [1, 12, 14]

Peak overpressure	Maximum wind speed	Impact on the structure	Effect on the human body
7 kPa	17 m/s	The window glass breaks	Light shrapnel damage occurs
14 kPa	31 m/s	Moderate damage to buildings (broken windows and doors and significant damage to roofs)	People were injured by flying glass and debris
21 kPa	46 m/s	Destruction of residential	Serious injuries

		buildings	are common, and fatalities are possible
34.5 kPa	73 m/s	Most of the buildings are collapsing	Injuries are ubiquitous, fatalities are common
69 kPa	131 m/s	Reinforced concrete buildings are heavily damaged or destroyed	Most people are fatally injured
138 kPa	224 m/s	Heavy concrete buildings are badly damaged or destroyed	Fatalities approach 100%

Prediction of structural response and damage due to loading, which is highly localized and inhomogeneous, requires a detailed understanding of both the magnitude and its distribution, which, in turn, depend on the properties and dimensions of the structure, the distance between the charge and the structure, and the composition of the explosive. Explosives are usually expressed in equivalent mass to facilitate the use of well-established semi-empirical methods. This requires the calculation of the explosive equivalence factor. In work [6], scientists derive the TNT equivalent for the three most common explosives, using the approach of the equivalent upper limit of kinetic energy. A series of numerical simulations, calculation of the magnitude and distribution of the specific momentum to obtain the theoretical upper limit of the kinetic energy are performed.

There are numerical and experimental studies of impact and explosive effects on building construction elements, characterized by deformation rates. The research characterizes the idea of the impact of explosions, as a high nonlinearity of the behavior of the enclosing structures is observed. Scientist A. Remennikov developed an analytical model of the explosive destruction of protective objects, such as concrete and stone walls. Analytical models under study, based on the principles of explosion physics and the laws of conservation of the characteristics of contact charges, are necessary to detect a hole in the wall in terms of shape and size [18].

Scientists, led by M. Fouad [7], presented a study of reinforced concrete columns with different detailing of reinforcement undergoing explosions in the near zone. The researchers confirm that the main problem of the behavior of the enclosing structures during the explosion is the reduction of their strength due to the high rate of deformation. Numerical results of finite-element models of columns with seismic-resistant and conventional reinforcement, performed using the LS-DYNA program package, characterize their movements and the nature of damage.

Scientists J. Pereira and others experimentally investigated the dynamic behavior of stone wall fillings subjected to dynamic non-plane loading. Scientists prove that explosions caused by contact charges near buildings have a strong impact on internal and external structural elements [17]. This study presents a developed test rig for testing non-plane walls under dynamic loading using underwater blast wave generators. They make it possible to apply an extremely high rate of transformation of the energy of explosive detonation into the kinetic energy of the water column, which, in turn, enables its distribution over the surface area, avoiding the generation of high-speed fragments and reducing the atmospheric impact.

On the basis of analytical, numerical and experimental studies, the reaction and failure behavior of various types of reinforced concrete structures and their elements subjected to lateral shock loads were studied [22]. Field blast tests were conducted by H. Tian to investigate the effect of foamed concrete panels on response. He studied the influence of four key parameters, namely: explosion impulse, foam concrete density, foam concrete panel thickness, and aluminum alloy face sheet thickness on the structural response. The deformation of the back panel protected by foam concrete and the failure modes of the foam concrete sample under the impact load were obtained. Experimental results indicate that foam concrete can be used to

reduce the explosive load and effectively reduce the deformation of the structure [20].

Jeon and Rigby [11] present the results of a study of the efficiency of an arched steel-concrete-steel structure made of profiled sheets under the load from the detonation of an explosive substance in the near field. It was noticed that with an increase in the thickness of the arch (the depth of the concrete filling), most of the energy is absorbed by crushing the concrete and a large mass of concrete is mobilized. It is shown that the thickness of the arch of 240 mm is sufficient to withstand the explosive load of TNT charge weighing 5.76 kg, which confirms the suitability of the proposed protective structure.

Experimental and analytical results of the dynamic reaction of a reinforced concrete one-sided slab to an explosive load are given in by Park and others their works [16]. The types of measured data related to the response of 1500×2350×150 mm reinforced concrete slabs to surface blasts of 50 kg of TNT and 100 kg of TNT at a distance of 20 m include deformations of the longitudinal reinforcement at mid-span and longitudinal mid-span. All measured data were compared with the results of the AUTODYN interactive nonlinear dynamic analysis program. Research has proven that the numerical approach can model the behavior of a reinforced concrete slab during an explosion with sufficient accuracy.

Thus, scientists proved that a significant danger characteristic of the urban environment is the risk of an inevitable violation of the structural integrity of the enclosing structures of residential buildings (supporting columns, building facades, walls, etc.), exfoliation of debris due to the action of a blast wave, etc. Scientists state that one of the important factors affecting the safety of the premises of residential buildings is their construction. Various measures can be taken to reduce the risk of damage to the building structure and to protect people from the effects of explosive weapons, including the installation of protective structures capable of providing high blast resistance. For this purpose, special materials, double-glazed doors and windows, etc., can also be used to reduce the consequences of an explosion, absorb the impact of energy and disperse it in other directions.

4 Results and Discussion

Development of a mathematical model for describing dynamic loads from explosive weapons

For the design of protective structures, which are recommended by the normative and legal acts in force in Ukraine [3], the excess pressure of the shock wave is determined as the main influence. To simulate the pressure under the influence of an explosion, the corresponding empirical curve [1; 4; 8], shown in Figure 1, is used.

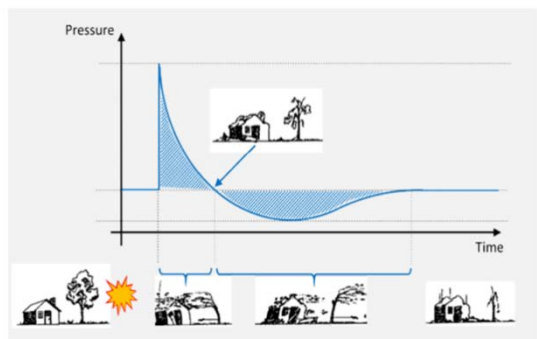


Figure 1. The impact of an air blast wave on building structures from conventional means of destruction [1; 4; 8]

The parameters of this curve depend on the scaled distance from the wall to the center of the explosion, which is determined by the formula:

$$Z = R \cdot M^{\frac{1}{3}} \quad (1)$$

where: R is the distance of the wall to the center of the explosion; M is TNT mass equivalent.

The parameters of the curve shown in the figure are determined using a special nomogram obtained empirically.

When the blast wave front hits the surface of the wall of the shelter structure indirectly, the pressure weakens. The reduced pressure is determined by the formula:

$$P_{eff} = P_{ref} \cos^2 \theta + P_{inc} (1 + \cos \theta - 2 \cos^2 \theta) \quad (2)$$

where: θ is the angle between the facet of the surface finite element and the line drawn from the point of the explosion center at a right angle and the shortest distance from the explosion center to the center of the facet.

P_{inc} is the pressure causing the incident shock wave, determined by the formula:

$$P_{inc} = P_s (1 - \tau) e^{-\alpha \tau} \quad \text{where: } \tau = \frac{t - t_a}{t_+ - t_a} \quad (3)$$

P_{ref} is the pressure of the reflected shock wave, determined by the formula:

$$P_{ref} = P_r (1 - \tau) e^{-\beta \tau} \quad (4)$$

The parameters included in these formulas are determined by empirical nomograms.

The described model makes it possible to formalize the impact of the explosion, taking into account the attenuation of the shock wave depending on the distance and angle of the surface of the shelter structures. For this, one can use the nomogram below (Figure 2).

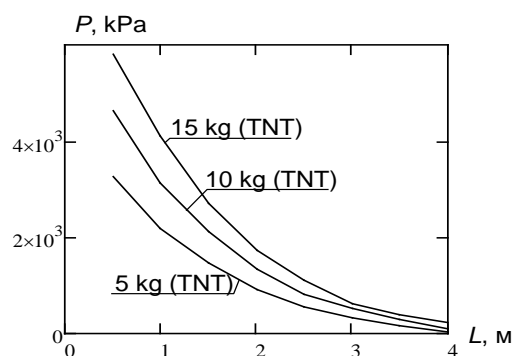


Figure 2. The curve of pressure change depending on the distance and the TNT equivalent of the warhead charge of the shell

When creating this model, taking into account the arguments of J. Hallqvist [8], the following assumptions were made:

- The combat charge of an explosive weapon is assumed to be equivalent to 10 kg in TNT equivalent as the most common;
- When modeling an explosion, its chemical and gas-dynamic nature is not taken into account, but its result is considered in the form of a corresponding pressure curve on the walls of the product;
- Material with averaged mechanical characteristics is accepted as the material of structures and soil;
- The material of the shelter and soil structures is homogeneous, isotropic, and solid without cavities and cracks;
- To model the process of deformation of shelter structures and the soil on which it is installed, the finite element method is used in the implementation of calculations by the explicit method;

- Planar end elements according to the Belychko-Tsai scheme, which includes integration by thickness at 5 internal points, are used to calculate the fixing elements of the shelter and door structures;
- For the implementation of calculations of the concrete base of structures and soil, volumetric finite elements of the Lagrangian type are used;
- Hughes-Liu type rod beam elements are used for calculations;
- To describe the nonlinear behavior of the concrete material, a model of a continuous failure surface with a limiting dome is used, which is built on the basis of nonlinear deformation diagrams with descending branches;
- As a model of material of steel reinforcement and steel surveying, a material with the possibility of plastic deformations, bilinear deformation diagrams of the Prandtl type, the shape of which includes only the growth section and the horizontal section with a limit deformation of 15%, is used;
- A contact interaction model is used to describe the interaction between the surface of shelter structures and the soil, as well as the ends of concrete blocks.

The basis for calculations is the solution of the problem of sample deformation in the setting of the movement of a deformed body as a dynamic system. In this formulation, the diagram of a single rigid deformed body in the initial state at the initial time $t = 0$ is shown in Figure 3. A single rigid deformed body has an initial volume Ω_0 , which is limited by the surface Γ_0 . In the current position of the body at the given time t , the volume acquired by the body is denoted as Ω , with the boundary surface Γ . During the movement of the body from the position Ω_0 to the position Ω , an arbitrary point with coordinates X , which in the initial position belongs to the body with volume Ω_0 , will belong to the same body when it acquires the volume Ω in the current position with coordinates x .

The fundamental equations that describe the state of a solid body as a dynamic system are obtained by taking into account the laws of dynamics of a mechanical system and the laws of conservation in accordance with work [8].

In this case, the generalized momentum conservation equation is written in the form:

$$\sigma_{ij,i} + \rho \cdot f_i = \rho \cdot \ddot{x}_i \tag{5}$$

where:

$\sigma_{ij,i}$ - the Cauchy stress tensor at a given point belonging to the body

ρ - the density of the material at a given point belonging to the body

$\rho \cdot f_i$ - external forces acting on the body through a given point

\ddot{x}_i - acceleration of a given point belonging to the body

The initial undeformed state and the current deformed state of a rigid body during its movement are shown on Figure 3.

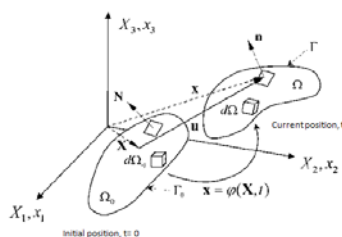


Figure 3. The initial undeformed state and the current deformed state of a rigid body during its movement [19]

The mass conservation equation is written in the form of the following formula:

$$\rho \cdot \det(\mathbf{J}) = \rho_0 \tag{6}$$

where: ρ_0 - the density of the material of the body in the undeformed initial state; $\det(\mathbf{J})$ - determinant of the tangential stiffness matrix (Jacobian)

The equation that expresses the law of conservation of energy is the sum of kinetic and internal energies, which must be equal to the total sum of work done by external forces:

$$P^{int} + P^{kin} = P^{ext} + P^{heat} \tag{7}$$

The total kinetic energy of the body is determined by the following expression:

$$P^{kin} = 0.5 \frac{d}{dt} \int_{\Omega} \rho \mathbf{v} \cdot \mathbf{v} d\Omega \tag{8}$$

The total internal energy of a deformed body is determined by the equation:

$$P^{ext} = \int_{\Omega} \mathbf{v} \cdot \rho \mathbf{b} d\Omega + \int_{\Gamma} \mathbf{v} \cdot \mathbf{t} d\Gamma \tag{9}$$

In the absence of internal and external sources of thermal energy, the energy conservation equation in accordance with work [8] takes the form:

$$\frac{d}{dt} \int_{\Omega} \rho w^{int} + (0.5 \rho \mathbf{v} \cdot \mathbf{v}) d\Omega = \int_{\Omega} \mathbf{v} \cdot \rho \mathbf{b} d\Omega + \int_{\Gamma} \mathbf{v} \cdot \mathbf{t} d\Gamma \tag{10}$$

The energy balance equation in a modified form for a deformed solid body in the current position can be given in the following form:

$$\rho w^{int} = 0.5 \sigma_{ij} \left[\frac{\partial v_i}{\partial x_j} + \frac{\partial v_j}{\partial x_i} \right] \tag{11}$$

Boundary conditions limiting the movement of a rigid deformed body Γ_f are written in the form of the formula:

$$\sigma_{ij} n_j = t_i(t) \tag{12}$$

where n_j is the vector of normal to the boundary surface of the rigid deformed body directed outward.

Regarding the boundary conditions that set the deformation parameters on the boundary surface of a rigid deformed body, the following formula can be written:

$$x_i(\mathbf{X}, t) = \bar{x}_i(t) \tag{13}$$

Under the condition of initiation of contact interaction between deformed bodies, compatible boundary conditions take the following form:

$$(\sigma_{ij}^+ - \sigma_{ij}^-) n_j = 0 \tag{14}$$

When applying the principle of possible displacements δx_i , the movement of rigid deformed bodies experiencing contact interaction with each other can be written through the equation of conservation of virtual work:

$$\int_{\Omega} [\rho \ddot{x}_i + \sigma_{ij,j} - \rho f_i] \delta x_i d\Omega + \int_{\Gamma_f} [\sigma_{ij} n_j - t_i] \delta x_i d\Gamma + \int_{\Gamma_c} (\sigma_{ij}^+ - \sigma_{ij}^-) n_j \delta x_i d\Gamma = 0 \tag{15}$$

Assuming that the sum of possible works should be equal to zero, performing certain transformations of equation (11), the latter can be written in the form of a modified expression [8]:

$$\int_{\Omega} \rho \ddot{x}_i \delta x_i d\Omega + \int_{\Omega} \sigma_{ij} \delta x_j d\Omega - \int_{\Omega} \rho f_i \delta x_i d\Omega - \int_{\Gamma_f} f_i \delta x_i d\Gamma - \int_{\Gamma_r} r_i \delta x_i d\Gamma = 0 \quad (16)$$

Analysis of the characteristics of explosive weapons used on the territory of Ukraine

Results of the analysis of explosive weapons used on the territory of Ukraine

On the territory of Ukraine, the troops of the Russian Federation use explosive weapons of Soviet origin, some of which have been modernized [15]. Lancet, Cube, Geranium, etc. drones are used to attack objects of various purposes. Unmanned aerial vehicles of the Shahed type are widely used. According to the results of the analysis of such weapons, the following characteristics were established (Tables 2, 3).

Table 2: Main characteristics of UAVs of the Russian Federation, which are used for strikes in Ukraine

Type of unmanned aerial vehicle	Length/width, m	Average speed, m/s	Starting mass/mass at the moment of impact, kg	Weight of the explosive substance, kg	Meeting angle, gr.	Speed at the moment of impact, m/s
Type-1	2.6/2.2	27.8	135/100-125	10	60	27.8
Type-2	3.5/2.5	45	200/150-180	15-40	60	50-60

Table 3: Main characteristics of the missiles of the Russian Federation, which are used for strikes in Ukraine

Type of missile	Length/diameter, m	Maximum speed, m/s	Starting mass/ mass at the moment of impact, kg	Weight of the explosive substance, kg	Meeting angle, gr.	Speed at the moment of impact, m/s
X-59	5.7/0.4	291.67	900	201.5*	80*	952*
X-22	11.7/0.94	1111.11	5780	630	80*	362.8*
9M723 "Iskander"	7.3/0.92	2450.00	3800	312*	90	800
X-55/X-555	6.04/0.77	260.00	1500	292.5*	80*	84.9*
3M-14K/T "Caliber"	8.2/0.514	240	1320	292.5*	80*	78.37*
Kh-47 "Dagger" ("Kindjal")	7.7/0.9	4080	4615	325*	80*	741.82*
X-101	7.5/0.74	200.00	2400	279.5*	80*	65.3*
P-800 "Onyx"	8.9/0.67	884	3900	195*	80*	288.65*
X-35	4.4/0.42	280	670	94.25*	80*	91.43*

Note: * the value is assumed based on analogues.

Selective calculation results

The value of excess pressure that occurs when using an explosive weapon can vary significantly depending on its type, the size of the charge, as well as the distance to the object affected by the explosion and other factors. The pressure of the explosion is usually the highest directly near the source of the explosion and weakens with increasing distance from it (Fig. 4).

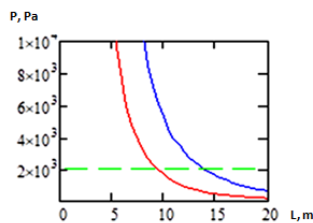


Figure 4. Dependence of the distance over which the excess pressure spreads, on the mass of the explosive substance of the explosive weapon

According to the results of calculations, it was determined that when using an explosive weapon with an explosive mass of 220 kg, the static load to all wall and ceiling structures will be 20 kPa at a distance of up to 10 m. When using an explosive weapon with an explosive mass of 718 kg, with a static load to wall and floor structures at 20 kPa, the distance will be up to 15 m.

This means that increasing the distance from the source of the explosion to the object leads to a significant decrease in excess pressure. The above may cause in the further normalization, in addition to the operational load during the design of the enclosing building structures of the protected spaces of residential apartment buildings, an additional load from excess pressure in the amount of at least 20 kPa.

The ability of an explosive weapon to penetrate a target is primarily influenced by the mass of the explosive substance. Generally, other things being equal, a weapon with a greater mass of explosive has a greater potential for penetration. This is due to the fact that a larger mass of explosive contains more energy, which can be released in the process of explosion and create greater overpressure and negative consequences. Other factors such as the type of explosive, the shape and design of the explosive weapon, the properties of the target, and other factors also play an important role. In general, the depth of penetration of explosive weapons depends on a combination of the above-mentioned factors.

The results of the calculations of the penetration of explosive weapons into the building structure are shown in Table 4.

Table 4: Characteristics of penetration of missiles of the Russian Federation, which are used for strikes in Ukraine, into a concrete wall

Type of missile	Penetration into a concrete wall
X-59	450
X-22	1643
9M723 "Iskander"	2864
X-55/X-555	788
3M-14K/T "Caliber"	546
Kh-47 "Dagger" ("Kindjal")	3089
X-101	761
P-800 "Onyx"	1286
X-35	451

Figure 5 shows the dependence of the depth of penetration of an explosive weapon on the mass of its explosive substance.

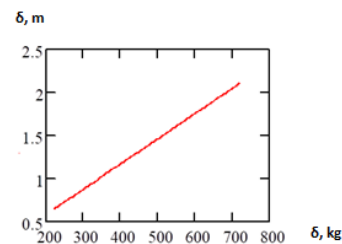


Figure 5. Dependence of the depth of penetration on the mass of the explosive substance of the explosive weapon

From Table 4, the following can be seen: in order for the enclosing structures of the protective security room to be able to withstand a direct hit by means of fire damage, the wall thickness should be from 0.45 to 3.0 m, which seems contradictory and is an unacceptable economic solution for residential apartment buildings. At the same time, the authors did not take into account calculations for increasing the strength of concrete under load, which involves reducing the thickness of the enclosing structures surrounding the protective space of an apartment building [1].

Thus, the criterion for evaluating the enclosing structures of the protective security room can be:

- The level of protection against fragments and blast waves in case of indirect hits at a distance of at least 15 m when using explosive weapons with an explosive weight of up to 718 kg;
- The level of protection against falling fragments of explosive weapons.

Figure 6 shows the dependence of the change in the thickness of a reinforced concrete wall on the value of the excess pressure of the explosion, which such a wall must withstand.

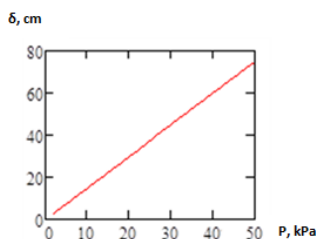


Figure 6. The dependence of the change in the thickness of a reinforced concrete wall on the value of the excess pressure of the explosion, which such a wall must withstand

From Figure 6, it can be concluded that a reinforced concrete wall with a thickness of at least 300 mm is expected to withstand an excess explosion pressure of 20 kPa.

Let us carry out calculations according to the designed mathematical model for a reinforced concrete shelter with a thickness of 300 mm. The reinforcement of the concrete-steel walls is made with 3 grids for the spatial framework of the reinforcement with a diameter of 16 mm and a step of 150 mm, for the transverse reinforcement, a diameter of 10 mm and a step of 50 mm. Concrete class is C25/30. The thickness of the concrete protective layer is 30 mm.

Based on the results of the calculations, the distribution of plastic deformations after applying pressure from the blast wave to the surface of the structures was determined (Figure 7).

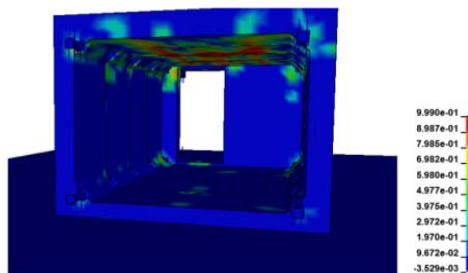


Figure 7. Distribution of plastic deformations after applying pressure from the blast wave to the surface of the structure

Experimental studies of the adequacy of the mathematical model

In order to check the adequacy of the proposed mathematical model, experimental studies of a reinforced concrete wall with a thickness of 300 mm were carried out.

A fragment of the experimental study is shown in Figure 8.



Figure 8. A fragment of an experimental study of a reinforced concrete wall

The actual results of experimental studies of concrete on compression, determined by the method of elastic rebound, are shown in Table 5.

Table 5: Results of experimental studies of concrete on compression

Normative document	Name of tests and (or) characteristics (parameters) to be determined	Normative (nominal) value	Unit	Actual indicators – evaluation results (measurements, tests)										Designation of normative documents on test methods
				rebound value in the direction of impact $\alpha=0^\circ$										
				1	2	3	4	5	6	7	8	9	10	
clause 4.4.1 DSTU Б B.2.6-2:2009	Requirements for concrete	The nominal values of the characteristics of concrete properties, which are set in the work documentation, must comply with DSTU Б B.2.7-43	kgf/cm 2 MPa	Identification number of the tested sample 0808-23/3										DSTU Б B.2.6-2:2009
				51	53	51	52	53	52	51	52	52	52	
				The average value of the rebound criteria $R_m=51.9$										DSTU Б B.2.7-220:2009
				The average compressive strength of concrete is 541.4 kgf/cm ² (53.1 MPa)										
clause 6.3 TU Y 23.6-43409145-002:2023		Products should be made of heavy concrete in accordance with DSTU Б B.2.7-43 class for compressive strength B40 523.9 kg/cm ² (51.4 MPa)												

The actual results of experimental studies on checking the condition of structures under the influence of excess pressure are given below (see Tables 6, 7).

Table 6: Results of experimental studies of checking the condition of structures under the influence of excess pressure

Normative document	Name of tests and (or) characteristics (parameters) to be determined	Control (test) load, tс		Crack opening width, mm		Designation of normative documents on test methods
		Normative value (total)	Actual value	Normative value	Actual value	
Clause 4.3.1.3 DSTU Б B.2.6-2:2009	The products must meet the requirements for their strength and crack resistance specified in the design and specified in the work documentation					DSTU Б B.2.6-7-95 (DSTU 8829-94)
Clause 7.3 TU Y 23.6-43409145-002:2023	According to strength and crack resistance indices, the links of NUTSZ.MSSS must meet the established requirements and withstand the control loads according to the support and loading schemes given in Appendix B of TU U 23.6-43409145-002:2023					DSTU Б B.2.6-2:2009 DSTU EN

Appendix B TU Y 23.6- 43409145- 002:2023	Load testing of structures to verify strength for shelters class	A-IV	77.6	77.6	0.4	No cracks	13018:2017 (EN 13018:2016, IDT)
		A-III	156	156	0.4	0.15	
		A-II	234	234	0.4	0.3	DSTU-H 5 EN 13369:2013 (EN 13369:2004 + A1:2006, IDT)

Table 7: Data on the applied test load

Class of the shelter (according to DBN B.2.2-5-97)	Excessive pressure of the shock wave ΔP , kgf/cm ² (kPa)	Test load P when testing the element for strength, ms
A-IV	1.0 (100)	38.8
A-III	2.0 (200)	78
A-II	3.0 (300)	117

Thus, the results of experimental studies confirm the acceptable reliability of the calculation results.

5 Conclusions

In today's conditions, it is extremely important for Ukraine to ensure the safe stay of people in residential buildings, taking into account the requirements for building structures. During the design and construction of Ukrainian domestic residential buildings, the possibility of damage from explosive weapons and the provision of structures capable of maintaining protective functions against such damage are not taken into account.

The analysis of statistical data shows a constant increase in the number of deaths and injuries of the civilian population in residential buildings from explosive weapons since the beginning of the full-scale war against Ukraine. It has been established that foreign and domestic Ukrainian scientists are increasingly paying attention to the problems of protecting the civilian population from explosive phenomena. They proved the risk of an inevitable violation of the structural integrity of the enclosing structures of residential buildings, which affects the safety of the premises and the people who are in them during the impact of explosive weapons. However, there are not enough scientifically based requirements regarding the explosive load on building structures and provisions for the arrangement of protective security rooms in residential multi-apartment buildings in domestic legal acts.

To describe dynamic loads from explosive weapons, a mathematical model has been developed that enables the formalization of the effects of the explosion, taking into account the attenuation of the blast wave depending on distance and angle of the shelter structures surface. The mathematical model for describing the dynamic loads from explosive weapons has been verified, which satisfies its reliability.

The results of the calculations, taking into account the characteristics of explosive weapons, show that when the distance from the source of the explosion to the object increases, the excess pressure significantly decreases. Therefore, when using an explosive weapon with an explosive mass of 220 kg, the static load to all wall and ceiling structures will be 20 kPa at a distance of up to 10 m. When using an explosive weapon with an explosive mass of 718 kg, with a static load to wall and ceiling structures of 20 kPa, the distance will be up to 15 m. The conducted experimental studies confirmed the acceptable reliability of the adequacy of the proposed mathematical model.

This level of protection can be provided by monolithic reinforced concrete structures with a thickness of 300 mm. The reinforcement of the concrete walls is made with 3 grids for the spatial framework of the reinforcement with a diameter of 16 mm and a step of 150 mm; for the transverse reinforcement, a diameter is 10 mm and a step is 50 mm. Concrete class is C25/30. The thickness of the concrete protective layer is 30 mm.

The criterion for evaluating the enclosing structures of the protective security room can be: the level of protection against fragments and blast waves in case of indirect hits at a distance of at least 15 m when using explosive weapons with an explosive weight of up to 718 kg; level of protection against falling fragments of explosive weapons.

Further scientific research, based on the obtained results, will be directed to the development of proposals for the design of a protective security room in multi-apartment residential buildings.

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